

# Reference Document 2008



## 2008 REFERENCE DOCUMENT



This reference document was filed with the French financial market authorities AMF (Autorité des Marchés Financiers) on April 15, 2009, in accordance with articles 211-1 to 211-42 of its General Regulations. It may be used in support of a financial transaction if it is accompanied by an offering circular signed by the AMF.

*This is a free translation into English of the AREVA group's Reference Document for 2008, which is issued in the French Language, and is provided solely for the convenience of English speaking readers.*

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## General comments

This reference document contains information on the AREVA group's objectives, prospects and development strategies, particularly in Chapter 6. This information is not meant as a presentation of past performance data and should not be interpreted as a guarantee that events or data set forth herein are assured or that objectives will be met. Forward-looking statements made in this reference document also address known and unknown risks, uncertainties and other factors that could, were they to translate into fact, cause the AREVA group's future financial performance, operating performance and production to differ significantly from the objectives presented or suggested herein. Those factors may include, in particular, changes in international, economic or market conditions, as well as risk factors presented in section 4.3. AREVA is under no obligation to update forward-looking information contained in this document, upon satisfaction of standing obligations for information incumbent upon companies whose securities are accepted for trading on regulated markets.

This reference document contains information on the markets, market shares and competitive position of the AREVA group. Unless otherwise indicated, all historical data and forward-looking information are based on group estimates (from AREVA sources) and are provided as examples only. To AREVA's knowledge, no report is available on the AREVA group's markets that is sufficiently complete or objective to serve as a sole reference source. The AREVA group developed estimates based on several sources, including in-house studies and reports, statistics provided by international organizations and professional associations, data published by the AREVA group's competitors, and information collected by AREVA subsidiaries.

The main sources, studies and reports used include (i) the International Atomic Energy Agency (IAEA), the International Energy Agency (IEA), the World Nuclear Association (WNA), the Nuclear Energy Institute (NEI), Nuclear Assurance Corporation (NAC), the European Atomic Energy Community (Euratom), and the Commissariat à l'Énergie Atomique (CEA) for the nuclear business; and (ii) the IEA for the electricity transmission and distribution business.

AREVA believes that this information provides an adequate picture of the size of these markets and of the AREVA group's competitive position. However, the internal studies and estimates used by the AREVA group have not been verified by independent experts. Accordingly, AREVA does not provide any guarantee that another person would obtain comparable results using different methods to compile, analyze or compute this information.

In this document, the company is referred to as "AREVA". The "group" and the "AREVA group" refer to AREVA and its subsidiaries.

A glossary defining technical terms can be found at the end of this reference document.

A table of concordance between the contents of this 2008 reference document, established according to appendix I of European Commission Regulation no. 809/2004 dated April 29, 2004, and the contents of the 2007 reference document can be found on page 451.

Pursuant to article 28 of the above-mentioned EC regulations and article 212-11 of the general regulations issued by the French Market Authority (AMF), the following items have been included for reference:

- AREVA's consolidated financial statements for the year ended December 31, 2007 and the Statutory Auditors' report on the consolidated financial statements for the year ended December 31, 2007, discussed on pages 246 to 337 and page 244 respectively of the reference document filed with the French market authority AMF on April 15, 2008, under number D.08-0251; and
- AREVA's consolidated financial statements for the year ended December 31, 2006 and the Statutory Auditors' report on the consolidated financial statements for the year ended December 31, 2006, discussed on pages 239 to 317 and pages 236 to 238 respectively of the reference document filed with the French market authority AMF on April 27, 2007 under number D.07-0406.

Chapters of reference document no. D.07-0406 and of reference document no. D.08-0251 not mentioned above are either not applicable to the investor or are covered in another section of this reference document.

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## 1.1. Person responsible for the 2008 reference document

Mrs. Anne Lauvergeon,  
Chief Executive Officer of AREVA.

## 1.2. Attestation by the person responsible for the reference document

"I hereby attest, having taking every reasonable measure to this effect, and to the best of my knowledge, that the information contained in this reference document fairly reflects the current situation and that no material aspects of such information have been omitted.

I attest that, to my knowledge, the financial statements are prepared in accordance with applicable accounting standards and give a fair presentation of the assets, financial position and operating results of the company and of all consolidated companies, and that the management report of the Executive Board, whose structure is described in appendix 7 of this reference document, presents a fair picture of the business, income and financial position of the company and of all consolidated companies as well as a description of the main risks and uncertainties they confront.

I have received an end-of-engagement letter from the Statutory Auditors indicating that they have verified information relating to the financial position and the financial statements provided in this reference document and have read the entire report.

The end-of-engagement letter does not contain any observations.

The historical financial information presented in this reference document has been covered in reports by the Statutory Auditors.

Without qualifying the Statutory Auditors' findings on the financial statements, their report on the consolidated financial statements for the year ended December 31, 2008 on page 239 of this reference document contains observations on:

- the valuation methods for end-of-life-cycle assets and liabilities described in notes 1.1, 1.18 and 13 to the consolidated financial statements and their sensitivity to assumptions adopted with regard to estimates, disbursement schedules and discount rates;
- the terms and conditions for fulfillment of the OL3 contract and the sensitivity of income at completion from this contract to customer behavior, contract risks, the end of civil engineering and engineering activities, and the potential difficulties during the installation and testing phases linked to the first physical implementation of the EPR™ reactor, as described in notes 1.1, 1.8 and 24 to the consolidated financial statements;
- the procedure for determining the price of the put option on AREVA NP shares, which Siemens exercised on January 27, 2009, the uncertainty resulting from this procedure, and the accounting treatment adopted, as of December 31, 2008, for the financial debt related to this option, as described in notes 1.1, 1.19 and 25 to the consolidated financial statements.

Without qualifying the Statutory Auditors' findings on the financial statements, their report on the consolidated financial statements for the year ended December 31, 2007 on page 244 of the 2007 reference document contains observations on:

- the valuation methods for end-of-life-cycle assets and liabilities described in notes 1.1, 1.18 and 13 to the consolidated financial statements and their sensitivity to assumptions adopted with regard to estimates, disbursement schedules, discount rates and the outcome of current negotiations with EDF;
- the terms and conditions for fulfillment of the OL3 contract and the sensitivity of income at completion from this contract to adherence to the current schedule, contract risks and claims, as described in notes 1.1, 1.8 and 24 to the consolidated financial statements.

Without qualifying the Statutory Auditors' findings on the financial statements, their report on the consolidated financial statements for the year ended December 31, 2006 on page 236 of the 2006 reference document contains observations on:

- the valuation methods for end-of-life-cycle assets and liabilities described in notes 1.1, 1.18 and 13 to the consolidated financial statements and their sensitivity to assumptions adopted with regard to estimates, schedules of disbursements, discount rates and the outcome of current negotiations with EDF;
- the terms and conditions for fulfillment of the OL3 contract and the sensitivity of income at completion from this contract to adherence to the current schedule, contract risks and claims, as described in notes 1.1, 1.8 and 24 to the consolidated financial statements."

Paris, April 14, 2009

Mrs. Anne Lauvergeon  
Chief Executive Officer of AREVA

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The term of office of the Statutory Auditors is six years.

## 2.1. Statutory Auditors

### **Mazars**

Exaltis – 61, rue Henri Regnault – 92075 La Défense Cedex – France

Represented by Jean-Luc Barlet and Juliette Decoux

- First term granted by the Annual General Meeting of Shareholders convened June 26, 1989. Term renewed by the Annual General Meeting of Shareholders convened May 3, 2007, and to expire following the Annual General Meeting of Shareholders convened to approve the financial statements for the year ending December 31, 2012.

### **Deloitte & Associés**

185, avenue Charles-de-Gaulle – 92524 Neuilly-sur-Seine Cedex – France

Represented by Patrice Choquet and Étienne Jacquemin

- First term granted by the Annual General Meeting of Shareholders convened May 31, 2002. Term renewed by the Annual General Meeting of Shareholders convened May 3, 2007, and to expire following the Annual General Meeting of Shareholders convened to approve the financial statements for the year ending December 31, 2012.

## 2.2. Deputy Auditors

### **Max Dusart**

Espace Nation – 125, rue de Montreuil – 75011 Paris – France

- First term granted by the Annual General Meeting of Shareholders convened June 18, 2001, and to expire following the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2012.

### **BEAS**

7-9, villa Houssay – 92524 Neuilly-sur-Seine Cedex – France

Represented by Alain Pons

- First term granted by the Annual General Meeting of Shareholders convened May 31, 2002, and to expire following the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2012.

All amounts are expressed in millions of euros unless otherwise indicated. Due to rounding adjustments, some totals may not be strictly accurate.

## Summary data

<i>(in millions of euros, except workforce)</i>	2008	2007	2008/2007 change
<b>Income statement</b>			
Reported revenue	13,160	11,923	+10.4%
Gross margin	2,286	2,762	-17.2%
<i>Percentage of reported revenue</i>	17.4%	23.2%	-
EBITDA <sup>(1)</sup>	1,181	1,335	-11.5%
<i>Percentage of reported revenue</i>	9.0%	11.2%	-
Operating income	417	751	-44.5%
<i>Percentage of reported revenue</i>	3.2%	6.3%	-
Net financial income	(29)	64	-145.3%
Share in net income of associates	156	148	+5.4%
Net income attributable to equity holders of the parent	589	743	-20.7%
<i>Percentage of reported revenue</i>	4.5%	6.2%	-
<b>Cash flow data<sup>(2)</sup></b>			
Net cash from operating activities	81	722	-88.8%
Net cash used in investing activities	(1,259)	(2,796)	-55.0%
Net cash from financing activities	1,516	1,522	-0.4%
• including dividends paid	(326)	(345)	-5.5%
Net cash flow from (used in) discontinued operations	0	0	-
Increase (decrease) in net cash	357	(381)	-
<b>Miscellaneous</b>			
Backlog	48,246	39,834	+21.1%
Net cash (debt)	(5,499)	(4,003)	-37.4%
Equity attributable to equity holders of the parent	6,547	6,994	-6.0%
Capital employed <sup>(3)</sup>	9,036	5,826	+55.1%
Workforce at year end	75,414	65,583	+15.0%

(1) EBITDA excluding impact of cash flow relating to end-of-life-cycle operations, presented separately from operating cash flow; see definition in section 9.2.3. "Definitions of financial indicators".

(2) The components of cash flow are defined in section 9.3.1., "Comparative table of operating cash flows and consolidated cash flows".

(3) Capital employed is defined in section 9.4.9., "Capital employed and ROACE".

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## 4.1. Overall organization of risk management and control

### 4.1.1. Organization of Risk and Insurance department

AREVA's risk and insurance management policy, laid out by the Executive Board based on recommendations of the Risk and Insurance department (DRA) and the Finance department to which it reports, aims to prevent certain potential events and reduce their impacts on the group's earnings and on the achievement of its strategic objectives.

The policy is implemented by the Risk and Insurance department in cooperation with the operational units. The department

establishes methodologies to ensure consistent treatment of risk among the subsidiaries and promotes the use and exchange of best practices. It assesses the risk at the consolidated level. Financially, the Risk and Insurance department arbitrates between retaining part of the risk and transferring it to the insurance and reinsurance markets through global policies covering the group's worldwide operations. This specific point is developed in section 4.5, "Risk coverage and insurance".

### 4.1.2. Risk mapping

The group initiated risk mapping when it was established in 2001. This map is reevaluated annually.

The goals are:

- to formalize the risk identification process for all group operations;
- to characterize and rank these risks; and
- to define and implement a comprehensive risk management program.

To implement this approach, the Risk and Insurance department:

- establishes a common set of methodological tools and management criteria;

- coordinates a network of close to 120 risk specialists trained by AREVA University and assigned to the operating units; and
- monitors action plans.

The risk maps are presented every year to the Management Committees of the business units as well as to the Executive Committees of the main subsidiaries, the group's Executive Committee and the Supervisory Board's Audit Committee. This process applies to all AREVA group companies.

The group's multi-year audit plan builds on risk mapping results, which are updated annually, among other things. The Audit department subsequently deploys this plan by conducting audits.

### 4.1.3. Risk management

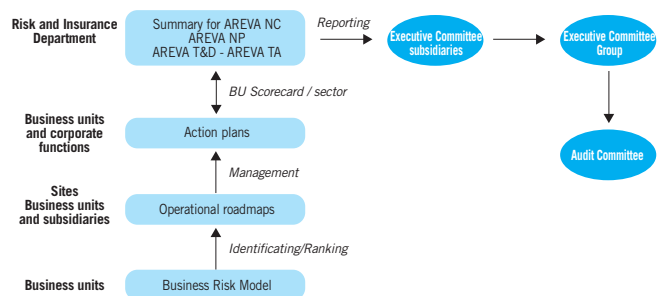
The notion of risk applies both to the operations of each of the group's entities, their facilities and their operations (control of normal operating risks affecting performance, based on prior decisions, and of risks affecting specific situations) and to achievement of their goals and implementation of their business strategy (taking a risk from which a profit is expected).

In both cases, risk management arises from a shared methodology within the group, starting with risk analysis. It incorporates a process of industrial safety visits to evaluate facility operating conditions. The objective is to manage the risk from cradle to grave. Consequently, the business units determine operational risk maps which serve as a basis for recommending and carrying out action plans.

Managing normal risk entails:

- an ongoing documented process of risk identification, analysis, ranking, optimization, financing and monitoring;
- a broad scope covering all of the group's activities, both operational (manufacturing, sales, projects, services, etc.) and functional (finance, legal, contractual, organizational, human resources, etc.);
- contributing to resource optimization and cost reduction; and
- developing business continuity and crisis management plans.

#### Risk management process of the AREVA group



Source: AREVA

The first step in risk management is to identify and formulate the risk, as illustrated in the flowchart above. To this end, the group has drawn up a business risk model (BRM) to be used by its business units. Working from a defined number of typical risks or families of risk (BRM risk), the model indexes all of the foreseeable or unexpected situations or events that could have an impact on employee safety, the financial performance of the business unit, that of the subsidiary or even of the group, and its corporate image.

The BRM can be enhanced based on best practices and lessons learned.

Using the BRM as a starting point, each business unit establishes an operational risk map that graphically illustrates the seriousness of its risks and its degree of management at any given period. The risk map defines criteria for implementing appropriate action plans in order to optimize the management of each risk and render any residual risk acceptable to the group. The business units are thus responsible for analyzing, ranking and managing their risks by implementing action plans using appropriate means.

Each subsidiary's risk management coordinator, each in his or her area of expertise, provides management with a business unit-wide picture of risks and how the business unit is managing them. Each subsidiary's Executive Committee and the group's Executive Committee is then informed of the status of action plans and decides which risks affect the group's strategic objectives.

The group's risk management policy is based on principles of transparency, in particular through the publication of environmental monitoring results for all major sites and more generally through the implementation of its Nuclear Safety Charter and sustainable development policy.

The operating units, supported by AREVA's specialized departments, manage risks related to nuclear safety, the environment, and the safety and security of the group's facilities with oversight by national and international authorities. The Risk and Insurance department draws technical expertise from these departments in performing its duties.

## 4.2. Managing risk related to the group's industrial operations

By regulation, industrial facilities operated by AREVA are classified into various categories by level of risk and quantities of nuclear materials or chemicals.

In addition to preventing and countering malicious acts and implementing public safety measures in the event of an accident, ensuring facility safety means:

- protecting workers, members of the public and the environment from the harmful effects of radiation and chemicals; and
- defining and implementing measures to prevent accidents or limit their impacts.

### Regulations applicable to the group's nuclear facilities in France and abroad

#### General regulations

Group operations are subject to constantly changing national and international regulations that are becoming increasingly stringent in the areas of nuclear and environmental safety. The regulated nuclear facilities of the AREVA group (INB - see Glossary) are presented in the table in section 4.2., "Managing risk related to the group's industrial operations".

The International Atomic Energy Agency (IAEA) and the European Commission have each established their own international system for nuclear materials safeguards. Other international agreements adopted under the umbrella of the IAEA govern nuclear safety in the facilities. These agreements include the Convention on Nuclear Safety (CNS) and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

With respect to the European Union, the provisions of the Euratom Treaty adopted 50 years ago on March 27, 1957 and its implementing regulations have reinforced the aspects relating to nuclear materials safeguards and to the establishment of unified rules for radiation protection of the public and workers and for the transportation of radioactive waste.

In France, the regulated nuclear facilities (INB) operated by the group are regulated under Law no. 2006-686 of June 13, 2006 on transparency and security in the nuclear field. This legal framework strictly regulates the construction, start-up and operation, modification, safety inspection, shutdown, and dismantling of the group's nuclear facilities, and governs in particular rules for nuclear safety, protection of public health and of the environment, and the monitoring of radioactive and non-radioactive releases. Decisions that are the subject of a license decree are granted following a public inquiry and an administrative process requiring the opinion of several organizations. Violations of the Law of June 13, 2006 entail administrative and criminal penalties. Every year, each regulated nuclear facility operator must submit a report on measures taken in respect of nuclear safety and radiation protection.

A number of decrees implementing the law were published in 2007, including decree no. 2007-830 of May 11, 2007 regarding the list of regulated nuclear facilities and the so-called "procedural decree" of November 2, 2007, which constitutes the new legal framework applicable to regulated nuclear facilities.

Regulated nuclear facilities are monitored closely by the French nuclear safety authority ASN. Restructured under the Law of June 13, 2006 on transparency and security in the nuclear field, ASN is now an independent administrative authority managed by five directors. It enforces nuclear safety and radiation protection regulations to protect workers, patients, the general public and the environment from risks related to the use of nuclear technology. ASN also provides information to the public.

Similar provisions govern licensed nuclear defense facilities (INBS) that the group operates in France (article R. 1333-37 *et seq.* of the French Defense Code).

Operations abroad are subject to the same type of stringent inspection procedures (for example, by the Nuclear Regulatory Commission in the United States).

In France, some facilities operated by the group are subject to regulations pertaining to environmentally regulated facilities (ICPE), based on operations performed or materials used. Under the terms of articles L. 511-1 *et seq.* and R. 512-1 *et seq.* of the French Environmental Code, group facilities that may represent a risk or drawbacks for public health, safety and security, or for the protection of nature and the environment, are subject to prior reporting to the Prefecture, or to a licensing process. When permitting is required, the operating permit is issued by the Prefect after completion of a public inquiry and consultation of various organizations. The Prefect's order includes all necessary restrictions and specifications.



The group is also subject to regulations pertaining to exposure to radiation of employees, subcontractors and the public, which are enforced through a system of exposure limits. In France, radiation protection regulations are governed by the provisions of the Labor Code and the Public Health Code. The maximum exposure allowed by the Public Health Code for members of the general public is 1 mSv per year. The maximum exposure allowed by the Labor Code for workers in nuclear facilities is 20 mSv per year.

Other international and national legislation and regulations govern nuclear materials safeguards and controls, in particular the October 28, 1979 Convention on the Physical Protection of Nuclear Material, articles L. 1333-1 through L. 1333-14 and R. 1333-1 through R. 1333-36 of the French Defense Code; regulations on the transportation of radioactive materials, including ADR, RID and ADN (see Glossary); and Council Directive 92/3/Euratom of February 3, 1992 on the supervision and control of shipments of radioactive waste between member States and into and out of the Community. This directive will be superseded by Council Directive 2006/117/Euratom of November 20, 2006 on the supervision and control of shipments of radioactive waste and spent fuel when the latter comes into force on December 25, 2008 (see also the section on "Regulations governing radioactive waste" below).

Similar regulations provide for strict oversight of facilities and facility operations by the competent authorities in countries in which the group operates nuclear facilities, including Belgium, Germany and the United States.

### Regulations governing end-of-life-cycle operations

In this reference document, end-of-life cycle operations include any operations connected with the shutdown and dismantling of nuclear facilities and the management of the related nuclear waste (see Glossary).

The accounting treatment of end-of-life cycle operations is explained in section 20.2. "Notes to the consolidated financial statements", note 13. "End-of-life cycle operations".

### Regulations governing dismantling

The legal framework governing dismantling operations performed in France is largely the product of Law no. 2006-686 of June 13, 2006 on transparency and security in the nuclear field. Also, the September 5, 1997 Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, adopted under the auspices of the IAEA, contains provisions regarding the dismantling of nuclear facilities.

As the operating license holder, the operator of a nuclear facility is the legal entity in charge of facility operations and, therefore, of dismantling procedures. The operator is in charge of the dismantling schedule and process for the facilities it operates, subject to inspection by the French nuclear safety authority ASN, which validates each stage of the dismantling process.

The dismantling permit is granted by a decree specifying its procedures following a public inquiry and a process requiring the opinion of several administrative authorities. The decree authorizing shutdown and dismantling operations specifies, among other things, the features of dismantling, the dismantling schedule, the final conditions to be achieved, and the types of operations to be performed by the operator after completion of dismantling.

The dismantling process may take several decades, depending on the facility, and includes work stages as well as monitoring stages when there are practically no operations. Decommissioning involves a series of operations, from the shut-down of the nuclear facility to the administrative decision to release the site, at which time it can generally be put to new industrial use.

The level of dismantling depends, in particular, on how the site will subsequently be used. In the United States, Germany and Belgium, where the group operates four nuclear facilities, dismantling regulations are based on principles that are largely similar to those of France.

### Regulations governing radioactive waste

Waste generated by nuclear operations or by the dismantling of regulated nuclear facilities is regulated in France by articles L. 542-1 to L. 542-14 of the Environmental Code in particular (resulting from the Program Law no. 2006-739 of June 28, 2006 on the sustainable management of radioactive materials and waste). At the international level, radioactive waste management falls under the purview of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management of September 5, 1997.

The producer or holder of waste generated by nuclear power operations or dismantling operations has an obligation to process and dispose of such waste (article L. 541-1, paragraph 3 of the French Environmental Code).

Article L. 542-2-1 of the French Environmental Code allows the treatment in France of foreign used fuel and radioactive waste under certain conditions, in particular the signature of multilateral agreements indicating a specific schedule to receive and treat these substances. Every year, the site operator must submit a report with an inventory of these substances to the Minister of Energy. The decree no. 2008-209 of March 3, 2008 on procedures applicable to the treatment of foreign used fuel and radioactive waste specifies these conditions.

Article 20 of the Law of June 28, 2006 on the sustainable management of radioactive materials and waste provides that operators of regulated nuclear facilities must establish provisions to cover the cost of dismantling the facilities and managing used fuel and radioactive waste, and allocate the necessary assets to cover these provisions exclusively. In this regard, the law specifies that the operator must account for these assets separately and that they must be sufficiently secure and liquid to meet their purpose. Their realizable value must be at least equal to amount of the provisions. These assets are earmarked for this sole purpose and

cannot be taken by creditors, except the State when it enforces compliance with regulations pertaining to nuclear operations. All of these items are verified by several administrative authorities, including the French national commission on evaluation of funding for dismantling expenses. Moreover, article 23 of this law provides for financial penalties in the event of a failure to comply with all of the obligations regarding dismantling expenses. This mechanism was supplemented by decree no. 2007-243 of February 23, 2007 on securitization of funding for nuclear expenses.

## Nuclear safety in the group's nuclear facilities

### Definition

Nuclear safety encompasses all of the technical provisions and organizational measures pertinent to the design, construction, operation, shut-down and dismantling of regulated nuclear facilities and to the transportation of radioactive materials, and designed to prevent accidents and limit their consequences.

Nuclear safety is based on technical design bases and on organizational procedures for operations and is founded on the defense in depth concept. This concept consists of systematically analyzing potential technical, human or organizational failures and defining and implementing a series of independent lines of defense to protect against the consequences of these failures.

Three lines of defense are designed to:

- prevent accidents and incidents, in particular by means of facility design and configuration;
- monitor facilities so as to detect and correct malfunctions; and
- assume that accidents may happen despite all precautions, and design and implement measures to limit their consequences.

The primary objective of any nuclear facility safety measure is to prevent the dissemination of radioactive substances under all circumstances and to minimize the impacts of radiation on the population and the environment.

### Policy

Nuclear safety is an absolute priority for AREVA. The group adopted a Nuclear Safety Charter formalizing its commitment to nuclear safety and radiation protection (the charter may be downloaded from AREVA's website). AREVA is committed to maintaining the highest level of nuclear safety for the entire life of its facilities.

These commitments are built on:

### Organizational principles

The general management of each subsidiary, and particularly each nuclear operating subsidiary holding an operating license (see table), sets up an organization consistent with the laws of the country in which it operates based on the principle of the operator's prime responsibility for nuclear safety. Each site manager is responsible for nuclear safety and radiation protection at that site. He or she sets up an appropriate organizational structure to ensure that all legal and regulatory requirements for every aspect of nuclear safety and radiation protection are applied at every affected unit and facility. He or she delegates authority as regards nuclear safety and has the resources to verify implementation of this delegation independently of operating personnel. A corps of inspectors in the group's Safety, Health and Security department implements the annual nuclear facility inspection program drawn up by the Executive Board (see below).

### Action principles

Nuclear safety applies to every stage in the plant life cycle, from design to dismantling. It builds on a nuclear safety culture shared by all personnel and maintained by regular training. The group is committed to adhering to the ALARA principle (as low as reasonably achievable), which holds that action shall be taken to reduce the radiation exposure of workers and the public, and undertook a program to reduce the maximum dose received by all workers in its facilities or by group employees working at customer sites to 20 mSv per year where regulations are less strict. A similar continuous improvement initiative applies to the reduction of impacts from liquid and gaseous effluents (see Appendix 4, "Environmental report", section 2, "Environmental risk management and prevention").

### Reporting system

AREVA endeavors to provide reliable and relevant information enabling an objective assessment of the status of nuclear safety in its facilities. Nuclear events are evaluated according to the International Nuclear Event Scale (INES), including in countries where no such requirement exists (see Appendix 4, "Environmental report", section 2, "Environmental risk management and prevention"). Level 1 or higher events are put on record. As it had committed to do, the group published, both in hard copy and on its website, the annual report of the General Inspectorate. This report presents the status of nuclear safety and radiation protection at AREVA group nuclear facilities in France and abroad, as observed through the program of inspections and analyses carried out by the nuclear safety inspectors and specialists.

### Organization

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In the fields of nuclear safety and radiation protection, the Safety, Health and Security department defines, leads and coordinates nuclear safety and radiation protection policy and programs within the group. It recommends and implements an annual nuclear facility inspection program. It also coordinates regulatory intelligence in the fields of nuclear safety and radiation protection and provides leadership for the network of related experts.

The Senior Vice President of Safety, Health and Security submits an annual inspection program to the Executive Board for approval. This program ensures that the Nuclear Safety Charter is implemented correctly and detects any signs of a potential deterioration in nuclear safety performance, with a view towards recommending necessary improvements to ensure they are completely controlled.

### General Inspectorate and Nuclear Safety department

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A General Inspectorate and Nuclear Safety department reporting to the Executive Board was created in 2001, headed by a General Inspector. Its mission is twofold:

- inspection: six inspectors with previous operating responsibilities monitor the facilities independently of the operator. They can ask that a facility be shut down. They report to the Executive Board;
- technical expertise: eight nuclear safety specialists coordinate a network of on-site experts regarding specific issues such as waste, fire hazards, radiation protection, etc.

## 4.2. Managing risk related to the group's industrial operations

Nuclear facilities where an AREVA entity is the licensed operator<sup>(1)</sup>

AREVA's main regulated nuclear facilities in France and elsewhere are:

Location	Business unit	Legal entity holding the license	Description
<b>Front End division</b>			
Tricastin, France	Chemistry	Comurhex	Preparation of UF <sub>6</sub>
Tricastin, France	Chemistry	AREVA NC	Conversion of uranyl nitrate into uranyl sesquioxide
Tricastin, France	Chemistry	AREVA NC	Conversion of uranium-bearing materials (U <sub>3</sub> O <sub>8</sub> )
Tricastin, France	Enrichment	Eurodif Production	Georges Besse gaseous diffusion enrichment plant
Tricastin, France	Enrichment	SET	Georges Besse II centrifuge enrichment plant <sup>(2)</sup>
Tricastin, France	Enrichment	Socatri	Plant for uranium decontamination and recovery
Romans, France	Fuel	FBFC SNC	Fuel fabrication for research reactors
Romans, France	Fuel	FBFC SNC	Fuel fabrication for power reactors
Dessel, Belgium	Fuel	FBFC International SA	Fabrication of uranium and MOX fuel
Lingen, Germany	Fuel	FBFC International SA	Fuel fabrication
Richland, United States	Fuel	AREVA NP Inc.	Fuel fabrication
Lynchburg, United States	Fuel	AREVA NP Inc.	Fuel fabrication
<b>Reactors and Services division</b>			
Maubeuge, France	Equipment	Somanu	Nuclear maintenance workshop
<b>Back End division</b>			
Veurey, France	Treatment	SICN	Fuel fabrication plant (undergoing dismantling)
La Hague (France)	Treatment	AREVA NC	Used fuel treatment plants and liquid effluent/ solid waste treatment facilities (7 regulated nuclear facilities)
Marcoule, France	Recycling	AREVA NC	MELOX MOX fuel fabrication plant

(1) The depleted uranium storage facility at Miramas was the subject of a dismantling decision by ASN, the French nuclear safety authority, under an order dated August 1, 2007.

(2) License decree of April 27, 2007.

## 4.2.1. Nuclear risk management and prevention

Several types of nuclear safety-related risks are distinguished and their consequences are systematically analyzed and evaluated as part of the licensing procedure for facility operations, based in particular on the items presented below.

## Nuclear risk

Nuclear risk corresponds to events that are characteristic of radioactive materials.

## Radioactive materials dispersion that can result in contamination

Uncontained radioactive materials can disperse and lead to human and environmental contamination.

To control this risk, the first priority is to prevent the dispersion of radioactive materials in any form (solid, liquid or gaseous) and under all operating conditions (normal or accidental).

Facilities are designed with containment systems that prevent the dispersion of radioactive materials. For example, the radioactive materials are surrounded by a series of barriers at varying levels of negative pressure which channel air from the outside towards the secondary containment system and then the primary containment system. The air is cleaned in each containment system. Contaminating elements are filtered from the air before it is released from the facilities.

The efficacy of these containment systems is verified before facility start-up and is periodically checked to keep them in working order.

Considerable effort went into the design so that maintenance operations could be performed while maintaining the integrity of the containment system. The facility design includes special systems to facilitate replacement operations.

### **Ionizing radiation**

When a person is in the path of ionizing radiation emitted by radioactive materials, there is a risk of external exposure.

The effect of radiation on the human body is expressed in millisieverts (mSv). The maximum allowed doses are as follows: in the European Union, the maximum annual dose authorized by regulations is 1 mSv per year for the general public and 100 mSv over five consecutive years for nuclear workers, with a maximum of 50 mSv in any one year. In the United States, the limit is 1 mSv per year for the general public and 50 mSv per year for nuclear workers.

The group's objective is to follow the French standard in all its facilities, including those outside France. This is the most stringent standard, at 20 mSv per year for all workers, including subcontractors.

The main protection measures are:

- for fixed radiation sources, standard workstations are defined with corresponding maximum exposures. The maximum acceptable exposure decreases in inverse proportion to the estimated duration of the work performed. Shielding is installed to limit radiation and to comply with authorized dose limits;
- for mobile sources, workstations are designed to minimize the time spent by personnel or the presence of the source and include shielding. In the case of waste packages that may be transported over public roadways, shielding is defined by transportation regulations.

The group also follows the ALARA principle (as low as reasonably achievable), which holds that any reasonable technical, financial, social or organizational action will be taken to reduce exposure to radiation. The radiation protection departments continually verify compliance with this principle.

Every nuclear worker and operator is monitored closely, both medically and radiologically. Their knowledge is maintained at the requisite level through regular training programs.

The results recorded (see Appendix 3, "Human Resources report", section 2, "Change in number of employees and human resources data") demonstrate that the group practices mentioned above promote excellence in radiation protection.

### **Criticality**

The risk of a criticality accident means the risk of an uncontrolled chain reaction with a brief and intense emission of neutrons, accompanied by radiation. This risk, should it materialize, would result in irradiation of workers or individuals located near the event, causing lesions proportional in seriousness to the intensity of the radiation received.

This risk is addressed in any facility likely to receive fissile materials.

Prevention of this risk is based on limiting the factors leading to uncontrolled chain reactions or "criticality control modes".

The control mode most suited to the process is used: limitation of mass, volume or geometry of equipment containing the materials.

In the facility's most radioactive areas, shielding is installed for normal operations and drastically reduces the impacts of a potential criticality accident on workers. Preventive measures are sometimes supplemented by the installation of a network and alarm system for detection and measurement of criticality accidents.

For transportation, nuclear safety and criticality are monitored under both normal and accidental operating conditions.

Regulations set forth rules for storage during transit, particularly in terms of the criticality risk.

### **Radiolysis**

Radiolysis is the radiation-induced decomposition of a chemical compound into hydrogen.

Measures are taken to prevent a potential explosion of the hydrogen that could result in the dispersion of radioactive materials.

In normal operating mode, facilities are designed to limit hydrogen concentrations to half of the lower limit of flammability by flushing the equipment with air. A back-up system is added if a loss of normal flushing capacity can cause concentrations to rise to the limit value in a few hours or tens of hours.

### **Thermal releases**

Matter absorbs the energy produced by intense radiation, which can lead to temperature increase. The energy is removed to control the temperature rise and prevent the dispersion of radioactive materials. Cooling is provided by redundant cooling systems with heat exchangers and ventilation systems.

### **Non-nuclear risks of internal origin**

Events associated with facility operations and the presence of personnel give rise to non-nuclear risk. These events are common to any industrial operation.

Since such incidents could affect equipment important for managing nuclear risk, strong prevention measures are taken in the nuclear industry. The causes of these events can thus be controlled and their consequences minimized.

## 4.2. Managing risk related to the group's industrial operations

**Handling**

Handling equipment consists of lifting, transportation and positioning equipment.

The main failures include the breakdown of lifting equipment, poorly secured loads, collision with an obstacle and derailment of a shipping container.

The consequences may be direct, such as the loss of load integrity, or indirect, and cause the destruction of equipment containing radioactive materials or a containment failure.

Risk management involves analyzing failure modes for process equipment used to transfer loads containing radioactive materials and for handling equipment used in maintenance. It also means establishing stringent rules to prevent risk (equipment design, preventive maintenance, inspections, operator certification, etc.).

Limiting the consequences of a handling failure involves limiting transport height, designing objects that withstand a fall, strengthening loads and dissipating energy.

**Fire**

Fire can cause the loss of certain process or shielding functions, with potential radiological consequences. The potential consequences include contamination due to failure of the containment barriers, irradiation due to destruction of radiation shielding, and a criticality accident.

Risk prevention consists of preventing the presence of flammable materials, fuel and a source of ignition in the same location. In the event of a fire, safety functions are protected, for example, by compartmentalizing work areas to limit fire propagation, using fire-retardant materials, insulating ventilation systems, and installing a remotely-operable fire extinction system. In addition, firefighters must be able to intervene within a short interval of time to prevent radiological impacts outside the buildings.

**Internal explosion**

The risk of explosion is due either to the use of reagents or to the occurrence of chemical reactions. An explosion could result in the deterioration of the primary containment system, causing the dispersion of radioactive products. The secondary containment system is designed to collect any products that may have been released.

Prevention is based on measures to prevent conditions conducive to an explosive reaction, which include limiting the temperature of flammable products used in the process, limiting the concentration of products that may cause an explosive reaction through proper ventilation, eliminating traces of reagents before any new processing step is undertaken, and controlling the quantity of reagents present in each facility.

**Use of chemical reagents**

To take into account potential impacts on plant personnel and the environment, prevention and monitoring are based on principles already applied to other types of risk (e.g. explosion and fire), combined with principles relating to external explosion and radioactive materials dispersion.

The use of reagents in a process can create additional risk by bringing incompatible products into contact with each other. A chemical product can be hazardous, either through direct contact or by inhaling its fumes. These characteristics must be taken into account in the packaging, storage and use of reagents and in worker protection.

**Characteristics of UF<sub>6</sub>**

Uranium may be handled in the chemical form of UF<sub>6</sub>, which is a solid at normal temperatures and pressures, and gaseous when heated. UF<sub>6</sub> can react when it comes into contact with water vapor in the air, forming uranium oxide and hydrofluoric acid, a highly toxic element for humans and animals.

In consideration of the quantities handled at the production sites, the risks inherent in UF<sub>6</sub> were factored into the design of the facilities (double containment barrier, automated monitoring of high-risk areas, etc.).

**Use of electricity**

Risk prevention related to the use of electricity is based on facility compliance with prescribed industry standards, compliance with applicable maintenance instructions and procedures, and periodic facility inspections.

**Use of pressure vessels**

The prevention of pressure spikes is based on compliance with industry regulations for accessible equipment and by imposing additional requirements for inaccessible equipment. The impacts are minimized through leak detection, feed interruption and personnel evacuation.

**Internal flooding**

The internal flooding risk derives from the presence of fluids inside the facilities. Leak rates are limited by design. The deterioration of seals, corrosion and overflows are potential sources of leaks.

The main radiological risk associated with internal flooding is criticality. For areas in which it can occur, this risk is factored into the design and operation of the facilities, and in particular the design of firefighting systems.



## Non-nuclear risks of external origin

Non-nuclear risks of external origin derive from the facility's environment. Unlike risks of internal origin, it is not always possible to act on the causes of these events; safety is based primarily on controlling the consequences.

A non-nuclear event of external origin may have direct or indirect radiological consequences.

### Earthquake

Earthquakes can cause damage that could disable nuclear safety systems.

The risk of an earthquake affecting facilities that handle nuclear materials is incorporated into the design of the equipment, systems and facilities based on the "design basis earthquake". The analysis consists of demonstrating that damage affecting the nuclear safety of the facility is unlikely to occur. The design basis and analyses are included in the safety analysis report for the facility, which is approved by the competent safety authorities.

An assessment of the impacts of an earthquake is performed for all of AREVA's nuclear facilities, in accordance with applicable standards and regulations.

### Airplane crash

This risk concerns the crash of an airplane, or part of an airplane, on a facility. It is a function of the type and number of aircraft that could reach the site without being detected and of the surface of sensitive areas in each facility.

The key features of the sites are as follows:

- they are located away from controlled airspace;
- they are located away from airspace used by military aircraft; and
- there is no nearby airport.

Safety studies factoring in airspace use, type of flights, known crash statistics, and even deliberate attack, are carried out to prevent this risk and limit its consequences.

Special measures are taken to protect the nuclear facilities from terrorism; these measures have been strengthened under the French national security plan known as "Vigipirate".

For security reasons, these measures may not be disclosed to the public.

### Adverse meteorological conditions

This risk is taken into consideration in the design of the facilities based on local weather conditions. The methodology is similar to that used for earthquakes.

Advance warning is given for any threatening weather conditions, and there are instructions for each facility concerning additional measures to be taken, such as increased monitoring or specific action.

### External flooding

The possible causes of external flooding, e.g. rain, breach of levies or floods are taken into consideration in the design of the facilities. The risk of a thousand-year flood is taken into account, in particular by locating facilities above the thousand-year flood plain.

## Other aspects of nuclear safety

In addition to the various types of risk identified above, nuclear safety also applies to nuclear materials transportation and to the non-proliferation of these materials.

### Nuclear materials transportation

Radioactive materials are transported on public thoroughfares. Like other nuclear operations, these shipments are subject to the "defense in depth" concept to protect the general public and the environment from radiation hazards during transportation. This concept consists of setting up a series of barriers, including safety systems, procedures, and technical and administrative controls, to prevent accidents and limit their consequences. The design of the transport cask is the main component of this safety system. As with any nuclear process, these operations are governed by stringent international regulations.

According to the regulations, the cask must ensure materials containment, criticality safety in the case of fissile materials, radiation protection, and protection from the heat released by the materials transported under both normal and accidental operating conditions. The regulatory requirements for casks cover design, manufacturing and inspections during operations and maintenance. The larger the amount of radioactivity it contains, the stronger the cask must be.

AREVA's objective is to ensure the highest levels of nuclear and industrial safety during transportation. We cover our civil liability through insurance, as described in section 4.5.1., "Special coverage relating to nuclear facility operations".

### Non-proliferation and protection of nuclear materials

Proliferation is the diversion of nuclear materials by third parties for non-peaceful purposes.

## 4.2. Managing risk related to the group's industrial operations

Non-proliferation is a shared objective of all of the signatory countries of international agreements in this area, in particular the Treaty on the Non-Proliferation of Nuclear Weapons of July 1, 1968. Non-proliferation requirements relate to the physical protection of nuclear materials per the Convention on the Physical Protection of Nuclear Material; to safeguards controls per the Euratom treaty, which established a nuclear materials accounting system; and to inspection by the IAEA and Euratom. Compliance with these requirements is regularly verified, primarily by inspectors from the IAEA and Euratom.

In this regard, AREVA has taken measures designed to know, at all times, the amount, type, use and location of the materials held at any given time by the group's entities.

AREVA prepares reports requested by the European Commission and/or the IAEA, whose purpose is to verify the origin and quantity of nuclear materials in the nuclear operator's possession. The record shows that these reports have always been approved by the competent national and international organizations with which they are filed.

### 4.2.2. Management and prevention of chemical hazards

#### Seveso regulations

The group operates 10 sites subject to Seveso regulations, which implement European Directive 96/82/EC of December 9, 1996 on the control of major accident hazards involving dangerous substances, as amended. The regulations apply to facilities that may present a significant risk to public health and safety or to the environment. All of these facilities are located in France and Germany (Duisburg). Four of them are considered "high threshold" sites: AREVA NC's plant at Pierrelatte, Comurhex's Malvési and Pierrelatte sites, and Cezus's Jarrie site.

Site	Detail of regulated operation	Regulation/threshold
AREVA NC Pierrelatte	Storage of 320 MT of HF	1111.2.a / 20 MT
Comurhex Malvési	Storage of 180 MT of HF	1111.2.a / 20 MT
Comurhex Pierrelatte	Storage of 310 MT of potassium bifluoride	1111.2.a / 20 MT
Comurhex Pierrelatte	Storage of 101 MT of HF	1111.2.a / 20 MT
Cezus Jarrie	Storage 2,950 MT of substances hazardous to the environment	1173.1 / 500 MT

In accordance with regulatory requirements, these four sites have set up a plan to prevent major accidents of this type and limit their impacts on individuals and the environment. A safety management system governing the organization, procedures, products and other resources was set up to improve risk management.

Similarly, hazards studies are updated on a regular basis. They are the foundation of processes to minimize risk from the outset, control urban development, establish emergency management plans and inform the public. Hazards studies must include an analysis of site-related risks in the event of deviation from operating parameters and must demonstrate measures to reduce the probability and impacts of an accident to the lowest achievable level based on current knowledge and practices, taking into account the vulnerability of the facility's environment. The administration generally requests clarifications and additional information concerning

these studies, and reputable independent experts may be asked to give an opinion on all or part of a document.

As part of a continuous improvement process, the relevance, reliability and "stand-alone" quality of safety barriers are reviewed on a regular basis. This review applies to prevention barriers (intended to reduce the probability of an unscheduled event) and to protection barriers (intended to limit the consequences of an unscheduled event). Performance improvement indicators are regularly monitored to prevent deviations. In addition, AREVA kicked off a program at the end of 2004 to harmonize procedures throughout the group, capitalize on lessons learned and improve the dissemination of best practices.

With respect to insurance, AREVA NC, Comurhex and Cezus are covered by the civil liability program taken out by the AREVA group (see section 4.5., "Risk coverage and insurance"). The level of coverage is based on quantification of reasonably expected risk and guarantees available in the insurance market.

#### Implementation of REACH regulations

On December 18, 2006, the European Parliament adopted the REACH regulation (Registration, Evaluation, Authorization and Restriction of Chemicals), EC no. 1907/2006. REACH establishes a new policy for managing chemical substances in the European Union, whether separate, in formulations or contained in products. The long-term objective is to find substitutes for substances that are of most concern for health and the environment.

The regulation will help improve knowledge on the properties of chemical substances and the risks associated with their use.

For example, the regulation requires an evaluation and recording of all chemical substances produced or imported in quantities of more than one metric ton per year. These evaluations will be used to acquire the knowledge necessary for suitable management of the risks associated with the use of each substance. The costs of the evaluations will be borne by the producers and importers. In addition, each user of a substance must ensure that its use is supported and that recommended risk management procedures are applied.



An approach to replacing the most hazardous substances must be documented and submitted to and validated by the European Chemicals Agency. A preliminary list of substances covered by this procedure was published in October 2008.

The REACH regulation came into force on June 1, 2007. It includes a detailed schedule for procedure implementation, including pre-registration, registration, authorization, etc.

Several steps were taken to manage the legal, financial and technical consequences of the REACH regulation and to ensure that all AREVA group entities are in compliance. In October 2006, an awareness program targeting the affected functions was deployed throughout the group and was continued in 2007 and 2008. An in-house organization was set up consisting of a REACH steering committee at the corporate level (representatives of the departments of Safety-Health-Security, the Environment – which recruited

a specialist the REACH regulation in 2008 – Procurement, Legal and R&D), technical champions on the various issues raised by REACH, and a network of REACH coordinators in the business units and sites, which interface with each other *via* a shared online resource. This organization, officialized by a group procedure, implements and monitors the program in each legal entity.

AREVA is affected by this regulation as a producer and importer of substances used in certain operations, in particular in the Chemistry and Fuel business units, and more generally as a downstream user of substances and mixtures. It should be noted that the radioactive substances covered in the Euratom no. 96/29 directive are excluded from the scope of the REACH regulations. The group pre-registered all substances produced or imported in quantities of more than one metric ton. A framework agreement was signed with a service provider for assistance in the preparation of the registration documents.

## 4.3. Risk factors

In this section, the group describes the significant risks to which it considers that it is exposed. Unidentified risks or risks that the group considers to be insignificant could also affect its business. The advent of one or more of these risks or the occurrence of one or more of the events described in this section could have a significant detrimental impact on the group's operations and/or financial position.

All risks are monitored within the framework of the business risk model (BRM) and in the ordinary course of the group's business. Numerous procedures are used to assess, manage and control these risks. However, the group cannot guarantee that these monitoring and control measures will be sufficient in all circumstances.

### 4.3.1. Risks related to the economic situation, to the international dimension of the group's operations and to the competitive environment

Our suppliers, subcontractors and partners could encounter financial difficulties caused by the global economic crisis and no longer be in a position to perform contracts concluded with the group.

The second half of 2008 saw the global economy turned upside down, sparked by uncertainty in the credit markets. This had, and could continue to have, a negative impact on our suppliers and subcontractors, depending on the geographical area. It is not possible to predict the duration of this global crisis, or if the economic situation will continue to deteriorate before improving. Depending on the geographical area, a worsening of the current economic crisis could have a significant negative impact on the performance of our suppliers' and subcontractors' obligations towards the group. Although major infrastructure spending has been announced in connection with economic stimulus measures adopted by a certain number of countries, it is not possible to predict when those measures will be implemented or the extent of their impact.

Some of the group's operations are sensitive to policy decisions in certain countries, especially as regards energy

The risk of energy policy changes cannot be ruled out in certain countries, influenced in particular by pressure groups or as an aftermath to events that give the nuclear industry a negative public image (incidents or accidents, violations of non-proliferation rules, diplomatic tensions), and could have a significant negative impact on the group's financial position. For example, laws to phase out nuclear power were adopted in Germany in 2002 and in Belgium in 2003. The Belgian law contemplates the end of nuclear power generation in the country by 2025. In Germany, nuclear power production would cease by 2020, based on an average reactor life of 32 years. Other countries are discussing the future of their nuclear power programs. Although recent developments have generally been positive, if other countries were to adopt legislation similar to that of Germany and Belgium, that could have a significant negative impact on the group's operations over the long term.

The group also operates in countries, such as France, where a policy decision could delay or at least have a negative impact on certain projects, particularly with regard to defense programs.

#### Political risk specific to certain countries in which the group does business could affect its operations and their financial equilibrium

AREVA is an international group with energy operations around the globe, including countries with varying degrees of political instability. Some of the group's mining operations, for example, are located in countries where political change could affect those operations. Political instability can lead to civil unrest, expropriation, nationalization, changes in legal or tax system, monetary restrictions, and renegotiation or cancellation of ongoing contracts, leases, mining permits and other agreements.

#### The group conducts operations on international markets subject to strong competitive pressures that could lead to a consequential drop in demand for the group's products and services

The group's products and services are sold on international markets characterized by intense competition on price, financial terms, product/service quality and the capacity for innovation. In some of its businesses, the group has powerful competitors that are larger than the group or have access to more resources. Moreover, these competitors may sometimes make decisions that are influenced by extraneous considerations other than profitability or have access to financing at advantageous terms.

Moreover, competitive pressures increased as a result of the deregulation of the electricity market, which opened the door to new competitors for the group's main customers and in particular resulted in increased price volatility. Deregulation may lead to changes in prices for electricity and for products and services related to the generation, transmission and distribution of electricity and/or to lower investment in the nuclear power sector.

Additionally, nuclear power is competing with other energy sources, whether fossil fuels – particularly oil, natural gas, and coal – or renewable energies such as hydropower, biomass, solar and wind power. These energy sources could become more attractive and cause demand for nuclear-generated electricity to drop.

### 4.3.2. Risks related to the group's nuclear operations

#### Due to its nuclear operations, the group is exposed to substantial liability risk and to potentially significant cost overruns

The group's nuclear operations cover every stage of the nuclear cycle, including (i) uranium supply and processing, (ii) uranium enrichment, (iii) fuel fabrication, (iv) reactor design, construction, maintenance and performance improvement, (v) treatment and recycling of used fuel and reusable materials, (vi) waste packaging and storage, and (vii) logistics and transportation associated with these operations.

Although the group has put in place strategies and procedures to control risk commensurate with the high standards for nuclear operations, the very nature of those operations involves risk. As a result, the group may have substantial liability as the result of, in particular, incidents and accidents; security breaches; acts of malice or terrorism; airplane crashes; natural disasters, such as floods or earthquakes; equipment malfunctions; and malfunctions in the storage, handling, treatment and packaging of nuclear materials and substances (see section 4.2.1., "Nuclear risk management and prevention"). Such events could have serious consequences, particularly in the event of radioactive contamination and/or irradiation of the environment, of individuals working for the group or of the general public, as well as a significant negative impact on the group's operations and financial position.

The group's operations also involve processes that use toxic chemical compounds in significant quantities and radioactive materials such as uranium hexafluoride ( $UF_6$ ). The transportation of nuclear materials by sea, rail, road and air, handled by the group's Logistics business unit, also entails specific risks, including potential environmental contamination resulting from transportation accidents. Moreover, some of the plants of the Chemistry and Enrichment business units are located in areas subject to flooding, particularly the Rhone Valley.

The group does not always have control over the factors influencing the severity of potential accidents that may affect a group facility or the transportation of materials. These factors include the type of radioactive materials released in the environment, weather conditions and the speed of implementation of remedial actions.

#### **A serious nuclear accident could have a significant negative impact on the group's operations and financial position**

The risk of a serious accident cannot be ruled out, despite safety features included in plant design and operating procedures. Such an accident could provoke a rejection of nuclear power by the public, causing regulatory authorities to strengthen plant operating conditions appreciably or to consider terminating nuclear power generation. Such a decision or the occurrence of a serious accident would have a significant negative impact on the group's economic model, strategy, operations, income, financial performance and outlook.

#### **The construction of a new reactor model involves risks, as for any new project, relating to technical implementation and to start-up schedule compliance**

The construction of a new reactor presents risks associated with the difficulties encountered in technical implementation of a new process and the fabrication of new components. Such risk could have a short-term negative impact on the group's operations and financial position. In addition, it cannot be ruled out that the contractually binding schedule for start-up of a new reactor model might not be met and that a potential delay might cause negative financial consequences for the group.

#### **Contract to build the Olkiluoto 3 EPR™ reactor**

The construction of the OL3 reactor continued to make progress in 2008.

However, performance of the OL3 project remains difficult, mainly due to the following:

- the management of the process for approving all technical documentation by the customer and the safety authorities prior to manufacturing; and
- modifications required to satisfy specific requests by the customer and the authorities.

The AREVA / Siemens consortium continued its discussions with the customer to define measures to strengthen and extend their cooperation.

In December 2007, the consortium also exercised its right to indemnification by submitting a significant claim for payment of cost overruns it deems attributable to TVO. This claim supplements a similar claim submitted in 2006. Since no contractual agreement was reached following discussions of this claim between the consortium and the customer, and the request for an extension of the schedule was not granted, the consortium decided to initiate arbitration proceedings with the International Chamber of Commerce (see section 20.6, "Legal and arbitration proceedings").

TVO maintained the counterclaim it filed against the consortium in 2007.

The consortium and its counsel continue to consider the allegations made in the counterclaim to be unfounded and without merit under the contract terms and Finnish law.

The provision for losses to completion recognized by the group was supplemented to take into account the result of new cost estimates and a revised assessment of risk resulting from the contract performance conditions.

#### **Uranium reserves indicated by the group are estimates and there is no guarantee that mining operations will produce the same results**

The group's uranium reserves and resources are based on estimates developed by the group using geological and economic assumptions. The group could modify these estimates to reflect a change in evaluation methods or geological assumptions, and/or a change in economic conditions (see section 6.3.1.1.5., "Resources, reserves and production sites").

It is not possible to guarantee that the projected quantities of uranium will be produced or that the group will receive the expected price for these minerals in accordance with contract terms agreed upon with the customers.

There is no assurance that other resources will be available. Moreover, uranium price fluctuations, production cost increases and declining mining and milling recovery rates can affect the profitability of reserves and require their adjustment.

**The group committed to a significant investment to build its new uranium centrifuge enrichment plant, but the expected return on this investment cannot be guaranteed, especially if its implementation is delayed**

The total amount of the investment for the construction of the Georges Besse II plant is expected to be approximately 3 billion euros. The plant will have a production capacity of 7.5 million SWU and is expected to be fully operational around 2017-2018. The group cannot be certain that revenue from the new plant's operations will be sufficient to cover operating expenses and depreciation, or that the anticipated rate of return will be achieved, particularly if the competitive environment of the enrichment market changes, in particular because of changes in the implementation of the Corfu Declaration by the Euratom Supply Agency (see section 6.3.1.3.4., "Market and competitive position").

While the group would gain access to already operational technology, the investment contemplated is subject to contingencies and it cannot be guaranteed that the Georges Besse II plant will be operational on the scheduled date, which could have a significant negative impact on the group's financial position.

More generally, the group cannot ensure that industrial projects such as this one or Comurhex II or mining projects, can be implemented within the proposed budgets and schedules consistent with the operating requirements of the sites involved.

**The volatility of uranium, uranium conversion and uranium enrichment prices could have a significant negative impact on the financial position of the group's mining operations**

Although the group operates mostly as a provider of processing services for uranium, of which the customers are generally "owners", it remains exposed to price risk for uranium in its mining operations and to price risk for uranium conversion and enrichment services. Natural uranium and conversion and enrichment prices have fluctuated in the past. Price levels depend on factors that are beyond the group's control, including demand for nuclear power; economic and political conditions in countries that produce or consume uranium, including Canada, some African countries, the United States, Russia and other CIS republics, and Australia; nuclear materials and used fuel treatment; and sales of surplus civilian and defense inventories (including materials from surplus nuclear weapons).

A decrease in the price of various materials and services, including natural uranium and conversion and enrichment services, with price levels remaining below production costs for a prolonged period, could have a negative impact on the group's mining operations and uranium transformation operations, including conversion and enrichment.

### 4.3.3. Other risks related to the group's operations

**The group supplies complex and standardized products and services that sometimes require special guarantees and additional work which could lead to unexpected costs**

The group provides services; designs, manufactures and markets a broad range of products with a high unit value used in major projects, including design and construction of nuclear reactors and heavy equipment; maintains reactors and extends their service life; and designs and manufactures electricity transmission and distribution equipment, particularly transformers. Occasionally, final adjustments may be required, products may need to be modified after manufacturing has begun or after customers have placed them in service, or services to be provided may have to be adapted. These adjustments, modifications and additional services could trigger unexpected costs for the group. Though the group has set up a rigorous management control system and a system to control product and service quality and standards, these unanticipated expenses could have a significant negative

impact on the group's business or financial position. When the group sells certain products, such as nuclear steam supply systems, or concludes service contracts, customers sometimes demand schedule or performance warranties, or penalties for not meeting them. Pursuant to such commitments, the group may have to repair products delivered or correct services provided in the event of faulty design or performance. The risk is significantly increased if the repairs or services concern a standardized series of products.

In accordance with the group's practices and policies, the warranties provided in the group's contracts or financing are limited in duration and capped in value, and expressly exclude consequential or indirect damages. However, the group could under certain circumstances give warranties exceeding those limits, particularly in competitive markets. The group's contracts sometimes include clauses allowing a customer to terminate a contract or reject the equipment if contract clauses concerning schedule or performance have not been met. Difficulties concerning products or services delivered by the group and covered under such clauses could thus trigger unanticipated expenses.

Contract performance difficulties, and the financial consequences outlined above, could also have a negative impact on the group's reputation with existing or potential customers, particularly in the nuclear business.

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**An industrial breakdown, a work stoppage or an interruption of the supply chain in the group's manufacturing plants or at a supplier's location could delay or stop the flow of the group's products or services**

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The group is exposed to the risk of an industrial breakdown or the disappearance of a supplier that can cause a break in the supply of products or services. This risk is heightened by the fact that the group's different plants, in any given business, are highly integrated and interdependent, and that some of the group's suppliers could have financial difficulties or might not be able to cope with demand while complying with the group's quality standards. A potential breakdown or stoppage of production in a plant or at a supplier's location, or an interruption of some shipments could affect all of the group's operations and be responsible for a break in supplies or in services.

Contracts between the group and its customers include a certain number of warranties that can trigger penalties for delays. These warranties could enter into play as a result of an industrial breakdown, work stoppage, or an interruption of the supply chain, whether at one of the group's industrial units or at one of its supplier's locations.

Although the group has implemented measures to limit the impact of a potential breakdown and has covered its exposure through business interruption insurance for its industrial units and selects its suppliers based on stringent criteria for quality and business soundness, it is nonetheless still possible that an industrial breakdown, a work stoppage or an interruption of the supply chain at the group's industrial units or at a supplier's location could have a significant negative impact on the group's financial position and on its ability to respond in optimum manner to customer demand.

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**A decrease in the supply of certain strategic components or an increase in the cost of electricity could have a negative impact on the group's production costs**

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The group's operations require large supplies of specific commodities and semi-finished products, including base products, zircon ore and others. Some operations also use large quantities of electricity.

For instance, electricity represents approximately 60% of the cost of enrichment by gaseous diffusion. That electricity is supplied in large part by the group's largest customer at this time, EDF, either to cover its own requirements for the enrichment services the group provides to that customer (see section 6.3.1.3.3., "Manufacturing and human resources"), or in connection with the electricity supply contract for enrichment services that the group exports.

The group's large requirement for commodities and semi-finished products is such that the group could experience procurement difficulties, given the limited number of suppliers.

For all of these operations, a shortage of commodities or semi-finished products could translate into a production slowdown or even, in certain circumstances, in shutdown.

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**The group might not be able to find the necessary expertise to carry out its projects**

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For its proposals, the group turns to outside experts when it does not have expertise in-house for the successful completion of its nuclear power plant construction projects. In view of developments on the nuclear power market, especially over the past ten years, the group cannot guarantee that it will find the necessary skills for the successful completion of turnkey projects. Such an event would have a significant negative impact on those activities and on the group's financial position.

The group will also have to adapt to cope with the growth in demand for nuclear generated electricity. The group has initiated a program to strengthen and renew its skills base, and has undertaken massive recruitment of new employees. These employees must be trained, particularly by transferring experience and skills from more experienced employees.

The group cannot guarantee the success of this groundwork, nor that it will be able to hire the human resources necessary for its development in a timely or cost effective manner.



#### 4.3.4. Contractual and commercial risks

**The group's loss of one its main customers or a reduction in their purchases, or an erosion of contract terms or conditions, could have a significant negative impact on the group's operations and financial position**

EDF is a very important customer for the group; it represented less than 20% of the group's consolidated sales revenue in 2008. The group's 10 largest customers, including EDF, represent some 35% of its consolidated sales revenue in 2008. The group is the leading supplier to EDF in the nuclear sector, providing products and services at every stage in the nuclear fuel cycle as well as new nuclear plant construction, equipment and maintenance of EDF's nuclear reactor fleet. In the fuel cycle, the relationship between EDF and the group is governed by multi-year contracts.

Two of these contracts were renewed at the end of 2008, one for enrichment services and the other for used fuel recycling. In its sectors of activity, these contracts give AREVA operating visibility that goes beyond 2020.

Nonetheless, since 2002, EDF has gradually opened its procurement program to other suppliers, with which contracts have already been signed, particularly in the nuclear fuel business. This trend could force the group to adjust its production resources, considering EDF's prominence as a customer.

For the Back End division, AREVA and EDF signed a framework agreement governing contracts in the back end of the fuel cycle for the post-2007 period on December 19, 2008. EDF had gradually opened its procurement to other suppliers, particularly of nuclear fuel, with which contracts have already been signed. Under the framework agreement, EDF agrees to use the group's recycling plants through 2040. It also sets the principal amount to be paid by EDF for waste retrieval, waste packaging and the dismantling of La Hague facilities. In addition, it sets the services prices and volumes for the 2008-2012 period, as well as the principles for post-2012 contract terms and conditions

**The group enters into long-term contracts that could limit its opportunity to take advantage of improving conditions in certain markets, or result in lower profitability than anticipated**

The group sometimes concludes long-term contracts in which prices are adjusted based on general indices rather than current market prices for certain commodities or services. This type of contract could prevent the group from taking advantage of price increases for those products or services; this is the case for certain natural uranium sales contracts, in particular, or for conversion or enrichment services.

In addition, the profitability of certain long-term contracts in which the group commits to providing deliverables at a fixed price, adjusted based only on general indices, could be affected by certain excess costs that cannot be charged to customers, including unanticipated increases for certain types of costs, technical difficulties, subcontractor default or a suboptimal group organization. The performance of this type of contract could, therefore, reduce the group's anticipated profitability, or even cause an operating loss.

**The group is exposed to a payment collection risk for products and services**

The group is exposed to a risk of default by customers for the payment of its products and services. Except when customers deposit funds to cover the group's expenses during the contract implementation phase, the group is exposed to the risk of a customer's inability to accept delivery or to the risk of default on payments during delivery. In such instances, the group may not be able to recover expenses incurred for the project or attain the operating margins contemplated when the contract was concluded.

In connection with certain disputes set out in section 20.6. "Legal and arbitration proceedings", the group may also be exposed to the risk of customer payment of part of its products and services on a blocked account during the execution of certain contracts. In fact, depending on the outcome of the disputes in question, the group could run the risk of having all or part of the blocked payments withheld.

Though the group endeavors to control credit and contractual risk, it is not possible to guarantee that all non-payment risk has been eliminated.

Generally speaking, the revenue, cash flow and profitability recognized for a project may vary significantly, according to the level of completion of the project in question, and may depend on a certain number of factors, some of which are not within our control. These may include unforeseen technical problems related to the equipment supplied, postponements or delays in contract execution, our customers' financial difficulties, payments withheld by our customers, default by or the financial difficulties of suppliers, subcontractors and partners in a consortium in which we share responsibility, and unforeseen additional costs resulting from project modifications. The profit margins on some of our contracts may be different from those initially anticipated insofar as costs and productivity may vary during contract execution.

### 4.3.5. Environmental and health risks

#### Natural disasters prevalent in certain regions in which the group does business could affect its operations and financial position

The location of some of the group's production sites in areas exposed to natural disasters, such as earthquakes or flooding, could weaken the group's production capacity.

For instance, some of the Transmission & Distribution division's sites are located in areas of Turkey where earthquakes cannot be ruled out.

#### The group must bear the full or partial cost of end-of-life-cycle operations for its nuclear facilities, mine site reclamation and remediation of plant sites at the end of operations. Provisions have been recorded to cover the estimated costs, but actual costs could be significantly different

As an operator of nuclear and industrial facilities covered by legislation on environmentally regulated sites, the group is legally obligated to secure, dismantle or remediate its facilities after shutdown, in whole or in part, and to manage waste resulting from these operations (see section 4.2., "Managing risk related to the group's industrial operations"). As a mine operator, it must also provide for closure, remediation or reclamation after operations.

Article 20 of the Program Law of June 28, 2006 on the sustainable management of radioactive materials and waste and decree no. 2007-243 of February 23, 2007 regarding the protection of the funding of nuclear expenses provide a mechanism to ensure that operators of regulated nuclear facilities have the necessary assets to finance long-term costs to dismantle the facilities and/or manage used fuel and radioactive waste.

Future expenses relating to end-of-life-cycle operations for its nuclear facilities and for reclamation of regulated industrial facilities and mines have been identified and special provisions have been recorded. Rules regarding provisions for end-of-life-cycle operations, which represent 5.674 billion euros on a discounted basis, including a third party share of 270 million euros, are presented in section 20.2., "Notes to the consolidated financial statements", from notes 1.13., "Financial assets" to note 1.18., "Provisions for end-of-life cycle operations" (see also section 9.4.6, "Assets and provisions for end-of-life-cycle operations").

As part of this program, the group considers that it has recorded reasonable provisions for all expenses relating to end-of-life-cycle operations at its nuclear facilities and for reclamation of its industrial sites as could reasonably be estimated as of December 31, 2008.

These provisions are based on estimates of future costs developed by the group taking into account, by definition, a series of assumptions (see section 20.2., "Notes to the consolidated financial statements", note 13, "End-of-life-cycle operations"). However, it is not possible to affirm with certainty that the provisions currently recorded will be sufficient to cover the group's obligations, since these are estimates of future costs. The actual costs borne by the group could be higher than initially estimated, especially considering changing legislation and regulations applicable to nuclear operations and environmental protection, their interpretation by the courts, and the growing body of scientific and technical knowledge. These costs also depend on regulatory decisions, in particular concerning dismantling methods, and on the choice and cost of solutions for the final disposal of certain types of radioactive waste (see section 20.2., "Notes to the consolidated financial statements", note 13., "End-of-life cycle operations"). It is therefore possible that these future obligations and potential expenses or potential additional future liability of a nuclear or environmental nature could have a significant negative impact on the group's financial position (see section 4.2., "Managing risk related to the group's industrial operations").

Also, any reduction of the discount rate, i.e. 5% at year-end 2008, including 2% for inflation, or any acceleration of end-of-life-cycle operations would require the group to record an increase in the amount of the provisions.

Used fuel treatment contracts call for the final waste and residues from those operations to be allocated to and retrieved by the original waste and residue generator. However, as the temporary holder of the nuclear waste and residue generated by its customers, the group could remain liable if a customer defaults or files for bankruptcy.

#### The group is exposed to a risk of insufficient value of assets held to fund its end-of-life-cycle operations

To meet its future end-of-life-cycle obligations, for which AREVA's share is valued at 5.404 billion euros as of December 31, 2008 (see above), the group had financial assets totaling 4.954 billion euros, including 2,991 billion euros in third party receivables and the balance in the portfolio of financial instruments (equities, equity funds and bond funds).

At the end of 2008, the portfolio of financial assets (excluding receivables) consisted of 48% bonds and 52% equities. Considering the intrinsic volatility of equity markets, the value of the portfolio could decrease and/or provide a return insufficient to fund the group's end-of-life cycle operations. The group would have to use other financial resources to fund these operations, which would result in a significant negative impact on its net income and financial position.

The sensitivity of the value of the group's portfolio to variations in the equity markets and/or interest rates is as follows:

#### Impact of changes in equity markets and interest rates on portfolio value

(in millions of euros)

Assumption: declining equity markets and declining interest rates	
-10% on equities	(103)
+100 basis points on rates	(18)
<b>Total</b>	<b>(121)</b>
Base case (December 31, 2008)	
	1,963
Assumption: rising equity markets and rising interest rates	
+10% on equities	+103
-100 basis points on rates	18
<b>Total</b>	<b>+121</b>

### 4.3.6. Legal and regulatory risks

As a result of its success and of its links with government entities, the group may be exposed to a risk of claims for anti-competitive practices

If such claims or investigations were to evidence practices which could potentially be considered anti-competitive, this could lead to the imposition of significant fines on the group.

Occupational disease, in particular from exposure to asbestos or radiation, cannot be ruled out

The group believes that it fundamentally complies with legal and regulatory provisions pertaining to health and safety in every country in which it operates and considers that it has taken measures designed to ensure the health and safety of its own personnel and subcontractor personnel (see Appendix 3, "Human Resources report", section 2, "Change in number of employees and human resources data" and section 4.2.1., "Nuclear risk management and prevention"). However, by definition, the risk of occupational disease cannot be eliminated. Yet the occurrence of disease could result in legal action against the group or in claims for compensation, either from employees or former employees, or from buyers of the group's businesses, in the event that occupational disease as the result of a previous exposure should arise in employees prior to their transfer with the business. These actions could result in the payment of damages.

A limited number of claims for occupational disease due to asbestos exposure have been made against the group in France to date. In addition, about 10 claims have been filed against the group in France for gross negligence on the part of an employer in connection with such exposure. Three claims have also been filed against the group in France for gross negligence on the part of an employer in connection with radiation exposure.

On the risk of pollution and/or contamination, see section 4.2., "Managing risks related to the group's industrial operations".

Changes in existing or future regulations, particularly environmental, health or nuclear safety regulations, and amendments to the group's operating permits and licenses could result in new compliance obligations or operating conditions for the group, with a potential increase in costs or expenses

The group conducts its operations in accordance with local laws under operating licenses and permits.



These operations require licenses relating in particular to production capacities and to releases from the facilities to the environment. The group must operate within the limits set in the operating permits and in applicable legislation and regulations, especially with respect to environmental protection, worker protection, health and nuclear safety. The group may be subject to sanctions, mainly administrative sanctions, in the event of an incident requiring an investigation, or of excessive deviation in actual facility conditions in relation to regulatory requirements or operating permits and licenses. Such sanctions include in particular the temporary suspension of an operating permit or license, or orders to comply with regulations or to restore normal operating conditions. In addition, damage to the environment, to public health or to occupational safety, or nonconformities in operating conditions at group facilities could result in liabilities with regard to third parties and government agencies.

Moreover, new national or international standards, or a strengthening of or change in legislation or regulations, particularly in areas such as environmental protection, health and industrial safety or nuclear safety, as described notably in section 4.2., “Managing risk related to the group’s industrial operations”, could in particular require that group facilities be brought into compliance, which could have a significant negative impact on the group’s operations or financial position. In France in particular, the TSN Law on nuclear accountability and safety requires a periodic reassessment of safety conditions. This could translate into considerable expense to bring the facilities into compliance, but this would bolster their safety and ensure their sustainability. Similarly, the administrative order of December 12, 2005 relating to pressurized nuclear equipment strengthens limitations and verifications, particularly to take into account nuclear safety and radiation protection requirements with respect to, in the group’s case, the manufacturer, which is responsible for the conformity of the equipment (such as reactor vessels) to be used in nuclear reactors. This is likely to prolong schedules to allow the regulatory authority to pronounce the conformity of the most significant pressurized nuclear equipment.

In addition, the group may not receive permits or licenses to modify or expand its industrial operations on a timely basis, for which it has applied or may apply to French or foreign regulators, thus limiting its growth capabilities.

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### **The group is exposed to the risk of non-renewal or termination of its mining concessions**

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The group’s mining operations involve concessions received or partnerships formed under legal systems specific to each country. For instance, the average term of a concession is approximately 20 years in Niger and Canada. Despite the relatively long terms of these contracts or concessions, the group is exposed to the risk of non-renewal or termination of its mining concessions.

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### **Legal restrictions specific to certain group operations could have a significant negative impact on its financial position**

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Some of the group’s operations are subject to specific confidentiality restrictions or may be classified, such as defense programs involving the AREVA TA business unit or other defense research programs. Those restrictions could limit or prevent the transfer of information to recipients not subject to the same restrictions. Furthermore, the restrictions could limit or even prevent the development of those operations. In addition, some operations, particularly those of Eurodif, are subject to special tax provisions whose modification could have a negative impact on the group’s financial position.

The legal and arbitration proceedings are set out in section 20.6., “Legal and arbitration proceedings”.

### 4.3.7. Risks related to the group's structure

The group cannot ensure that its strategic alliances, restructuring, mergers and acquisitions, asset disposals and consolidation will be performed as initially contemplated or that these operations will generate the anticipated synergies and cost reductions

The group is involved in a variety of acquisitions, strategic alliances and joint ventures. Although the group believes that its acquisitions, strategic alliances and joint ventures will be beneficial, a certain level of risk is inherent in these transactions, particularly the risk of overvalued acquisitions; insufficient vendor warranties; underestimated operating costs and other costs; disagreements with partners (particularly in joint ventures); potential integration difficulties with personnel, operations, technologies or products; lack of performance on initial objectives; or third-party challenges to these strategic alliances or mergers and acquisitions, based on their impact on those parties' competitive positions.

In addition, minority shareholders in certain AREVA subsidiaries, such as Eurodif or AREVA TA (see section 25.2.2., "Main shareholders' agreements concerning AREVA's equity interests"), could restrict the group's decision-making ability.

The French State holds the majority of AREVA's share capital and voting rights, directly or indirectly. Like any majority shareholder, it has the power to control AREVA's strategy and to make most of the decisions in Annual General Meetings of Shareholders

The French State holds, directly or indirectly, more than 90% of AREVA's issued shares and more than 94% of its voting rights. Like any majority shareholder, the French State thus has the power to make most of the decisions falling under the purview of the General Meetings of Shareholders, including decisions regarding elections of members of the Supervisory Board and decisions regarding dividend distributions (see section 16.2., "Functioning of the Supervisory Board of AREVA"). In addition, the legal requirement that the French State retain a majority interest could limit AREVA's access to capital markets or its ability to undertake transactions for external growth.

These risks are also described in section 20.2., "Notes to the consolidated financial statements", note 31, "Market risk management".

## 4.4. Market risks

The group has an organization dedicated to implementing market risk management policies approved by the Executive Committee for centralized management of exposure to foreign exchange, commodity, rate and liquidity risks.

In the Finance department, the department of Financial Operations and Treasury Management makes transactions on financial markets and acts as a central desk that provides services and manages the group's financial exposure. This department is organized with a front, middle and back office, ensuring the separation of functions, and has access to all the human, technical, and information system resources necessary to accomplish its mission. Transactions cover foreign exchange and commodities trading, interest rates,

centralized cash management, internal and external financing, borrowings and investments, and asset management.

To report on financial risk and exposure limits, the department of Financial Operations and Treasury Management prepares a monthly report presenting the group's positions and the performance of its financial transactions. This report is submitted once a month to the Treasury Management Committee, which is composed of the group's CFO, the financial directors of the main subsidiaries, and the Legal and Treasury Management departments. The reporting system also includes weekly reports submitted to the group's CFO, including a valuation of all positions and their market value. Together, these reports and reviews are used to monitor the group's counterparty risk.

## Currency risk: The depreciation of the US dollar against the euro may affect the group's income in the medium term

In view of the geographic diversity of its locations and operations, the group is exposed to fluctuations in exchange rates, particularly the dollar-euro exchange rate. The volatility of exchange rates may impact the group's currency translation adjustments, equity and income.

**Currency translation risk:** The group is exposed to the risk of translation into euros of financial statements of subsidiaries using a local currency. Only dividends expected from subsidiaries for the following year are hedged as soon as the amount is known.

The value of the euro vs. the US dollar increased by an average of 7% in 2009 compared with 2007. In 2008, the impact of foreign exchange variations on the group's operating income was a loss of 3 million euros, compared with a loss of 5 million euros in 2007.

**Balance sheet risk:** The group finances its subsidiaries in their accounting currencies to minimize the balance sheet foreign exchange risk from financial assets and liabilities. Loans and advances granted to subsidiaries by the department of Treasury Management, which centralizes financing, are then systematically converted into euros through currency swaps.

To limit the currency risk for long-term investments generating future cash flows in foreign currencies, the group uses a liability in the same currency to offset the asset. Thus, the 2.5 billion US dollar loan subscribed in 2007 to acquire UraMin Inc., now called AREVA Resources Southern Africa, was qualified as a net investment hedge according to IFRS criteria.

**Trade exposure:** The principal foreign exchange exposure concerns fluctuations in the euro/US dollar exchange rate. As a uranium producer in Canada, the group is also exposed to fluctuations in the Canadian dollar against the US dollar, in which uranium prices are denominated. Exposure to other currencies (pound sterling, Swiss franc, Japanese yen and Southeast Asian and Middle Eastern currencies), mainly connected with the Transmission & Distribution business, is not material.

The group's policy, which was approved by the Executive Committee, is to hedge all foreign exchange risk generated by sales transactions, whether certain or potential (during the proposals) so as to minimize the impact of exchange rate fluctuations on consolidated net income.

The group acquires derivative instruments (mostly currency futures) or insurance contracts (issued by Coface) to hedge its foreign exchange exposure from trade, including accounts receivable and payable, confirmed off-balance sheet commitments (orders received from customers or placed with suppliers), highly probable future cash flows (budgeted sales or purchases, anticipated margins on contracts) and proposals submitted in foreign currencies. These hedges are backed by underlying transactions for identical amounts and maturities and, generally, are documented

and eligible for hedge accounting (except for hedges of proposals submitted in foreign currencies).

As provided by group policies, each operating entity responsible for identifying foreign exchange risk must hedge exposure to currencies other than its own accounting currency by initiating a transaction exclusively with the group's trading desk, except as otherwise required by specific circumstances or regulations. The department of Financial Operations and Treasury Management centralizes the exposure of all entities and hedges the net position directly with banking counterparties. A rigorous system limits the foreign exchange positions that may be taken by the trading desk. The results are marked to market on a daily basis by specialized teams responsible for the valuation of the transactions. In addition, analyses of sensitivity to changes in exchange rates are periodically performed.

The main factors that may influence the group's exposure to currency risk are discussed below.

- **Front End division:** This division's facilities are located around the globe and its operations are denominated primarily in US dollars, which is the world reference currency for the price of natural uranium and for conversion and enrichment services. As a result, the division has significant exposure to the risk of the US dollar's depreciation against the euro and, to a lesser extent, against the Canadian dollar. This exposure, consisting mainly of multi-year contracts, is hedged globally to take advantage of the automatic hedges resulting from the purchase of materials. As medium to long term exposure is involved, the amount of the hedge is set up according to a gradual scale for a duration based on the likelihood of the risk, generally not to exceed three years;
- **Reactors and Services division:** Specific insurance coverage is usually acquired or forward currency transactions are concluded to hedge the risk associated with sales of heavy components (steam generators, reactor vessel heads) that may be invoiced in US dollars while production costs are incurred in euros;
- **Back End division:** This division's exposure to foreign exchange risk is minimal. Most sales outside the euro zone are denominated in euros;
- **Transmission & Distribution division:** This division is exposed to several currency combinations, which are hedged by each operating unit against its functional currency, project by project, with the objective of hedging 100% of the currency risk.

Considering the various factors described above, a further decrease in the US dollar's value could have a negative impact on the group's operating income and consolidated net income over the medium term.

For additional information, including a sensitivity analysis, see section 20.2., "Notes to the consolidated financial statements", note 31, "Market risk management".

## Commodity risk: The group is primarily exposed to fluctuations in the prices of commodities used in its manufacturing processes

The group is exposed to long term and short term changes in the prices of commodities used in its production processes, either as a result of the procurement of finished products or, more directly, when buying commodities pegged to the trading price on a commodity market.

Aside from energy, commodities that may have a significant impact on the group's production costs primarily include copper and nickel; aluminum and silver play a lesser role. Most of the group's exposure is concentrated in the Transmission & Distribution and Reactors and Services divisions.

Each division implements policies to manage exposure to commodity risks which aim to limit the impact of price changes on consolidated net income by identifying and neutralizing the risk as soon as possible, in some instances as early as the proposal phase.

Hedges may be initiated based on a global budget (T&D division) with graduated coverage reflecting the highly probable nature

of the exposure, or based on long-term sales contracts after a specific analysis of the commodities risk (Reactors and Services division).

As for currency exposure, commodity risk management is initiated by the operating entities and centralized with the group's department of Treasury Management using derivatives, including options and firm contracts (forwards and swaps). The department of Treasury Management hedges the subsidiaries' position with market counterparties without taking any speculative position.

The majority of commodity hedges are eligible for accounting as cash flow hedges. Accordingly, any change in the value of derivatives impacts the group's equity.

For additional information, including a sensitivity analysis, see section 20.2, "Notes to the consolidated financial statements for the year ended December 31, 2008", note 31, "Market risk management".

## Rate risk: The group is exposed to the fluctuations of interest rates on its external floating rate borrowings and, to a lesser extent, on its financial investments

Rate risk management is entirely centralized in the department of Financial Operations and Treasury Management, which consolidates the subsidiaries' current or stable cash surpluses or requirements and arranges external financing as appropriate, except as otherwise required by regulations or specific circumstances.

The group uses several types of derivative instruments, as required by market conditions, to allocate its borrowings between fixed rates and floating rates and to manage its investment portfolio, with the goal being mainly to reduce its borrowing costs while optimizing the management of its cash surpluses.

As of December 31, 2008, interest rate swaps were the main financial instruments used in the management of external debt (see section 20.2, "Notes to the consolidated financial statements for the year ended December 31, 2008", note 31, "Market risk management").

The group's borrowings, primarily in US dollars indexed to a floating interest rate, is its main source of rate risk exposure. In 2007 and 2008, the group contracted for interest rate swaps in US dollars – borrower to convert part of its floating rate borrowings into fixed rates, bringing the outstanding amount to 710 million US dollars (see section 20.2, "Notes to the consolidated financial

statements for the year ended December 31, 2008", note 31, "Market risk management"). As a result, 84% of the group's borrowings after hedging (excluding Siemens' put) were at floating rates at year-end 2008, and 16% at fixed rates.

The group's rate management policy, approved by the Executive Committee, is supplemented by a system of specific limits for asset management and the management of rate risk on borrowings. The system is customized based on the type of instrument (debt or assets). In particular, it defines authorized limits in terms of portfolio sensitivity, authorized derivatives for managing financial risk, and the subsequent positions that may be taken. Performance objectives indexed to benchmarks are regularly monitored and verified, and the data is documented in the monthly report prepared by the department of Treasury Management.

The following table summarizes the group's net rate risk exposure at the end of 2008, before and after rate management transactions.

Based on the breakdown of fixed and floating rates at year-end 2008, the group is mainly exposed to the risk of a change in future cash flows related to floating rate borrowings.

Based on the group's exposure at year-end 2008, we estimate that a 1% increase in interest rates would have a negative impact of 27 million euros on borrowing costs on a full-year basis and, therefore, on the group's consolidated income. The impact of a similar increase was -23 million euros at year-end 2007.

#### Maturities of financial assets and borrowings as of December 31, 2008 (I)

	Less than 1 year	1 year to 2 years	2 years to 3 years	3 years to 4 years	4 years to 5 years	More than 5 years	Total
<b>Financial assets (II)</b>	<b>1,163</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,163</b>
<i>including fixed rate assets</i>	12	0	0	0	0	0	12
<i>including floating rate assets (III)</i>	1,145	0	0	0	0	0	1,145
<i>including non-interest-bearing assets</i>	6	0	0	0	0	0	6
<b>(Borrowings)</b>	<b>(2,693)</b>	<b>(1,381)</b>	<b>(233)</b>	<b>(2,055)</b>	<b>(5)</b>	<b>(294)</b>	<b>(6,662)</b>
<i>including fixed rate borrowings</i>	(919)	(14)	(8)	(5)	(3)	(90)	(1,040)
<i>including floating rate borrowings</i>	(1,774)	(1,367)	(206)	(1)	(2)	(205)	(3,554)
<i>including non interest-bearing borrowings</i>	0	0	(19)	(2,049)	0	0	(2,068)
<b>Net exposure before hedging</b>	<b>(1,530)</b>	<b>(1,381)</b>	<b>(233)</b>	<b>(2,055)</b>	<b>(5)</b>	<b>(294)</b>	<b>(5,499)</b>
<i>share exposed to fixed rates</i>	(908)	(14)	(8)	(5)	(3)	(90)	(1,028)
<i>share exposed to floating rates</i>	(629)	(1,367)	(206)	(1)	(2)	(205)	(2,409)
<i>non-interest-bearing share</i>	6	0	(19)	(2,049)	0	0	(2,062)
<b>Off-balance sheet hedging</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<i>on borrowings: fixed rate swaps</i>	(804)	510	0	0	0	0	(294)
<i>on borrowings: floating rate swaps</i>	804	(510)	0	0	0	0	294
<b>Exposure after hedging</b>	<b>(1,530)</b>	<b>(1,381)</b>	<b>(214)</b>	<b>(2,055)</b>	<b>(5)</b>	<b>(294)</b>	<b>(5,499)</b>
<i>share exposed to fixed rates</i>	(104)	(524)	(8)	(5)	(3)	(90)	(734)
<i>share exposed to floating rates</i>	(1,433)	(857)	(206)	(1)	(2)	(205)	(2,703)
<i>non-interest-bearing share</i>	6	0	(19)	(2,049)	0	0	(2,062)

(I) Nominal amounts converted into euros.

(II) Cash and other current financial assets.

(III) Maturities of less than 3 months are considered floating rate.

## Risk on equities: the group has substantial investments in publicly traded shares and is exposed to financial market fluctuations

The AREVA group holds publicly traded shares that are exposed to the volatility inherent in equity markets.

These holdings are of three types:

- investments in associates: These are primarily STMicroelectronics and Eramet (see section 20.2, "Notes to the consolidated financial statements for the year ended December 31, 2008", note 14, "Investments in associates");
- equities held in the portfolio of financial assets earmarked for future end-of-life-cycle operations (see section 20.2, "Notes to the consolidated financial statements for the year ended December 31, 2008", note 13, "End-of-life-cycle operations");

- other long-term investments: this concerns AREVA's 7.38% equity interest in Safran, a 1.2% equity interest in GDF SUEZ, a 1.4% interest in SUEZ Environnement and equity interests in other publicly traded companies, including Total and Alcatel (see section 20.2, "Notes to the consolidated financial statements for the year ended December 31, 2008", note 15, "Other non-current financial assets").

<i>(in millions of euros)</i>	Market value December 31, 2008	Impact +/-10%
<b>Investments in publicly traded associates</b>		
STMicroelectronics	475	+/-47
Eramet	933	+/-93
<b>Available-for-sale securities in the portfolio earmarked for end-of-life-cycle operations</b>	<b>1,027</b>	<b>+/-103</b>
<b>Other available-for-sale securities</b>	<b>1,676</b>	<b>+/-168</b>

The risk of a decrease in the price of shares of associates and other non-current financial assets is not specifically hedged.

The risk on shares held in the portfolio of assets earmarked to fund end-of-life-cycle operations is an integral component of AREVA's asset management program, which includes equities to increase long-term returns as part of a program to allocate assets between

bonds and equities (see section 20.2, "Notes to the consolidated financial statements for the year ended December 31, 2008", note 13, "End-of-life cycle operations"). Exposure to European equities is managed by various management companies either through a mandate given to an investment firm or through dedicated mutual funds, with management guidelines limiting the tracking error compared with an index.

## Liquidity risk

The group's department of Financial Operations is in charge of liquidity risk management and provides the subsidiaries with appropriate long term and short term financing resources.

Cash management optimization is based on a centralized system to provide liquidity and manage the cash surpluses of the subsidiaries, regardless of AREVA's equity stake. Management is provided by the group's department of Financial Operations, chiefly through cash pooling agreements and inter-company loans, subject to local regulations. The group's consolidated cash surpluses are managed to optimize financial returns while ensuring that the financial instruments used are liquid.

Borrowings are centralized by the department of Treasury Management to optimize borrowing costs and facilitate access to the banking system.

The group set up two confirmed syndicated lines of credit in 2007:

- a 7-year syndicated credit facility for a total amount of 2 billion euros, which may be drawn in euros or in US dollars. One billion euros (or the equivalent in US dollars) had been drawn as of December 31, 2008. This credit facility represents a significant liquidity reserve;
- a 3-year syndicated loan for a total of 2.5 billion US dollars, including 600 million US dollars repaid in November 2008, to finance the acquisition of UraMin Inc. It was fully drawn as of the end of December 2008.

In 2008, the group set up:

- a commercial paper program for 2 billion euros. Its Standard & Poor's rating (A1) was published in connection with this program.

The amount issued as of year-end 2008 was 700 million euros;

- a 7-year line of credit opened with the EIB for 400 million euros, 200 million euros of which had been drawn as of the end of 2008.

The commercial paper program strengthens the group's financial flexibility and offers a competitive alternative to bank financing. To meet investor demand, AREVA initially issued commercial paper in excess of the group's actual cash needs. This surplus was invested temporarily in marketable securities, consistent with the group's limits of exposure. The commercial paper program should eventually provide an alternative to the use of the 2-billion euro syndicated credit program.

## Other covenants

The French State's majority shareholding in the group does not, in general, impact the loan terms and conditions granted to the group. However, certain loan agreements include change of control clauses stipulating that the group should maintain control over the AREVA subsidiary that concluded the agreement, or that the French State should maintain control over AREVA. The concept of control is understood either under the meaning of article L. 233-3 of the French Commercial Code or in relation to the percentage of share capital ownership, which should remain higher than 51%. Under certain circumstances, the debt may become due immediately if AREVA ceases to control the subsidiary, or if the French State ceases to control AREVA.

## The group is exposed to the credit risk of counterparties linked to its use of financial derivatives to cover its risks

The group uses different types of financial instruments to manage its exposure to foreign exchange and interest rate risks, and its exposure to risks on commodities and publicly traded equities. The group primarily uses forward buy/sell currency and commodity contracts and rate derivative products such as swaps, futures or options to cover these types of risk. These transactions involve exposure to counterparty risk when the contracts are concluded over the counter.

To minimize this risk, the group's trading desk deals only with diversified, top quality counterparties rated A1/P1 or higher in the Standard & Poor's and Moody's rating systems for short-term maturities or A/A2 for long-term maturities. A legal framework agreement is always signed with the counterparties.

The limits allowed for each counterparty are determined based on its rating and the type and maturity of the instruments traded. Assuming the rating of the counterparty is not downgraded earlier, the limits are reviewed at least once a year and approved by the Chief Financial Officer. The limits are verified in a specific report produced by the internal control team of the department of Treasury Management. During periods of significant financial instability that may involve an increased risk of bank default, which may be underestimated by ratings agencies, the group may monitor advanced indicators such as the value of the credit default swaps (CDS) of the eligible counterparties to determine if positions should be reduced.

### 4.5. Risk coverage and insurance

Coverage concerning ongoing disputes is described in section 20.6, "Legal and arbitration proceedings".

No provisions have been recorded to cover other risk factors. They are subject to thorough review as provided by group risk management procedures and are examined during the "risk mapping" process carried out each year (see section 4.1.2, "Risk mapping"). Some of these risk factors, if they were to materialize, could be covered by one or several of the insurance policies taken out by the group as part of its insurance programs.

To mitigate the consequences of potential events on its operations and financial position, AREVA transfers risk to reputable insurance and reinsurance companies worldwide. For example, AREVA has acquired insurance coverage relating to operating risk, civil liability and other risks and liabilities concerning its nuclear and non-nuclear operations, with coverage limits varying according to the type of risk.

AREVA's Risk and Insurance department is in charge of insurance for the entire group. The department:

- submits solutions to the Executive Board, either to retain the risk and finance it internally or to transfer it to the insurance market;
- negotiates, sets up and manages global insurance programs for the group worldwide and reports to the Executive Board on actions carried out and costs incurred;
- settles claims for the subsidiaries involved.



### 4.5.1. Special coverage relating to nuclear facility operations

#### Nuclear liability insurance

##### Legal framework

International nuclear liability law is based on a series of principles that override general liability law. The operator of the nuclear facility that caused the damage is solely responsible. This is known as the liability channeling principle. Its liability is objective, i.e. no-fault, for which there are few exemptions. The operator of a nuclear facility is therefore required to compensate the victims for the bodily harm and property damage they have suffered. The operator is required to maintain a financial guarantee, which is generally insurance, on its liability. This principle of channeling liability to the operator includes, as a counterpart, a limitation of liability. It also provides for rapid payment of compensation to the victims, who do not have to prove that the operator is at fault.

This system is defined by international treaties, such as the Paris Convention on Third Party Liability in the Field of Nuclear Energy of July 29, 1960, as amended, and the Brussels Supplementary Convention of January 31, 1963, as amended. These conventions are transposed into the national law of the signatory countries (in France, Law No. 68-943 of October 30, 1968, as amended; in Germany, the law of December 23, 1959, as amended). In the United States, the Price Anderson Act establishes a similar rule of exception.

Every country in which the AREVA group operates nuclear facilities is subject to one of these legal constructions.

The principles of the conventions, which apply in the countries in which the AREVA group operates nuclear facilities, are described hereunder.

##### > THE PARIS AND BRUSSELS CONVENTIONS

The fundamental principles established by the Paris Convention may be summarized as follows:

- **Nature of liability** – strict and exclusive liability lies solely with the legal operator of the nuclear facility from which the substances causing the damage come or where they are held.
- **Responsible party**: The nuclear facility operator is the person designated or recognized as the facility operator by the public authority with jurisdiction. If the accident occurs during transport, the party responsible is the shipping operator and not the carrier, up to the point where the receiving operator assumes liability under the terms of a contract.
- **Exemptions**: The operator is not liable for damages caused by a nuclear accident if the accident is directly due to acts of armed

conflict, hostilities, civil war, insurrection or a natural disaster of exceptional proportions.

- **Limitation of liability**: The operator's liability is limited both as to the total amount and the duration.
- **For purposes of information**, France has set a maximum liability amount of 91.5 million euros per nuclear accident in a facility and 22.9 million euros per accident during transport. The statute of limitations to submit a claim is 3 years from the time the victim became aware of the damage; however, a claim may not be submitted more than 10 years after the date of the accident. The statute of limitations for claims is 10 years as of the date of the accident.
- **Financial guarantee**: Funds must be available to indemnify the victims. The operator must maintain an insurance policy or other financial guarantee approved by the State having jurisdiction over the facility, in the maximum amount of the liability. Insurance is the most commonly used form of financial guarantee.
- **The oligopolistic position of insurers offering nuclear risk coverage** translates into the relative stability of the premiums.

##### > THE BRUSSELS SUPPLEMENTARY AGREEMENT

This convention determines the contribution of the Signatory States when damages exceed the operator's limitation of liability. The additional compensation from public funds must first come from the country in which the facility is located, and then from all the countries that ratified the Supplementary Convention.

For example, should an accident occur in a regulated nuclear facility in France, the French government would assume liability above 91.5 million euros and up to a limit of 228.6 million euros. Thereafter, the Signatory states to the Brussels Supplementary Convention would assume collective liability for the amount above 228.6 million euros, up to a limit of 381.1 million euros.

##### > REVISIONS TO THE PARIS AND BRUSSELS CONVENTIONS

The protocols to amend the Paris Convention and the Brussels Supplementary Convention drafted in 2002 were signed on February 12, 2004 by representatives of the Signatory States. Nonetheless, the amended conventions are not yet in force, as the protocols must first be ratified by the different contracting parties (France, Great Britain, Belgium, Germany, etc.) and then transposed into national law in each Signatory State. In France, the Law of July 5, 2006 approves the ratification of the protocols of February 12, 2004. The Law of June 13, 2006 on transparency and security in the nuclear field includes provisions amending the Law no. 68-943 of October 30, 1968.



The main amendments increase all three tiers of indemnity. Thus, the nuclear operator's liability would increase from 91.5 million euros to 700 million euros per nuclear accident in any given facility (70 million euros in a reduced-risk facility). The limit of liability during transportation would increase from 22.9 million euros to 80 million euros per accident.

The State in which the nuclear facility responsible for the damage is located would cover the 700-million euro to 1.2 billion euro tier. The other Signatory States would cover the 1.2 billion euro to 1.5 billion euro tier. A mechanism to increase these limits would apply as new States ratify the Conventions.

When these protocols enter into effect, the statute of limitations for claims will increase to 30 years as of the date of the accident for physical damages, and 10 years for other damages. In all instances, the victim must submit a claim within 3 years of the date he or she became aware of the damage.

To prepare for these new requirements, the group partnered with other European operators to establish Elini (European Liability Insurance for the Nuclear Industry), a mutual insurance company that provides additional capacity in the insurance market.

#### > PRICE ANDERSON ACT

In the United States, the Price Anderson Act (PAA) channels claims for indemnification towards the nuclear operators. Only facilities located in the United States regulated by the Nuclear Regulatory Commission (NRC) and facilities owned by the Department of Energy (DOE) are covered by the PAA. All other facilities are subject to ordinary law.

The nuclear operator bears financial responsibility for indemnifying the victims under the Price Anderson Act (liability channeling principle). Accordingly, two different types of situations may arise, depending on whether the party operates a facility regulated by the NRC or operates as a DOE contractor.

1. Facility regulated by the NRC: Only nuclear power plants with a nominal capacity of 100 MWe or more and certain research and test reactors are required to have financial protection. The PAA indemnification process provides access to up to 9.7 billion US dollars of protection under a two-tier system:
  - the first tier corresponds to insurance (or similar financial protection) acquired by the nuclear power plant operator on the private nuclear insurance market for 300 million US dollars in coverage,
  - the second tier corresponds to a guarantee fund managed by the NRC, which provides 95.8 million US dollars in coverage to each reactor on the operator's site if the first tier (300 million US dollars) is insufficient.

If the first two lines were to prove insufficient to cover third party damages, the US Congress would have to provide for additional indemnification.

Fuel fabrication plants and used fuel treatment facilities are not subject to the PAA system and have no legal obligation to acquire insurance. However, these facilities procure insurance on the market for the maximum amount allowed by the market at the time of the subscription;

2. DOE contractors: When DOE contractors are responsible for a nuclear accident, DOE indemnifies the victims up to the maximum legal limit per civilian nuclear power plant accident in the United States, i.e. 9.7 billion US dollars, without calling on the private insurance market. If a nuclear accident occurs outside the United States, in particular during transportation, indemnification is limited to 100 million US dollars and only covers accidents involving materials belonging to the US government.

#### Description of insurance acquired by the group

The group has acquired several insurance policies in France, Germany, Belgium and the United States to cover its regulated nuclear facilities in France and abroad, and its nuclear transportation operations. These special insurance policies comply with the Conventions, including their liability limits. The insurance policies are reinsured by the nuclear insurance pools of various countries, including Assuratome in France, DKV in Germany, Syban in Belgium and ANI in the United States.

#### Property and business interruption insurance for nuclear operations

Due to the nature of the potential damage to the facilities, this type of insurance is available only through the pools mentioned above or through specialized mutual insurance companies capable of providing the necessary coverage. The limits of coverage for this type of insurance are based on the estimated replacement value or on an estimate of the maximum possible loss (MPL). The coverage for some complex facilities can exceed 1 billion euros.

Mining operations and AREVA's US and Belgian sites are not covered by property and business interruption guarantees for the nuclear process and are covered by specific programs set up locally in agreement with AREVA's Risk and Insurance department.

## 4.5.2. Other worldwide group insurance programs

### Directors and Officers Liability

The purpose of D&O coverage is threefold: it provides liability coverage for financial risk incurred by group directors and officers due to damage suffered by third parties as a result of professional errors or misconduct in the course of business. Secondly, it reimburses group companies that are legally allowed to bear the cost of settling claims against directors and officers. Thirdly, it covers civil or criminal defense expenses incurred by directors and officers as a result of claims based on professional errors or misconduct.

The policies exclude coverage of claims based on intentional misconduct by a director or an officer, or on personal gain (financial or otherwise) to which a director or officer was not entitled. Fines and penalties levied against directors and officers are also excluded, as well as claims for losses due to pollution, asbestos or toxic mold.

### Civil liability

The group is covered by a “worldwide” civil liability plan with limits appropriate to its size and operations. The plan covers:

- operator liability, covering company operations and services performed at customer sites;
- product liability, covering the post-delivery period; and
- professional liability (“Errors and Omissions”), covering financial consequences resulting from damages associated with intellectual services performed by the group for its own account or on behalf of a third party.

Liability insurance is also procured for environmental damage, damage to property held on behalf of third parties, and for product recall expenses.

This insurance covers the monetary consequences of any liability incurred by the operating entities as a result of their operations, including bodily harm, property damage and consequential

damage suffered by third parties, excluding nuclear operator liability. Certain events not usually covered by insurance, such as landslides, damage from asbestos, or damage caused by computer viruses, are also excluded. Liability insurance limits vary based on a reasonable assessment of the risks to which the group is exposed, as identified by the business units and the Risk and Insurance department, in particular during the risk mapping process, and also based on capacities available on the insurance market.

### AREVA Multi-line

In 2007, the group maintained the comprehensive AREVA multi-line policy acquired in 2005, combining “property and business interruption coverage” and “all-risk installation and testing” coverage. The policy covers all of the group’s facilities worldwide, except for mines and nuclear sites.

The policy covers damage to production assets and business interruption, as well as risk associated with equipment installation and testing activities at customer sites. The policy limits vary from 50 million euros to 300 million euros, based on replacement values and the maximum possible loss. Business interruption coverage varies from 12 to 24 months.

This policy automatically applies to projects of less than 50 million euros, with coverage limited to 50 million euros per event. Direct damages and business interruption are covered under two lines representing a total of 300 million euros per event.

### Losses to completion on EPR™ reactor contracts

In 2006, the group bought an insurance policy to cover the risk of losses to completion under sales contracts for five EPR™ reactors (including OL3 in Finland), beyond a certain deductible and within the limits of coverage.

### 4.5.3. Other insurance

The group is eligible for Coface type coverage for some large export contracts from France, such as the construction of a nuclear power plant. In addition, the group has insurance policies covering auto

liability and work accidents that comply with the legal requirements of each of the countries in which AREVA subsidiaries are located.

### 4.5.4. Outlook and trends in 2009

The policies will be renewed in April 2009. Taking into account the maturities of the negotiated policies, the group anticipates stable

premiums. The cost of coverage for all non-nuclear operations should remain stable.

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## 5.1. History and development of the issuer

### 5.1.1. Legal and commercial name of the issuer

The legal name (article 2 of the by-laws) is: AREVA.

This change was approved by the decree of July 27, 2007.

### 5.1.2. Place of registration of the issuer and its registration number

AREVA is registered at the Business Registry of Paris under number 712 054 923.

Business code (APE): 741J (Company management).

Business registration number (Siret): 712 054 923 000 40.

### 5.1.3. Date of incorporation and length of life of the issuer

#### Establishing decree

The decree no. 83-1116 of December 21, 1983 establishes the Société des Participations du Commissariat à l'Énergie Atomique (CEA). This decree was amended, mainly by decree no. 2001-342 of April 19, 2001, then by decree no. 2003-94 of February 4, 2003. It provides the following:

- Changes to company by-laws are approved by decree; however, capital increases are subject to joint approval by the Minister of Industry and the Minister of the Economy (article 2, paragraphs 2 and 3).
- The CEA shall retain the majority of the company's capital (article 2, paragraph 1).
- The sale or exchange of AREVA shares held by the Commissariat à l'Énergie Atomique (CEA) is subject to the same conditions as for capital increases (article 2, paragraph 2).

Decree No. 2007-1140 of July 27, 2007 authorized certain modifications to the by-laws, including changing the company's legal name to AREVA, relocating the corporate office and making changes necessary to ensure compliance with the Law of July 26, 2005 (the "Breton Law").

#### Statutory term (article 5 of the by-laws)

AREVA was registered to do business in France on November 12, 1971. Its business registration expires on November 12, 2070, unless this term is extended or the company is dissolved beforehand.

The statutory term of the company is ninety-nine years from its date of registration, unless earlier extended or the company is dissolved beforehand.

### 5.1.4. Registered office and Corporate structure of the issuer, the legislation under which the issuer operates, its country of incorporation, address and telephone number of its registered office

#### Corporate structure of AREVA (article 1 of the by-laws) and applicable legislation

AREVA is a *Société anonyme à Directoire et Conseil de Surveillance* (business corporation with an Executive Board and a Supervisory Board) governed by Book II of the French Commercial Code, by decree n° 67-236 of March 23, 1967 on business corporations, as amended, and by decree n° 83-1116 of December 21, 1983.

#### Purpose of the company (article 3 of the by-laws)

The corporate purpose of the company, in France and abroad, is:

- to manage any industrial or commercial operation, especially in the nuclear, renewable energies, and electricity transmission and distribution fields, and to this end:
  - to examine projects concerning the creation, development or reorganization of any industrial enterprise,
  - to implement any such project or contribute to its implementation by all appropriate means, especially by acquiring shareholdings or equity interests in any existing or proposed business venture,

- to provide financial resources to industrial enterprises, especially by acquiring equity interests and through loan subscriptions;

- to acquire direct or indirect shareholdings or equity interests, in whatever form, in any French or foreign company or enterprise involved in financial, commercial, industrial, real estate or securities operations;
- to purchase, sell, exchange, subscribe or manage any securities or shareholdings or equity interests, or investments;
- to provide any type of service, particularly services supporting the operations of all of the group's companies; and
- more generally, to undertake any industrial, commercial, financial, real estate or securities operation that is directly or indirectly related to the above in furtherance of its purpose or supporting that purpose's achievement and development.

#### Registered Office (article 4 of the by-laws)

The registered office is located at 33, rue La Fayette, 75009 Paris, France. Phone number: + 33 1 34 96 00 00.

### 5.1.5. Important events in the development of the issuer's business

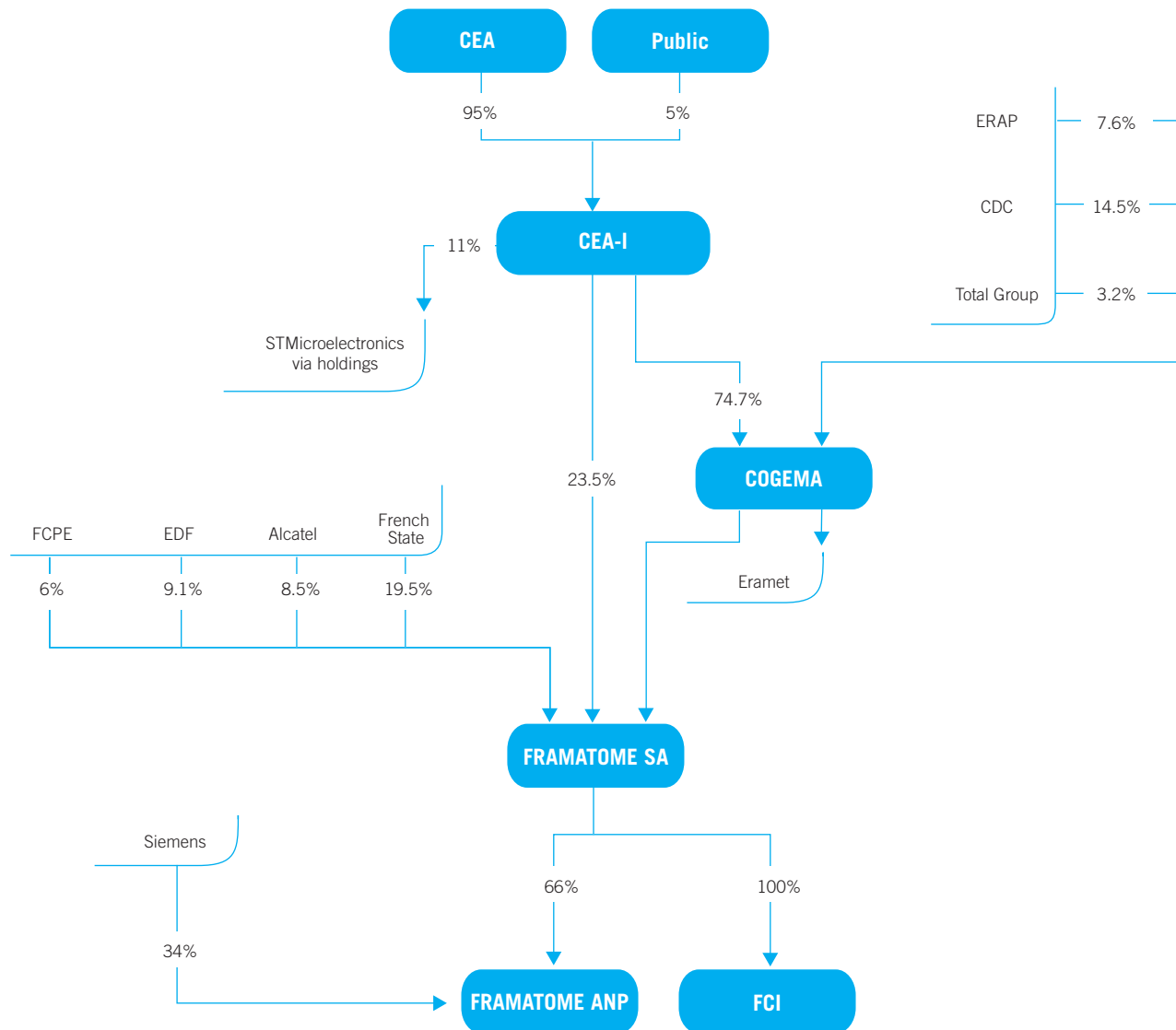
Two major nuclear energy industry companies majority-held directly and indirectly by CEA-Industrie – AREVA's former name – were combined to form the AREVA group on September 3, 2001:

Cogema (Compagnie Générale des Matières Nucléaires), established in 1976 to acquire the majority of CEA's production department operations: mining, uranium enrichment and used fuel treatment.

Framatome, established in 1958, one of the world's leading companies in the design and construction of nuclear reactors, in nuclear fuel and in the supply of services relating to those activities. In 2001, Framatome established Framatome ANP as a joint company of Framatome (66%) and Siemens (34%), thus merging the nuclear operations of those two groups.

Before this combination, the CEA-Industrie group was organized as shown below:

### Structure of the CEA-Industrie group in early 2001



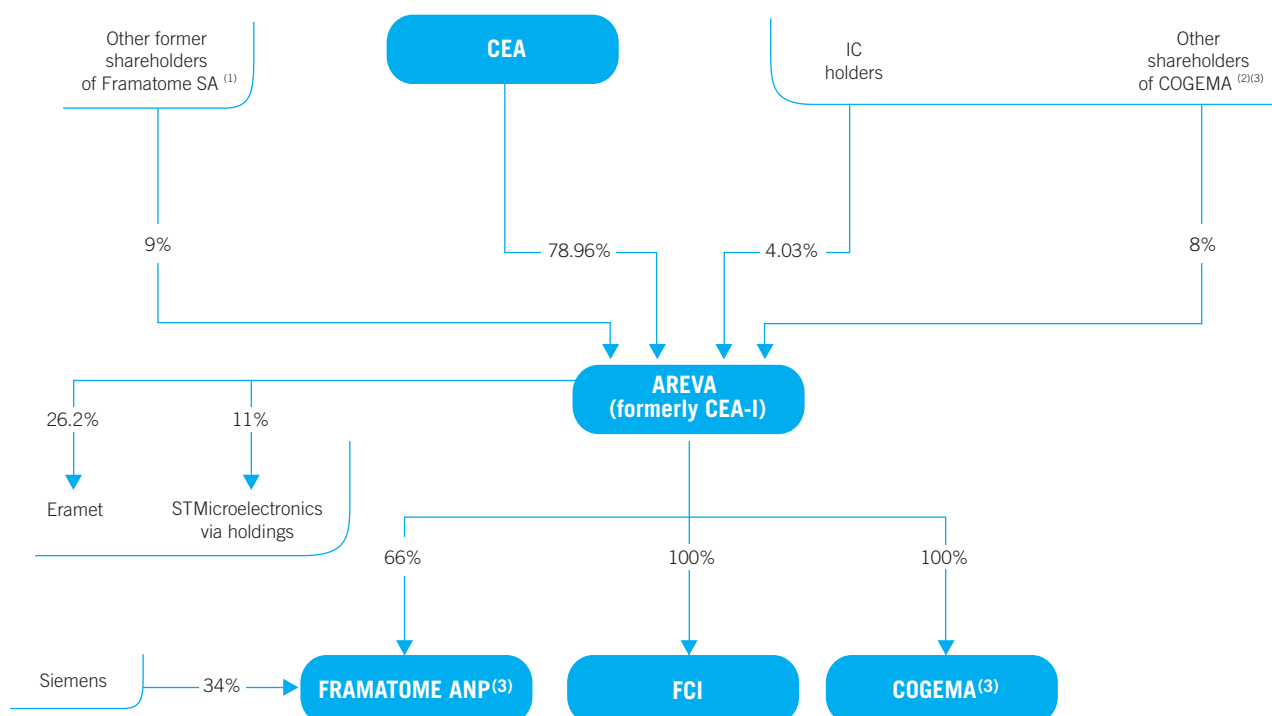
The purpose of AREVA's establishment was to create an industrial group with a world leadership position in its businesses and to streamline its organization, giving the group:

- complete coverage of every aspect of the nuclear business and a unified strategy with respect to major customers;

- an expanded customer base for all of the group's nuclear products and services;
- better cost control by pooling the purchasing function and some overhead costs, and
- optimized financial resource management.

This restructuring entailed a series of asset contributions and mergers resulting in the establishment of the AREVA group. The organization of the group following that restructuring is shown below.

### Structure of the AREVA group immediately after restructuring in 2001



\* Consolidated under the equity method; percentages correspond to equity interests.

(1) French State, EDF, Framépargne employee savings plan.

(2) Total, CDC, Erap.

(3) Cogema's trade name was changed to AREVA NC and Framatome ANP's trade name was changed to AREVA NP in March 2006.

AREVA was thus formed from the corporate structure of CEA Industries. It kept the Euronext Paris listing of 4% of its share capital in the form of investment certificates.

### Milestones since AREVA's establishment in 2001

#### 2002

Acquisition of Duke Engineering & Services, a US nuclear engineering and services company.

The US government chooses AREVA's technology to recycle surplus defense plutonium as MOX fuel (see Glossary).

#### 2003

AREVA signs an agreement with URENCO that subsequently gave AREVA access to the world's most efficient uranium enrichment technology: gas centrifugation.

Finnish utility TVO chooses AREVA's EPR™ reactor as its next reactor.

To streamline its operations, the Connectors division sells its Military Aerospace Industrial (MAI) business to Axa Private Equity.

#### 2004

Acquisition of the Transmission & Distribution division on January 9, 2004. The AREVA group seals an agreement with the Alstom group finalizing the acquisition of the transmission and distribution business (T&D). The European Commission and other relevant antitrust organizations approve the transaction.

EDF decides to build a Generation III+ EPR™ reactor designed by AREVA at Flamanville.

AREVA acquires control of Katco, a uranium mining company in Kazakhstan, giving AREVA access to an estimated 30,000 metric tons of uranium.



## 2005

Frédéric Lemoine replaces Philippe Pontet as Chairman of the AREVA Supervisory Board.

AREVA and Constellation Energy establish UniStar Nuclear as a joint company to promote the next-generation EPR™ reactor in the United States.

Finnish utility Teollisuuden Voima Oy (TVO) officially lays the cornerstone for its Generation III EPR™ reactor at the Olkiluoto site in Finland.

AREVA finalizes the sale of the connectors subsidiary FCI to Bain Capital. The gain from the FCI divestment contributes 853 million euros to the group's cash and has a positive impact of 528 million euros on consolidated net income for 2005.

AREVA acquires a 21.1% equity interest in REpower, a German wind turbine manufacturer. The company employs 558 people and posted revenues of 301 million euros in 2004. This acquisition strengthens AREVA's strategic position in CO<sub>2</sub>-free power generation and electricity transmission and distribution.

## 2006

All of the group's first-tier subsidiaries adopt the AREVA name as part of their trade names. Cogema's trade name is now AREVA NC, Framatome ANP is now AREVA NP, and Technicatome is AREVA TA. AREVA T&D does not change its name. AREVA is now the sole brand for all communication activities.

AREVA T&D acquires the high voltage business of German group Ritz on June 30, 2006. Ritz is a world leader in instrument transformers with close to 500 employees and sales of around 50 million euros.

The Annual General Meeting of Shareholders renews the composition of the Supervisory Board. Frédéric Lemoine's duties as Chairman of the Supervisory Board are renewed for five years. Guylaine Saucier (a corporate director), Oscar Fanjul (Vice Chairman and CEO of Omega Capital), Philippe Faure (Secretary General of the French Ministry of Foreign Affairs) and Philippe Pradel (Director of Nuclear Energy at the CEA) are newly appointed as members of the Supervisory Board.

The Supervisory Board renews the term of Mrs. Anne Lauvergeon as Chief Executive Officer and the terms of Messrs. Gérald Arbola, Didier Benedetti and Vincent Maurel as members of the Executive Board.

AREVA NP and France Essor sign an agreement to finalize AREVA's acquisition of Sfarsteel, one of the world's largest producers of very large forgings located in the Creusot area of Burgundy, France.

AREVA acquires a 50% interest in the Enrichment Technology Company (ETC) from URENCO. ETC develops, designs and manufactures uranium enrichment equipment.

The group creates a new business unit dedicated to renewable energies.

## 2007

The Supervisory Board appoints Luc Oursel to the Executive Board to replace Vincent Maurel.

T&D signs an agreement setting forth the legal and financial terms for acquisition of Passoni & Villa, a world leader in the manufacture of high voltage bushings. This acquisition makes AREVA T&D number three worldwide in this market segment.

Following AREVA's decision not to outbid Suzlon for the takeover of REpower, the two groups entered into a cooperative agreement under which AREVA will maintain its shareholding in REpower and continue to support the company, will become Suzlon's preferred supplier in electricity transmission and distribution, and will have a guaranteed share price in the event that it decides to withdraw from REpower.

AREVA T&D signs an agreement to create a 50/50 joint venture with Sunten Electric Co. of China, paving the way for the T&D division to become the leader in dry-type transformers in China.

The T&D division signs an agreement to create a 50/50 joint venture with United Company Rusal of Russia. The joint venture will become UC Rusal's preferred supplier of electrical equipment and services for turnkey projects in Russia.

AREVA launches a friendly takeover bid for UraMin Inc., a uranium mining company in Canada. The public offer is completed successfully on July 30, with 92.93% of all shares outstanding tendered to AREVA. Following a simplified takeover bid made in September 2007, AREVA now holds 100% of UraMin Inc.'s share capital.

AREVA acquires the medium voltage business of VEI Power Distribution in Italy and Malaysia. The company specializes in the manufacturing of medium voltage equipment.

AREVA acquires 51% of Multibrid, a wind turbine designer and manufacturer based in Germany which specializes in high output offshore turbines.

AREVA and MHI announce the establishment of the ATMEA joint venture to develop a medium capacity reactor.

## 2008

AREVA announces the acquisition of 70% of Koblitz, a Brazilian supplier of integrated solutions for energy production and cogeneration (heat and electricity) from renewable sources. The company founder, Luiz Otavio Koblitz, and top executives will keep 30% of the share capital.

FT1CI, the company that holds AREVA's indirect equity interest in STMicroelectronics (STM), and Finmeccanica conclude an agreement by which FT1CI is to acquire, on behalf of the CEA, part of Finmeccanica's indirect equity interest in STM (i.e. 2.98% of STM's share capital) to equalize the indirect equity interests held in STM by FT1CI on the one hand, and by Finmeccanica and Cassa Depositi et Prestiti on the other.

On May 29, 2008, AREVA and SORAME/CEIR sign an amendment to the shareholder's agreement of June 17, 1999 relating to ERAMET, by which they extend their agreement to act in concert until December 31, 2008, unless either party terminates it. At the end of 2008, SORAME/CEIR and AREVA informed each other that they did not intend to terminate the shareholders' agreement, which was thus tacitly renewed as from January 1, 2009.

SGN, the joint subsidiary of AREVA and Technip, creates a joint venture called TSU Project to bolster engineering personnel specialized in the management of major mining projects. In particular, the group plans to step up the Imouraren project in Niger and the Trekkopje project in Namibia.

AREVA, Mitsubishi Heavy Industries (MHI), Mitsubishi Material Corporation (MMC) and Mitsubishi Corporation (MC) sign a quadripartite agreement to establish a joint company specialized in nuclear fuel in the first half of 2009. The share capital will be distributed as follows: MHI 35%, MMC 30%, AREVA 30% and MC 5%.

AREVA and Japan Steel Works (JSW) sign an agreement securing AREVA's supply chain for large forgings through 2016 and beyond. Large forgings are vital to nuclear equipment supply. The group also announced the purchase of a 1.3% equity interest in JSW, in agreement with JSW's management.

AREVA and Northrop Grumman Shipbuilding announce the establishment of a joint venture to build and operate a heavy component manufacturing plant in the United States.

AREVA strengthens its presence in the United Kingdom with the acquisition of the British firm RM Consultants, which specializes in risk management and nuclear safety.

AREVA sells its 29.95% interest in the wind turbine manufacturer REpower to Suzlon. The value creation from this transaction was more than 350 million euros.

AREVA and Duke Energy announce the establishment of a joint venture called ADAGE™, which will develop biomass power plants in the United States. AREVA will design and build the plants, which will be operated by Duke.

AREVA and SUEZ seal an agreement by which SUEZ acquires a 5% share in SET, the company in charge of the Georges Besse II enrichment plant.

AREVA acquires Waltec, a Brazilian company specialized in medium voltage switchgear and dry-type transformers. With this transaction, AREVA expands its industrial footprint in Brazil, one of the main emerging markets in transmission and distribution.

AREVA acquires the Finnish company Nokian Capacitors Ltd, a supplier of power grid components, particularly capacitors, to strengthen its position on the booming ultra high voltage market.

### 5.1.6. Sustainable Development and Continuous Improvement

Sustainable development means meeting the needs of the present without compromising the ability of future generations to meet their own needs. It is one of the foundations of the AREVA group's commercial strategy. It is implemented through a continuous improvement initiative aimed at achieving three key objectives: to sustain profitable growth, to be socially responsible and to respect the environment. Sustainable development is one of the group's core values, as specified in the Values Charter, inspired by the principles of the UN Global Compact and OECD guidelines.

These goals translate into 10 commitments, implemented through-out the group as part of the AREVA Way continuous improvement process.

- **Financial performance:** ensure the group's sustainability through profitable growth.
- **Innovation:** develop and harness best-in-breed technologies to anticipate customer needs and increase our cost-competitiveness while complying with nuclear safety, occupational safety and environmental protection requirements.
- **Customer satisfaction:** listen to our customers, anticipate their needs, support their growth, and increase and measure their satisfaction.

- **Commitment to employees:** promote our employees' professional development and provide good working conditions.
- **Governance:** manage our operations responsibly in accordance with the group's values, and assess and truthfully report on our performance to shareholders and all stakeholders.
- **Dialogue and consensus building:** establish stakeholder relations based on trust.
- **Community involvement:** participate in the economic and social development of the communities in which the group operates.
- **Environmental protection:** limit our environmental impacts by reducing our consumption of natural resources, controlling our releases and optimizing our waste management.
- **Risk management and prevention:** establish and maintain the highest level of nuclear and occupational safety in all of the group's operations to preserve public and worker health, and to protect the environment.
- **Continuous improvement:** implement a continuous improvement initiative based on practices shared throughout the group.

AREVA Way is an integral part of the group's management processes. It constitutes a model that serves as a basis for self-assessments of entity performance with respect to the group's 10 sustainable development commitments and is used to define the corresponding performance improvement plans. Performance is reported to management bodies during strategy and budget meetings, at which time performance improvement objectives are set and resources allocated through the budget process.

The Sustainable Development and Continuous Improvement department provides leadership for this process within the group. It takes into account the group's policies and actions in risk prevention (see section 4.2.1., "Nuclear risk management and prevention"), labor relations (see Appendix 3, "Human Resources report", section 2, "Change in number of employees and human resources data") and environmental protection (see Appendix 4, "Environmental report").

*Note: A balanced scorecard of sustainable development activities is presented in the publication "Responsible growth report – AREVA in 2008", which is available from the group upon request or may be read on the website at [www.avea.com](http://www.avea.com).*

### 5.1.7. Values Charter of the AREVA group

The Values Charter was adopted by AREVA's management in 2003. It applies to all operations controlled by the group, whether nuclear or non-nuclear, in any country in which these operations are conducted, without exception.

This Charter applies to all of the group's corporate bodies, executives and employees as well as to its principal suppliers, subcontractors, financial partners, consultants and commercial intermediaries. At each level, management is responsible for implementing the Values Charter. The Charter covers our values, action principles and rules of conduct.

The group's values are the essence of the group's sustainable development initiative. They include integrity, an acute sense of professionalism, responsibility, sincerity, partnership, profitability and customer satisfaction.

The principles of action focus on each category of AREVA group stakeholders: customers, shareholders, employees, suppliers and subcontractors, the public and the planet.

In addition, the Values Charter spells out rules of conduct applicable to everyone in specific fields of risk exposure, in particular

conflicts of interest, insider trading, international treaties, protection of assets and personnel, payments, etc. They also provide that any person who receives an order from his or her supervisor that is patently contrary to the Values Charter is justified in not executing it.

An Advisory Committee on Ethics has been established to oversee implementation of the Values Charter, capitalize on lessons learned and propose changes as required.

The Chief Executive Officer has designated a Business Ethics Advisor, who reports to the group's Senior Vice President of Compliance. He advises management regarding ethical conflicts concerning the Values Charter, designs and oversees training programs regarding ethics and group values in liaison with AREVA University, and coordinates a network of business ethics coordinators in first-tier subsidiaries.

The Values Charter is available in the main languages used in the group. It may be downloaded from the group's website ([www.avea.com](http://www.avea.com)).

## 5.2. Investments

The group's strategy has always been to invest heavily and consistently to ensure long-term growth. Safety, sustainable development, shareholder value and profitability are integral components of this strategy. AREVA plans to grow, first through internal growth, but also through a selective approach to acquisitions.

In 2005, the group launched a major capital spending program to develop or replace some of its production capacities and to acquire strategic technologies and production resources. The goal of this program is to guarantee the performance of AREVA's production assets against a backdrop of growth in all businesses. With this program, the group expects to reach the market share and profitability objectives set for 2012.

### 5.2.1. 2008

Gross operating capital expenditure (Capex) totaled 1.756 billion euros in 2008 (1.454 billion euros net of disposals), compared with 2.928 billion euros in 2007 (2.889 billion euros net of disposals).

Of particular note in 2008 are the following:

- continuing organic investments, following the practice of previous years: gross operating Capex focused primarily on the nuclear businesses, with the development of the Trekkopje mine in Namibia, of the Somaïr mine in Niger and of the Katco mine in Kazakhstan; construction of the Georges Besse II enrichment

plant and the replacement conversion facilities; investment in equipment manufacturing capacity; and continuing certification of the EPR™ reactor, particularly in the United States and the United Kingdom. In transmission and distribution, capital spending strengthened manufacturing capacity in dynamic markets such as China and India;

- a decrease in the amount of acquisitions of companies, net of disposals, which came to +127 million euros in 2008 (primarily due to the contribution to cash when GDF-SUEZ acquired a stake in the Georges Besse II plant), compared with -1.818 billion euros in 2007, the year of the UraMin Inc. acquisition.

### 5.2.2. 2007

Gross operating Capex rose sharply in 2007, from 1.325 billion euros in 2006 to 2.928 billion euros in 2007 (2.889 billion euros net of disposals).

In 2007, the group made acquisitions totaling some 1.7 billion euros:

- UraMin Inc. in August 2007, for a net amount of 1.594 billion euros whose identified deposits in South Africa, Namibia and Central African Republic are expected to produce 18 million pounds of  $U_3O_8$  by 2012;
- 51% of Multibrid, a German designer and manufacturer of high output offshore wind turbines, for 76 million euros;

- in the T&D division, Passoni & Villa for 19 million euros and VEI Distribution for 12 million euros, in pursuit of T&D's strategy to strengthen its ultra high voltage business.

Net non-operating Capex represented net cash proceeds of around 93 million euros. The group sold shares from its portfolio of assets earmarked for end-of-life-cycle operations to reduce the portfolio's over-coverage of provisions. The group also acquired 10% of the Australian mining company Summit.

### 5.2.3. Outlook

The AREVA group intends to be a major player in the nuclear revival while continuing to grow profitably. Under these circumstances, the organic investment program should continue to average about 2.5 billion euros per year over the 2009-2012 period. Selective acquisitions meeting our strategic and financial criteria are also foreseeable.

The main investment goals are to secure the group's access to uranium, strengthen the chemistry business for the long term, adjust the group's enrichment capacity to meet market demand, support reactor sales and maintain profitable growth in the T&D division.

The bulk of the capital expenditure program in the Front End division is expected to be concentrated in the Mining business unit, with the objective of reaching annual production of nearly 12,000 metric tons (MT) of uranium by 2012. In the Chemistry business unit, Capex through 2012 is expected to total 800 million

euros, mostly for the Comurhex II project. In the Enrichment business unit, the group expects to devote approximately 2 billion euros to the construction of the Georges Besse II plant up to 2012.

In the Reactors and Services division, Capex to secure certification of the EPR™ reactor from regulatory authorities will continue, particularly in the United States, the United Kingdom and other countries for which EPR™ reactor projects may be developed. Investment in capacity increases is also slated for the Equipment business unit.

For the Transmission & Distribution division, Capex should continue at the same pace in the coming years to support the group's market growth, particularly in China and India and in the most promising segments such as ultra high voltage and electricity-intensive industries.

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## 6.1. The Nuclear and Transmission & Distribution markets

### 6.1.1. The global energy situation

The economic slowdown that started in the fall of 2008 had an impact on energy demand around the globe. Nobody can predict the duration or the magnitude of the recession and the worldwide economic slowdown, but the forecast for 2009 is bleak.

Nonetheless, under the combined pressures of world population growth, more widespread access to energy and the resurgence of economic growth, world power consumption is set to increase over the longer term.

The *World Energy Outlook* published by the International Energy Agency (IEA) in November 2008 expects global primary energy use to grow from 11.7 Gtoe in 2006 to 17.0 Gtoe in 2030, giving average annual growth of 1.6%. According to the report, developing countries, led by China and India, will account for more than 70% of new demand, with the majority of supply continuing to come from fossil fuels (oil, gas and coal). Energy policies under discussion could influence this trend, however. The fight against greenhouse gas emissions and the security of fossil fuel supply have become a major concern for the public, businesses and governments alike. The latter are devising plans and policies to conserve energy, promote renewable energies and diversify the energy mix. A large number of countries are currently contemplating the use of nuclear power or increasing its contribution to improve the security of energy supply, enhance competitiveness and cost predictability, and reduce CO<sub>2</sub> emissions to ensure economic and social sustainability.

Electricity consumption is climbing faster than global primary energy consumption, with 3.0% average annual growth over the 1990-2007 period for the former and 1.9% for the latter. This is because demand for electricity rises in step with development. World electric power consumption in 2008 is estimated at about 20,400 TWh, a 2.7% increase compared with 2007. That was less than the average annual growth recorded from 1990 to 2007, reflecting the impact of the economic crisis on growth in the fourth quarter of 2008. Growth was strongest in Asia-Pacific (+6.1%), the Middle East (+4.1%), Africa (+3.5%) and South America (+3.0%); more moderate in Europe (+1.4%); and down in North America (-0.8%). The IEA predicts world electricity generation to continue to grow at a steady annual rate of about 2.4% over the 2006-2030 period.

Again according to the IEA, these growth rates call for estimated capital spending in the electricity sector of 13.6 trillion US dollars over the same period, half of which is for power generating facilities (4,528 GWe of additional capacity for power plant replacement and to meet growing demand) and the other half for electricity transmission and distribution, with grids expected to expand from 3.5 million kilometers to 7.2 million kilometers.

These new capital spending requirements are consistent with deregulation in the electricity market, which has redefined the rules of the game. Regulated companies are assured of recovering all their costs for investments approved by the regulatory authorities, but this is no longer necessarily the case in a deregulated market, where new capital expenditure carries greater risk. Moreover, increasing regionalization of these competitive electricity markets is creating the need for additional interconnections between power grids. This is the case in Europe, where competition is not only inter-European, but also with other regions of the world.

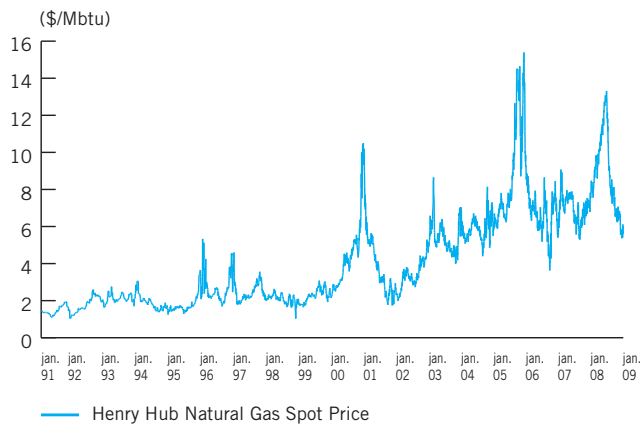
## 6.1. The Nuclear and Transmission &amp; Distribution markets

Fossil fuel prices were exceptionally volatile in 2008. Oil reached a record high of 140 US dollars per barrel in June, before an unprecedented drop when inventories rose in a context of world economic recession.

Natural gas prices remain high, although they have dropped in some areas. Together, Russia, Qatar and Iran hold two thirds of the world's reserves and their capital expenditures are notoriously insufficient. These countries still constitute a major geopolitical risk, as demonstrated again in 2008 by the interruption of Russian deliveries.

The development of liquefied natural gas terminals continues at a slow pace and it is difficult to predict when and to what extent the availability of LNG might reverse the price trend.

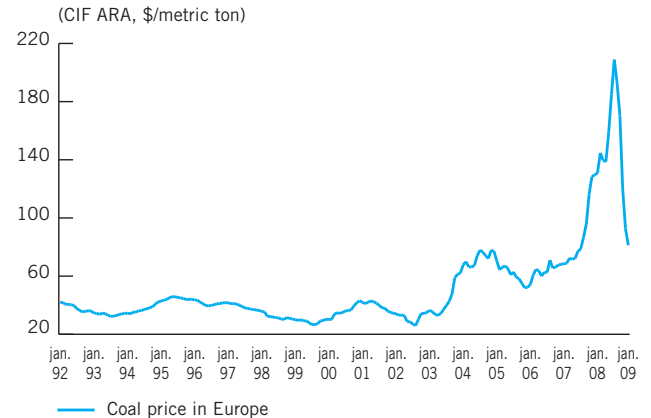
### Natural gas prices



Source: World Gas Intelligence, 2009.

Recent developments in the coal market showed that this energy source continues to be needed, despite its drawbacks in terms of CO<sub>2</sub> emissions. Demand has risen quickly since 2001, translating into a sharp increase in mining and transportation costs.

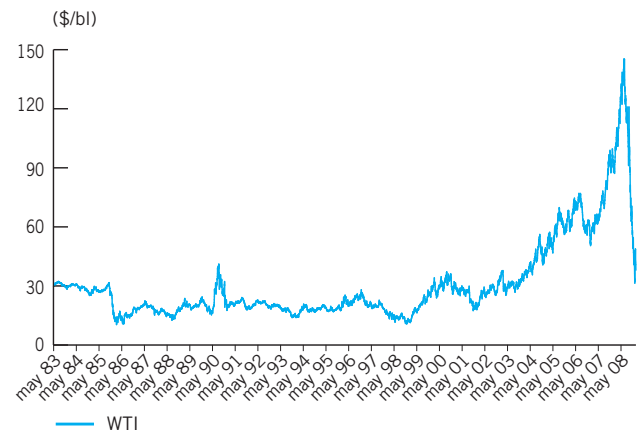
### Coal prices



Source: Platts, 2009.

Despite the recent correction triggered by the financial crisis, the price of coal remains at record levels. This trend is expected to continue. In fact, international trading in coal represents an increasing share of global consumption, illustrating the growing dependency of some countries and pushing shipping costs up as well.

### Oil prices



Source: IEA, 2009.

As in previous years, oil prices continued to climb in 2007. From 55 US dollars per barrel at the beginning of the year, the price of Brent crude rose to almost 100 US dollars at year-end. The continuous increase is attributable to strong economic growth over the period.



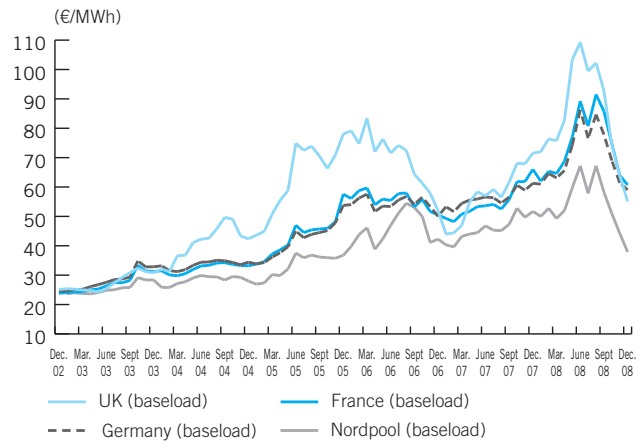
Economic growth accelerated again at the beginning of 2008, when oil prices rose irrationally to their historic high.

The financial markets finally recognized the speculative nature of this increase as the subprime crisis started to unfold. The price drop was brutal, albeit in several steps.

Economists expect the price of oil to climb again in the medium term. The biggest uncertainty is the impact that the current lull in capital spending will have on the adequacy of future oil supplies once the crisis is over. The steepness of the oil price curve varies, depending on the scenario.

From 2002 to 2008, the strong growth of the world economy helped boost fossil fuel prices considerably. They have dropped sharply since June 2008 and the onset of the economic crisis, but remain high in historical terms as a result of long-term trends in the global economy, particularly demographic expansion and the economic boom in Asia, Latin America and Africa. These changes have pushed up electricity prices. In the European Union, for example, annual forward prices for baseload electricity went from 25 euros/MWh in early 2003 to generally more than 50 to 60 euros/MWh by the end of 2008.

### Electricity prices



Source: Platts, 2009.

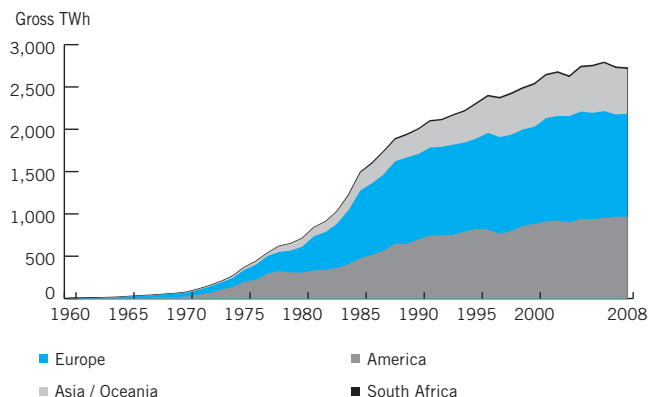
## 6.1.2. The role of nuclear power in power generation

### A brief history of nuclear power's contribution to electricity generation

The first nuclear power programs were launched in the mid-1960s in the United States and in the early 70s in Europe. In the 1970s, with fears of fossil fuel shortages rising, several countries decided to reduce their dependency on imported energy by launching nuclear power programs. The 1970s and 1980s saw a sharp rise in nuclear power programs, as shown below.

### World nuclear power generation from 1960 to 2008

(in TWh)



Sources: IEA/OECD (1990), Nucleonics Week (1995-2008), AREVA.

Strong initial growth slowed when the public became concerned about nuclear power after the accidents at Three Mile Island in 1979 and especially Chernobyl in 1986.

As a result, whereas 399 reactors had been built over the 1970-1990 period, installed capacity rose by only 14.4% over the 1990-2008 period. As the vast programs initiated in North America and Western Europe subsided, the growth of the reactor fleet picked up in Eastern Europe and Asia. Nonetheless, nuclear power generation continued to grow by 36.9% over the 1990-2008 period, largely due to improved productivity at existing reactors. In particular, the average load factor of worldwide nuclear reactors rose from 67% of nominal capacity in 1990 to approximately 82% as of the end of 2008.

Nuclear power generation in 2008 is estimated at 2,725 TWh, representing a very slight decrease of 0.3% compared with 2007, mainly due to prolonged reactor outages in India, Great Britain and more particularly Japan. Meanwhile, world electricity generation rose 2.7% in 2008. The chart below shows the various sources of electric power generation as of December 31, 2008.

## 6.1. The Nuclear and Transmission &amp; Distribution markets

## World electricity generation by source

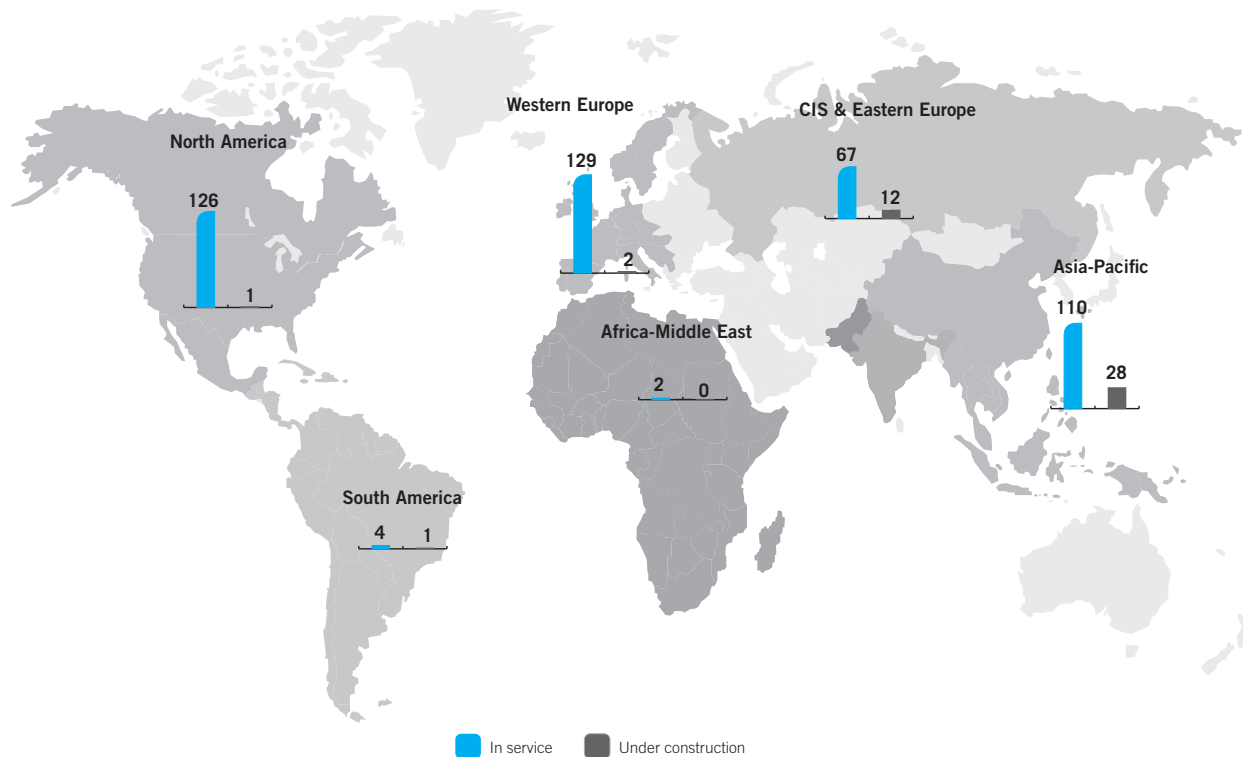


Source: IEA WEO 2008.

A total of 438 reactors representing 392 GWe (373 GWe net) were connected to the grid in 31 countries in the world's largest power consuming regions as of December 31, 2008. Of these, 418 reactors generated a total of 377 GWe in 2008.

With about 45% of the world's installed capacity, Europe and the CIS are the leading regions for nuclear power generation, ahead of North America, which represents nearly 29% of global capacity. Through 2015, most of the medium-term growth potential for nuclear power is located in Asia (Japan, South Korea and now China) and, to a lesser extent, in the CIS, as indicated below.

## Reactors in operation or under construction worldwide as of year-end 2008



Source: WNA, adjusted by AREVA.

At year-end 2008, 44 reactors were under construction around the globe, compared with 35 at year-end 2007; 105 reactors were either on order or planned, compared with 91 at year-end 2007 and 62 at year-end 2006; and more than 260 reactors are planned for the coming years, compared with 220 at year-end 2007 and 160 at year-end 2006.

The reactors are based on three main technologies:

- Most of the world's operating reactors are light water reactors, including pressurized water reactors (PWR) and boiling water reactors (BWR). A total of 357 of these reactors are connected to the grid, including 51 VVER reactors (PWR) based on Russian technology.

- There were only 46 Canadian-designed heavy water Candu reactors connected to the grid in 2008.
- There are 18 gas-cooled reactors (Magnox and AGR) in service in the United Kingdom. These reactors are scheduled to be shut down.

A few other reactors use graphite as a moderator (Russian RBMK light water reactors) or breeder technology.

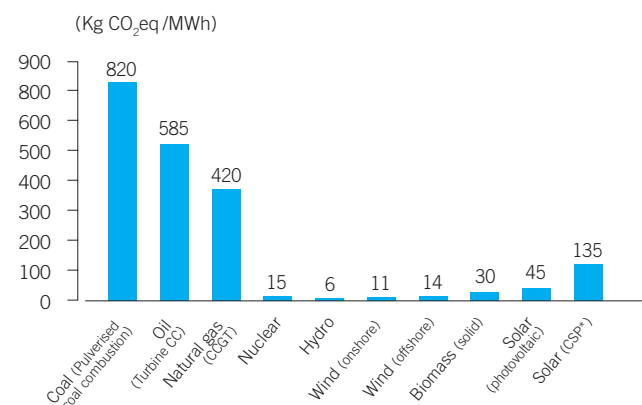
## Status of nuclear power

### Energy and the environment

The strong growth in energy demand could have serious consequences for climate change. The IEA anticipates a 50% increase in CO<sub>2</sub> emissions by 2030 if the current trend does not alter course. The increased concentration of human-origin CO<sub>2</sub> in the atmosphere, one of the leading causes of climate change, could trigger a temperature increase of from 2°C to 4°C by the end of the century, according to the Intergovernmental Panel on Climate Change (IPCC).

Nuclear power is a major source of mass power generation that emits as few greenhouse gases as renewable energies.

### CO<sub>2</sub> emissions by power generation source



Source: European Commission 2009.

\*CSP = Concentrating Solar power.

The IPCC's third report (2007) points to nuclear energy as one of the avenues to reducing greenhouse gas emissions. The 2007 report of the US Global Energy Technology and Strategy Program (GTSP) estimates that the global cost of stabilizing the climate could be reduced by 50% by using nuclear energy compared with a program that does not use nuclear energy, for total savings of 2 trillion US dollars.

The issue of whether or not to use nuclear power is becoming particularly crucial for Europe, which has set an emissions reduction target of 20% by 2020 compared with 1990. Irrespective of the political positions taken, the European Trading System established in January 2005 to cap CO<sub>2</sub> emissions has put a market value on emissions reduction. The price of emissions jumped above 20 euros per metric ton of CO<sub>2</sub> in 2008, when more restrictive quotas were announced, but returned to around 15 euros at year-end as the economic crisis deepened.

In some places in the United States, including California (WCI) and the Northeast (RGGI), legislative initiatives have been launched but have not yet taken effect. The Lieberman-Warner Climate Security Act of 2008 calls for a federal emissions reduction program that could become effective in 2012 if adopted. The proposed legislation was introduced in 2008, but the new administration will have to decide how to proceed in 2009.

According to the "Climate Change" brochure published by Foratom in 2005, nuclear power generation currently prevents the emission of approximately 2 billion metric tons of CO<sub>2</sub> each year worldwide, i.e. 7.7% of the world's annual emissions, which were estimated at 26.1 billion metric tons in 2004 by the *2006 World Economic Outlook*. All European Union countries have ratified the Kyoto Protocol. Their greenhouse gas reduction objective for the 2008-2012 period is 0.4 billion metric tons of CO<sub>2</sub> equivalent below 1990 levels. This can be compared with the CO<sub>2</sub> emissions avoided by nuclear power in the European Union of approximately 0.7 billion metric tons of CO<sub>2</sub> per year. Nuclear power plants avoided CO<sub>2</sub> emissions in the United States as well, in the amount of 0.7 billion metric tons. This is almost as much as the emissions of all of the country's 58 million automobiles.

More and more, nuclear power is proving to be an essential component of the energy mix, producing baseload electricity that supports sustainable economic and social development.

### Competitiveness of various energy sources

Regardless of the source of energy or the technology used, all power generation cost factors rose sharply in the 2005-2008 period: fuel prices, raw materials, and engineering and services. The onset of the economic crisis in the fall of 2008 temporarily halted this trend, with oil and steel prices falling sharply. It is still too early to predict how far this downward trend might go. There are, however, several consequences:

- 1) No sufficiently recent comprehensive comparison of power generation costs can be used as a reference. The *World Energy Outlook* published by the IEA in November 2008 provides a comparison based on data at the beginning of 2008 (see figure below), but does not identify all of the assumptions used. The IEA expects oil to reach 100 dollars per barrel in the medium term and shows that natural gas will be more expensive than other options. In France, the Department of Energy and Climate (DGEC, Ministry of the Environment and

## 6.1. The Nuclear and Transmission &amp; Distribution markets

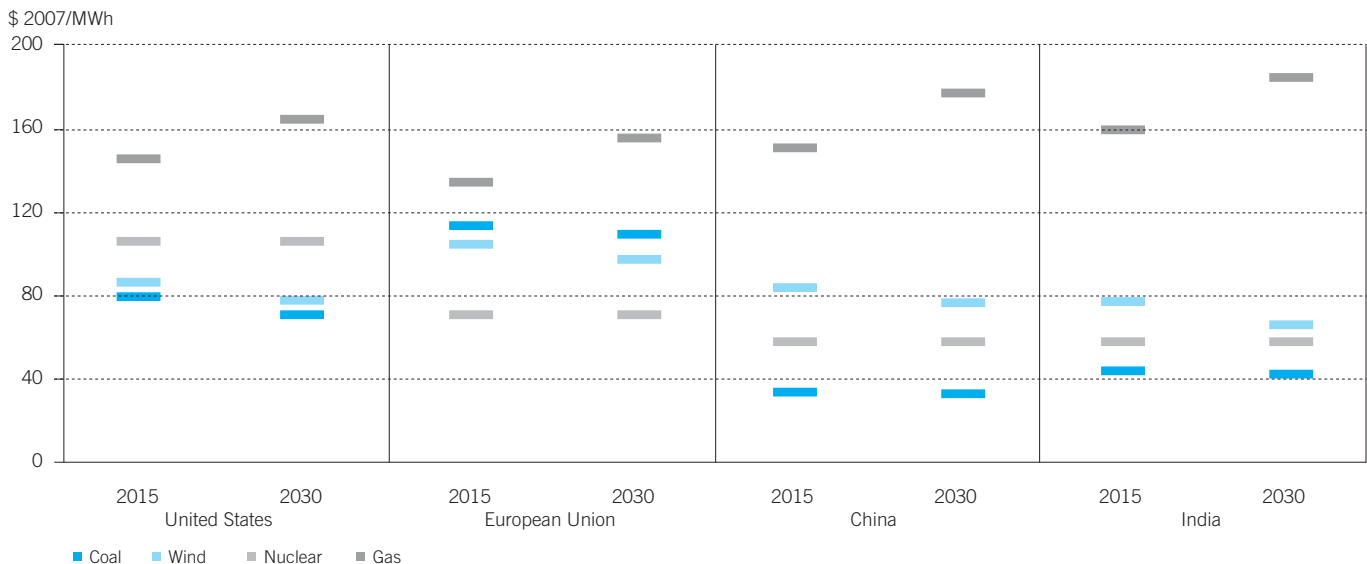
Energy), in its September 2008 study on “Reference costs of electric power generation”, concludes that EPR™ reactors are clearly competitive compared with natural gas or coal fired power plants, but relative rather than absolute data was used.

- 2) It is reasonable to consider that evaluations made until the fall of 2008 are relatively unfavorable to nuclear power because of a temporary spike in construction costs, which account for a relatively greater share of the cost of nuclear power generation. Conversely, the fuel component used in these evaluations was calculated based on average long-term fuel prices (natural gas,

coal, uranium), as facilities will remain in service for at least 25 years (gas turbines), if not 40 or even 60 years (EPR™ reactors). These prices are not impacted by the current crisis. Construction costs, however, can be expected to fall, all else being equal.

- 3) The crisis makes it more difficult to secure external financing in the short term (interest rates), but it increases the relative attractiveness of investments offering a predictable and stable rate of return, such as nuclear power plants.

### Electricity generating costs in selected regions



Note : Costs include a carbon value of 30 US dollars per metric ton of CO<sub>2</sub> in the European Union. In 2015, coal refers to supercritical steam. In 2030, coal refers to integrated gasification combined cycle (IGCC) for the United States, ultrasupercritical steam for Europe and China, and supercritical steam for India. Gas refers to combined cycle gas turbine (CCGT).

Source: IEA analysis.

From a practical standpoint, the competitiveness of nuclear power can be measured based on power company statements and decisions. In 2008, comparisons favorable to investment in nuclear power plants were published by the European power companies E.ON, CEZ, Enel and EDF. US power companies filed several applications with the regulatory authorities for projects in the Southeast, where demand for electricity is high.

The carbon value (CO<sub>2</sub> emissions) is an important factor in the competitiveness of nuclear power and wind power in relation to coal. This clearly stands out on the IEA chart, where coal fired plants seem to be the cheapest solution in the United States,

China and India until the carbon value, at 30 US dollars per metric ton, is factored in, making the costs of coal plants equivalent to those of a nuclear power plant. Although the main purpose of the many nuclear plant projects planned in China and India is energy diversification and security of supply, these projects also make sense from a purely economic point of view. The construction cost of coal-fired plants will continue to rise due to environmental considerations; several dozen projects were cancelled in the United States in 2007 and 2008. Towards 2025, carbon capture and sequestration will introduce an additional cost in the range of 40-50 US dollars per metric ton of CO<sub>2</sub> (see McKinsey study).

### Construction costs

The changes in oil, gas, coal and uranium prices, coupled with the worldwide economic slowdown, do not appear to invalidate projections for long-term increases in energy prices (see the IEA's *World Energy Outlook* for 2008). The reduction in capital spending triggered by the drop in energy prices could produce new price pressures when the global economy rebounds. Over the longer term, fundamental trends such as world demographic growth and the catch-up of countries experiencing strong development will exert growing pressures on fossil fuel resources.

The kilowatt-hour cost for nuclear power, unlike that of its fossil fuel competitors, is relatively insensitive to fluctuations in fuel prices, according to the "Reference costs of electric power generation" report published by the French Department of Energy and Commodities in July 2003. A 20 US dollar per pound increase in the price of  $U_3O_8$  would cause the kilowatt-hour cost to rise by 1.4 euros per MWh. Even at a price of 60 US dollars per pound of  $U_3O_8$ , natural uranium accounts for less than 10% of total power generation costs. After reaching 135 US dollars per pound in June 2007, spot prices fluctuated between 50 and 90 US dollars per pound by the end of 2008. Meanwhile, the long-term price stabilized in late 2008/early 2009 at around 70 US dollars (vs. 90 US dollars previously).

### Comparison of energy sources used for power generation

Important decision-making criteria	Type of fuel burned				Nuclear	Hydro	Wind	Sun
	Coal	Oil	Gas	Biomass				
<b>Competitiveness</b> (linked to direct energy costs)	■	■	■	■	■	■	■	■
<b>Energy availability</b> (security and reliability of supply)	■	■	■	■	■	■	■	■
<b>Acceptability of energy</b> (impacts of external environment)	■	■	■	■	■	■	■	■

#### Relative rank on selected decision-making criteria

■ Favorable energy source      ■ Medium/neutral energy source      ■ Unfavorable energy source

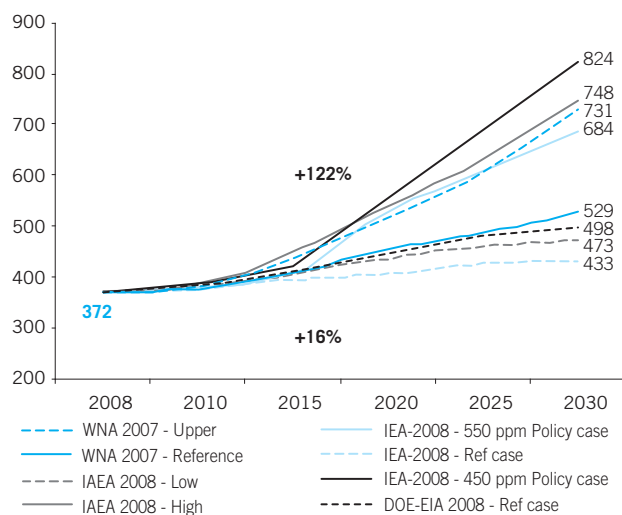
Source: World Energy Council (WEC), July 2004.

## Outlook for nuclear power around the globe

In 2007 and 2008, several institutes produced nuclear power forecasts for 2030 that paint a much more favorable picture than forecasts published a few years ago, reflecting the impact of measures already taken or contemplated. These projections are summarized below.

### Outlook for world nuclear power programs

(in net GWe)



Sources: IAEA, World Nuclear Association, International Energy Agency, US Department of Energy.

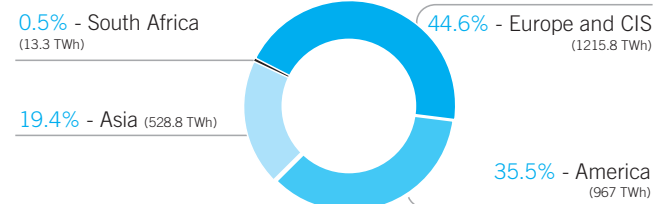
In 2008, nuclear reactors connected to the grid represented about 373 GWe net (*i.e.* about 392 GWe gross). These reactors were 31 years old on average. Assuming a reactor life of 40 years, nearly 70% of these reactors will have to be replaced by 2030 to maintain overall installed generating capacity. Only 90 GWe would have to be replaced by 2030 if the life of the reactors is increased to 50 or even 60 years, as contemplated by many utilities worldwide. Overall, depending on the scenario, from 150 to 540 GWe net will have to be replaced by new builds by 2030.

### The challenges of nuclear power in different regions of the world

As the benefits of nuclear power in terms of cost predictability and competitiveness, security of supply and greenhouse gas emissions are recognized, existing reactors will be modernized and optimized and their service life extended to increase available capacity. This should also lead to reactor construction to renew and expand installed capacity worldwide, and will be a potential source of long-term growth for all of AREVA's nuclear operations.

The chart below shows the breakdown of nuclear power generation among Europe, North and South America, and Asia in 2008.

### Nuclear power generation by geographical area



Source: Nucleonics Week, adjusted by AREVA.

With the prospect of increasing reliance on nuclear power over the years to come, especially in emerging countries, the International Atomic Energy Agency (IAEA) is seeking to promote the establishment of a new framework to respond effectively to demand from individual countries while still limiting the risks of proliferation. For example, the IAEA is leading the International Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO) to anticipate the specific needs of developing countries and to help emerging countries acquire the necessary infrastructure for a nuclear power program. In addition, the IAEA is working to establish mechanisms to guarantee fuel supply and related services to prevent the proliferation of sensitive facilities.

A revival of nuclear power around the world will depend on when political decisions are scheduled, which vary from one region to the next.

In **Western Europe**, reactor replacements and new reactor construction in countries with more recent units cannot be expected until the next decade, unless energy policies change dramatically. In France, the program to replace nuclear reactors has been launched: the first EPR™ reactor is under construction at Flamanville and President Sarkozy has announced the construction of a second reactor. Finland is contemplating the construction of a sixth reactor. Meanwhile, construction of the first EPR™ reactor continues in Finland, with start-up not expected before 2012. In Eastern Europe and the United Kingdom as well as in Italy, some projects could translate into orders soon. In some countries, such as Germany and Belgium, no activity is currently possible due to political decisions to phase out nuclear power.

In **North America**, the utilities started to extend the service life of their reactors in 2000. This trend should continue until 2015. After 2010, these initiatives could be supplemented by the construction of new power plants. AREVA intends to participate actively in this market by offering its EPR™ reactor. The Energy Bill enacted by Congress in 2005 offers many incentives to utilities for the construction of the first new reactors. Canada and Latin America have expressed renewed interest as well.

In **Asia**, in addition to the programs of South Korea and Japan, new power plant construction will primarily occur in China (2005-2020 program) and in India, which has regularized its situation with respect to non-proliferation. Other countries have also shown interest in nuclear power more or less over the long term, including the United Arab Emirates, Vietnam and Indonesia.

**South Africa** has substantial requirements; although the first unit had to be postponed due to the economic and financial situation, the government continues to support nuclear power.

## Europe

Europe had 196 nuclear reactors with generating capacity of nearly 180 GWe as of the end of 2008. European reactors generated 1,216 TWh of electricity, 0.6% more than in 2007. These figures compare with total electricity production in Europe from all sources combined of an estimated 5,402 TWh, representing an increase of 1.4% compared with 2007.

On average, nuclear power represented 23.2% of all the electricity generated in Europe in 2008, although there are significant differences from one country to the next. For instance, nuclear power represents a large proportion of the electricity generated in France and Belgium (approximately 76% and 54% respectively) and a smaller proportion in Germany (about 28%), Finland (30%), and Spain (18%).

	Gross installed nuclear capacity (GWe)		Gross nuclear power generation (TWh)	
	2008	2007	2008	2007
France*	65.9	65.9	438.6	439.1
Germany	21.4	21.4	148.7	140.5
Russia	23.2	23.2	162.3	158.3
United Kingdom	11.9	11.9	49.4	58.6
Ukraine	13.8	13.8	89.8	92.7
Sweden	9.4	9.4	63.9	66.9
Spain	7.7	7.7	59.0	55.0
Belgium	6.1	6.1	45.8	48.2
Finland	2.8	2.8	23.0	23.4
Other	17.4	17.6	135.30	125.9
<b>Total</b>	<b>179.6</b>	<b>179.8</b>	<b>1,215.8</b>	<b>1,208.6</b>

\* Excluding Phoenix, considered a research reactor.  
Source: Nucleonics Week, data adjusted by AREVA.

There were positive signs in the European Union, although countries that had decided to phase out nuclear power have not revisited their positions. Nuclear power is increasingly viewed as a vital means of ensuring security of supply, generating competitive baseload electricity, and fighting climate change.

In 2007, the European Commission recommended a series of environmental and energy objectives for 2020: reducing carbon emissions by 20%, improving energy efficiency by 20% and raising renewables to 20% of the energy mix. This was followed by a proposed “energy-climate package” consisting of directives that specify, among other things, the precise conditions for the emission allowances market to be set up after 2012 to reduce CO<sub>2</sub> emissions by 20%, and the renewable energy objectives of each country as a percentage of final energy consumption. The European Council and the European Parliament approved the package in December 2008. One of the key provisions for the electricity sector is the requirement to set up an auction system to allocate emission allowances in each country. The process will establish the economic cost of the carbon emitted by each facility.

These goals are also motivated by the EU's heavy reliance on imported gas, particularly from Russia. The threat of an interruption of gas deliveries from Russia to transit countries illustrates the geopolitical weakness of gas as an energy resource. This type of risk is limited for nuclear power, for two reasons: uranium is more evenly distributed in the earth's crust, and it tends to be heavily concentrated in countries considered stable. In addition, the technology and expertise acquired by EU countries in nuclear reactor construction and in the fuel cycle ensure greater security of supply.

The European Commission's “Strategic Energy Review” published in November 2008 confirms these concerns and the importance of nuclear power and renewable energies to the European Union's energy security.

A breakdown of nuclear power in the main European countries is provided in the table below.

In **France**, key events of the year include the creation of the Senior Committee for Transparency and Information on Nuclear Security (HCTISN) in June 2008 and the launch of two projects at Cadarache: the Jules Horowitz Reactor (RJH) and the ITER project, which will demonstrate the feasibility of fusion as a source of energy.

EDF and AREVA signed major contracts, in terms of duration and amount. The first establishes the terms under which AREVA will treat used fuel from EDF and fabricate MOX fuel during the 2009-2040 period. This contract gives AREVA excellent workload visibility at its La Hague and MELOX plants. Important contracts for the supply of conversion and enrichment services were also signed. GDF-SUEZ acquired a 5% stake in the new Georges-Besse II uranium enrichment plant.

At Flamanville, construction of the first EPR™ reactor for EDF continued. AREVA is supplying the reactor's nuclear steam supply system. EDF and GDF-SUEZ will participate in the construction of a second EPR™ reactor in France, as announced by President Sarkozy.



## 6.1. The Nuclear and Transmission &amp; Distribution markets

In **Belgium**, given the climate of political instability, the issue of power plant life extension is still not resolved. At the request of the Belgian Ministry of Energy and the Environment, a group of eight experts was tasked with studying the ideal energy mix for Belgium in the medium and long term (the Gemix study). The group must issue a preliminary report by June 30, 2009. The report will be reviewed by the Federal Council on Sustainable Development and the Energy Sub-commission of the Central Economic Council for discussion. The final report will be issued in October.

In March 2008, the Social and Economic Council of **the Netherlands** recommended that the government consider the development of nuclear energy in its evaluation of the country's environmental policy two years from now. In September 2008, Delta, which owns 50% of the Borssele nuclear plant, announced that it wants to build a second unit in the 1,000-1,600 MWe range at the Borssele site.

In **Germany**, the government continued to support the nuclear phase-out law despite the country's growing energy dependency, particularly with respect to Russian natural gas, as revisiting the law might shatter the government coalition. Opinion polls show a slight majority in favor of continued reliance on nuclear power. German power companies are actively participating in foreign nuclear power plant projects and openly support nuclear power in their own country. No nuclear power plant is scheduled to shut down before the upcoming federal elections in September 2009.

In **Finland**, the AREVA-Siemens consortium continued construction of the EPR™ reactor. This is the largest industrial project ever carried out in Northern Europe. Discussions continue with Finnish utilities TVO and Fortum and the Fennovoima consortium of large power users concerning the possibility of building a sixth nuclear power plant.

In January, the government of **the United Kingdom** published a White Paper on conditions for siting a new nuclear facility. The White Paper was approved as part of the Energy Act and received Royal Assent on November 26, at the same time as the Planning Act, which includes procedures for planning new power plants. Two projects will be evaluated under the Generic Design Assessment process (GDA): the AREVA/EDF EPR™ reactor design and the Toshiba/Westinghouse AP1000 reactor design. GE and AECL decided not to participate in the process. EDF acquired British Energy and its sites, while the Nuclear Decommissioning Authority (NDA) is getting ready to designate its first three potential construction sites in the spring of 2009. On December 4, AREVA and E.ON announced that they had formed a team for joint EPR™ reactor construction in the UK. Simultaneously, AREVA unveiled its industrial organization for the United Kingdom, in partnership with Balfour Beatty and Rolls-Royce.

In March 2008, the NDA awarded the first contract for the management of the Drigg low level nuclear waste disposal site.

A consortium of which AREVA is a member was selected. In November, after a long and difficult bidding process, the NDA awarded a contract to manage the Sellafield site estimated at several billion pounds sterling to NMP, a consortium consisting of AREVA, AMEC and URS Washington Division. The NDA is in the process of preparing a waste management strategy while performing several studies to select a geological disposal site.

**Sweden** maintained the option of building new nuclear plants after 2010, and public financing of nuclear research was allowed by law. AREVA will carry out projects to increase capacity and other upgrades. The group won a contract to replace the Ringhals 4 reactor's steam generators in 2011.

In **Italy**, the government confirmed that it wants to begin building new nuclear power plants within five years to reduce the country's considerable reliance on oil, gas and imported electricity. The goal is to generate 25% of the country's electricity with nuclear power by 2030; that will require the construction of 8 to 10 new reactors.

The nuclear option remains open in **Spain**, where a permit was requested to extend the operating life of the Santa Maria de Garofa nuclear power plant by 10 years.

There are encouraging signs in **Switzerland** for the construction of a new nuclear power plant. In mid-2008, Atel submitted an application to the Federal Office of Energy for the construction of a new power plant near Goesgen. In December 2008, Axpo group and BKW Energy Ltd submitted two applications to replace the Beznau I and II and Mühleberg power plants.

In **Slovakia**, there are plans to connect up to 2,300 MWe in nuclear capacity to the grid by 2025. These projects include capacity increases, completion of the Mochovce plant and the construction of new power plants. Work on units 3 and 4 officially began at the Mochovce site. CEZ was selected as a strategic investor for the project.

Government programs in the **Czech Republic** do not include a new reactor project, although many governmental officials support nuclear power as part of the energy mix.

The Ministry of the Economy of **Slovenia** has announced the country's intention of building a new reactor that could be connected to the grid by 2020. Electricity consumption forecasts show a deficit of approximately 1,600 MWe by that date.

**Bulgaria** is getting ready to build the Belene power plant, where construction could begin in 2013 or 2014. ASE signed a contract with the Siemens-AREVA consortium for the instrumentation and control systems. RWE signed an agreement to establish a project development company, which will be 51% owned by NEK power company.

In **Romania**, investors signed an agreement to establish EnergoNuclear SA, which will build, commission and operate Cernavoda 3 and 4. The shareholders of the future company are Nuclearelectrica (51%), ArcelorMittal, CEZ, GDF-SUEZ, ENEL, Iberdrola and RWE Power.

In **Russia**, the government-owned company Rosatom and its commercial subsidiary AtomEnergoProm took possession of all of the government's nuclear assets. Rosatom has announced an ambitious national program to build some 30 new reactors by 2030 as well as several projects abroad. Meanwhile, the company is continuing its project for an International Uranium Enrichment Center. Russia implemented an amendment to the Suspension Agreement with the United States that will allow imports of enriched uranium to the US with the quota amount of 20% of US requirements. A bilateral agreement on the peaceful use of nuclear energy was also executed. Both agreements must still be ratified by the United States. In November, negotiations were reopened with the European Union for a New Cooperation Partnership. Russia also signed a bilateral nuclear agreement with India and several other countries. The reform in the power production sector culminated in the liquidation of RAO UES after many of its subsidiaries were privatized.

The political situation is still unstable in **Ukraine** and deteriorated further after the onset of the global financial crisis. The IMF lent 15 billion dollars to the country. A project to build two reactors based on Russian technology is still pending. **Armenia** plans to develop its new reactor design and uranium mining operations with Russia. **Turkey** also has nuclear projects.

### North and South America

A total of 130 nuclear reactors representing gross generating capacity of 125 GWe are located in North and South America. These reactors generated 967 TWh in 2008, unchanged from 2007. This compares with approximately 6,247 TWh in total power generation, down 0.2% from 2007.

	Gross installed nuclear capacity (GWe)		Gross nuclear power generation (TWh)	
	2008	2007	2008	2007
Canada	15.0	15.0	94.1	94.0
United States	105.8	105.8	841.7	843.0
Mexico	1.4	1.4	9.8	10.4
Brazil	2.0	2.0	14.0	12.4
Argentina	1.0	1.0	7.4	7.2
<b>Total</b>	<b>125.2</b>	<b>125.2</b>	<b>967.0</b>	<b>967.0</b>

Source: Nucleonics Week, adjusted/estimated by AREVA. AREVA.

Nuclear power represented an average of 15.9% of all electricity generated in North and South America in 2008, with significant differences from one country to the next. Nuclear power represents 19% of all electricity generated in the United States and 15% in Canada, but only 3% in Brazil. The status of nuclear power in the main countries of the region is described below.

In the **United States**, the Obama Administration's energy policy for the next 10 years calls for 150 billion dollars in investment to create 5 million new jobs, catalyze the private sector in favor of clean energy, conserve more oil than is imported from the Middle East and Venezuela combined, put more than a million rechargeable hybrid cars on the roads, achieve a 10% renewable energies level in the energy mix, and reduce greenhouse gas emissions by 80% with a program of quotas and trading of pollution rights. President Obama quickly assembled a team to bring the plan together, including Dr. Steven Chu, the new Secretary of Energy. His appointments have suggested that the administration is focusing first on energy conservation and renewable energies, with major investment in "green" jobs to stimulate the economy. Steven Chu has publicly supported research for the development of the closed nuclear fuel cycle and the use of nuclear energy to reduce carbon emissions.

AREVA is well positioned to capitalize on this new energy policy. In October, the group penetrated the US renewable energies market by launching a joint company with Duke Power called ADAGE™, which will develop biomass power plants. AREVA T&D is an industrial leader in the US in high voltage direct current technology, smart grids and software to integrate electricity generated by renewable energy. Recent DOE contract awards at Savannah River and Yucca Mountain position AREVA as a key provider of solutions for high level nuclear waste management and used fuel recycling. AREVA will create hundreds of highly qualified jobs at its new Newport News manufacturing plant and at the future Eagle Rock enrichment plant in Idaho.

While the financial crisis threatens to push back the nuclear revival in the United States, significant progress was made on the regulatory front. The Nuclear Regulatory Commission (NRC) received 17 license applications for 26 new reactors, including 4 AREVA EPR™ reactors. The DOE received several loan guarantee applications for these capital-intensive projects. The NRC accelerated its review of the design certification application for AREVA's EPR™ reactor to January 2008. Several fuel cycle projects are currently in the licensing, design or construction phase. URENCO announced that it will double capacity at its new enrichment plant in New Mexico, while USEC, like AREVA itself, submitted a request for a loan guarantee to the DOE for its new enrichment facility.

There was little change in terms of key suppliers to the US nuclear market. Toshiba formed a joint venture with NRG Energy called Nuclear Innovation North America (NINA) to promote and sell

## 6.1. The Nuclear and Transmission &amp; Distribution markets

Toshiba's ABWR reactor in the United States. Several customers in the energy sector have been seriously affected by the financial crisis. Constellation was about to be taken over by Mid-American, but in the end it was EDF that acquired 50% of Constellation's nuclear assets with its successful competing offer. Other customers saw their market capitalization and financial ratings drop significantly, thus reducing their ability to secure financing for major capital projects. More mergers and partnerships can be expected in the future.

In **Canada**, the drop in uranium prices and unexpected regulatory problems led to the indefinite deferral of production startup at the MidWest uranium mine at the end of 2007. In March 2008, the government of Ontario had opened a bid process to acquire two nuclear power plants, with an option for one or two more. AREVA is competing against Toshiba-Westinghouse and AECL on this project. A decision is expected in 2009. Bruce Power announced the start of environmental studies to site a reactor in Saskatchewan, although the plant would also supply power to Alberta.

In **Latin America**, Argentina announced its intention of investing heavily in its nuclear program, in particular to complete the Atucha 2 reactor, expected to generate electricity in October 2010. Brazil unveiled a plan to build 7 reactors over the next 20 years, beginning with the completion of Angra 3.

### Asia-Pacific

This region has 110 nuclear reactors representing 85.7 GWe in generating capacity. The reactors generated 528.8 TWh of electricity in 2008, down 3% from 2007, mainly due to the shut-down for the entire year of the Kashiwazaki-Kariwa nuclear power plant in Japan (8.212 GW) for post-earthquake inspections. This compares with approximately 7,433 TWh in total electricity generated in 2008, up 6.1% from 2007.

On average, nuclear power represents 8.2% of all electricity generated in Asia-Pacific in 2008, with significant differences from one country to the next. For instance, nuclear power represents a large share of all electricity generated in South Korea and Japan (36% and 25% respectively), yet nuclear power's share is minimal in China and India (2%). Several countries have reaffirmed and are continuing their nuclear power programs, and several major calls for tenders have been issued.

	Gross installed nuclear capacity (GWe)		Gross nuclear power generation (TWh)	
	2008	2007	2008	2007
Japan	48.5	49.9	251.7	278.7
China	9.1	9.1	67.90	62.9
India	4.1	4.1	15.5	17.8
South Korea	18.4	18.4	151.0	142.9
Taiwan	5.1	5.1	40.8	40.6
Pakistan	0.5	0.5	1.9	2.5
<b>Total</b>	<b>85.7</b>	<b>87.1</b>	<b>528.8</b>	<b>545.4</b>

Source: Nucleonics Week, adjusted by AREVA.

In **Japan**, the Ministry of Industry and nuclear companies are aiming to increase nuclear power's share of power generation to 30-40% under an ambitious national policy defined in 2006. Improving reactor load factors is a priority. New builds also continue, including, in 2008, the start of construction of the Ohma reactor using 100% MOX fuel. Older reactors are beginning to be shut down and will be replaced.

As a natural extension of this, Japan is pursuing its strategy of securing the country's uranium and enrichment supplies over the long term.

Along these same lines, Japan remains dedicated to recycling. The technology transferred by AREVA to the Rokkasho Mura plant is now in operation. Commercial production is scheduled for 2009. The JMOX plant, also located at the Rokkasho Mura site, will be started up in 2012. At the same time, AREVA continues to supply end-of-lifecycle services and the MOX program moved forward yet again with the start of fabrication of the first fuel assemblies in France for loading in Kyushu's Genkai reactor, Chubu's Hamaoka reactor, and Shikoku's Ikata reactor.

Japanese industry is trying to become more international, as illustrated by the alliance between AREVA and MHI for the development of the ATMEA1 reactor, Toshiba's rise in importance after purchasing Westinghouse, and the reciprocal shareholdings of Hitachi and GE.

Japanese companies reaffirmed their interest in developing the fast reactor technology. MHI was selected to design the next demonstration reactor, which should start operating by 2030.

**South Korea** continued to expand its nuclear program, with nearly 10,000 MWe in additional capacity to be added to the existing 17,000 MWe from now to 2020. The highlight for 2008 was the decision to create an agency dedicated to the management of used fuel and final waste.

In **Taiwan**, the administration that came into office in 2008 is open to limiting CO<sub>2</sub> emissions. Against this backdrop, the national power company is accelerating its work to complete the two Lungmen reactors.

**China** confirmed its intention of developing nuclear power as one of its main resources for meeting growing demand for electricity. Its objectives are lofty and were recently adjusted (March 2008), with nuclear generating capacity of nearly 60 GWe targeted for 2020, *i.e.* more than 5% of total generating capacity. This would require adding 51 GWe of nuclear generating capacity to the 9 GWe currently in operation. In November 2007, AREVA confirmed its strong position on the Chinese market when the group signed a historic partnership with its customer CGNPC (China Guangdong Nuclear Power Corporation) for the construction of two nuclear islands for the next generation EPR™ reactor at the Taishan site and their fuel supply for a 15-year period, as well as a contract to purchase uranium to be mined by UraMin Inc., a company held by AREVA. In October 2008, AREVA and CGNPC demonstrated once again the vitality of their partnership by signing two new agreements, one guaranteeing CGNPC access to more than half of UraMin Inc.'s production and the other related to the development of a joint engineering firm in China. Meanwhile, following the signature of an intergovernmental agreement on industrial cooperation in the back end of the fuel cycle, AREVA and China National Nuclear Corporation (CNNC) launched feasibility studies for the construction of a used fuel treatment and recycling plant in China. AREVA thus has important prospects in China in all phases of the nuclear cycle, including the Front End, Reactors and Services, and the Back End.

**India** has high hopes for the development of its fleet of nuclear power reactors, which currently represent 4 GW of generating capacity. This could be boosted to 40 GW in 2020 and to 60 GW in 2030.

The political situation improved significantly in 2008. India and the IAEA concluded an agreement on safeguards in August. In early September, the Nuclear Suppliers Group (NSG), a group of 40 countries that supply nuclear products and services, gave the green light for commercial nuclear trade with India. This decision opened the door for India's signature of several bilateral cooperation agreements for the commercial use of nuclear energy. The first agreement was concluded with France at the end of September 2008. The United States came next in December 2008, followed by Russia in January 2009. Other bilateral agreements are in the works, for instance with the United Kingdom and Canada.

These bilateral agreements define the institutional framework for nuclear cooperation, in particular for industry sales of reactors, nuclear fuel and other nuclear products and services. At the end of December 2008, AREVA was the first company to sign a commercial sales agreement with India to supply 300 metric tons of natural uranium to DAE. The material will be used in Indian

reactors already subject to IAEA safeguards. Discussions are ongoing with Indian power company NPCIL for the supply of EPR™ reactors and fuel. In addition, AREVA started a search to identify industrial partners in India to supply some of the components used in reactor construction.

In this rapidly changing environment, AREVA decided to establish AREVA India Pvt Ltd in Mumbai. This subsidiary has been operational since early November 2008.

In **Australia**, the State of Western Australia lifted the ban on uranium mining in 2008 following the change in government, on the heels of a bipartisan agreement on uranium mining concluded in 2007 at the federal level. Cameco, BHP Billiton, Paladin and other uranium players in Australia have reactivated the projects that were on standby in this State. On the nuclear power front, the debate evolved from the potential role of this source of energy in the Australian energy mix to the moral duty to export uranium to help other countries develop their nuclear programs. Along with the financial crisis, climate change played an essential role in this respect with the publication of the Garnaut report – the local equivalent of the Stern report in Great Britain – and the government's proposed national plan to reduce greenhouse gas emissions.

## Africa

**South Africa** is the only African country with a nuclear power program. The two reactors built by AREVA at Koeberg and started up in 1984 and 1985 generated about 5.2% of the nation's electricity in 2008.

The country needs to build some 40 GWe of additional power generating capacity by 2025, but the drop in demand linked to the financial crisis gives some flexibility. Following a series of blackouts, South African utility Eskom is now urgently acquiring small gas-fired power plants to satisfy peak demand and has begun the construction of two coal-fired plants (9,600 MW).

The decision on a first unit in the 3,000 to 3,500 MWe range using Generation III+ LWR reactors was postponed. The government is now considering the construction of a 20 GWe fleet with the first power plant to be delivered in 2019 and the last one around 2025. AREVA is one of the potential partners for the project. An official decision is expected in 2010.

## Other markets

North African and Persian Gulf countries are also showing interest in nuclear power, including for non-conventional uses such as seawater desalination. Even oil-producing countries are considering the nuclear option to preserve their mineral resources, which are becoming scarcer and more expensive.

In early 2008, AREVA signed a partnership agreement with Total and GDF-SUEZ for a nuclear power plant project in the United Arab Emirates.

### 6.1.3. Current environment and challenges in electricity transmission and distribution

The transmission and distribution sector is a fundamental component of grid operations and management. The market is buoyed by increasing electricity consumption, itself fueled by the creation of wealth at the national and regional levels. Building reliable and efficient power systems is both a requirement for and a consequence of economic growth and of investment in power generation.

Consequently, the transmission and distribution market could benefit directly from positive external factors such as:

- changes in national energy policies and the development of renewable energies;
- the optimization and replacement of aging equipment to improve network safety and reduce the risk of power supply interruptions;
- interconnection of regional networks to link sources of power generation with areas of power consumption;

- deregulation of electricity markets, with a variety of impacts on national T&D markets, depending on the characteristics of existing infrastructure; and
- organizational changes at electric utilities, such as centralization of procurement.

Over the short term, and given the economic situation, the transmission and distribution market is expected to remain stable in 2009 compared with 2008, at 56 billion euros. The crisis is affecting countries and market segments differently. Distribution is affected by the slowdown in the real estate market and the sudden halt in industrial investment, particularly in the mining and metals sector. The transmission sector, on the other hand, is holding up. Transmission offers opportunities linked to government-sponsored economic stimulus plans and to the increase in renewables' share of the energy mix.

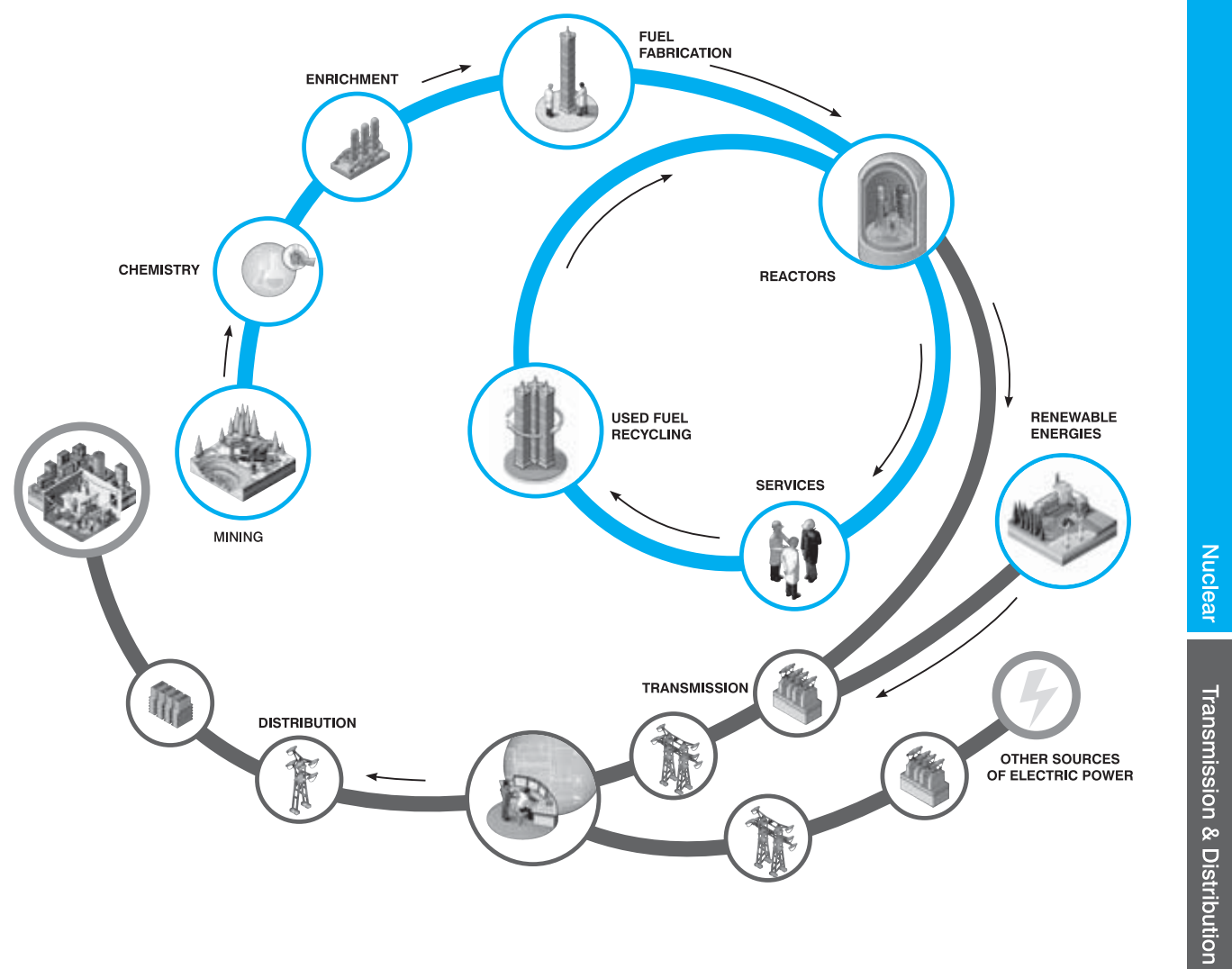
## 6.2. Overview and strategy of the group

### 6.2.1. Overview

The AREVA group is a global leader in solutions for CO<sub>2</sub>-free power generation solutions and electricity transmission and distribution. In 2008, AREVA's consolidated revenue rose to 13.16 billion euros,

with consolidated net income of 589 million euros. AREVA has manufacturing facilities in 43 countries and employs 75,414 people.

#### The group's businesses





The group is the global leader in nuclear power and number three worldwide in electricity transmission and distribution. It is the only group to be active in every stage of the nuclear cycle. The group's customers are the world's leading utilities, with which AREVA does a large share of its business under medium and long term contracts. The group's businesses are summarized in the figure above.

AREVA's energy operations consist of four divisions, including three nuclear divisions:

**The Front End division contributed 26% to AREVA's consolidated revenue in 2008, i.e. 3.363 billion euros.** It is in charge of uranium exploration, mining, conversion and enrichment, and the design and fabrication of fuel for nuclear reactors. AREVA is one of the world leaders in the front end of the nuclear cycle. The group controls a diversified portfolio of mining properties in operation (Canada, Kazakhstan and Niger) and under development (Africa, Canada and Mongolia). In addition, AREVA owns and operates world class industrial facilities, primarily in Europe (France, Germany and Belgium), but also in the United States.

**The Reactors and Services Division contributed 23% to AREVA's consolidated revenue in 2008, i.e. 3.037 billion euros.** It combines the operations of nuclear reactor design and construction as well as the products and services needed for power plant maintenance, operation, renovation and capacity upgrades. AREVA is one of the world's leading supplier of nuclear reactors in terms of installed capacity, and the market leader for heavy component replacement at nuclear power plants. The division's combined installed base business represents a large share of its total business, with very strong positions in Europe and a successful development strategy in the United States, where AREVA is the leader on the market for heavy components and services. In addition to its installed base business, AREVA is a leading player in the design and construction of next-generation reactors. AREVA is currently building four EPR™ reactors, including one 1,600-MW unit in Olkiluoto, Finland, one 1,600-MW unit in Flamanville, France, and two 1,600-MW units in Taishan, China.

The Reactors and Services division includes the operations of AREVA TA (formerly Technicatome). AREVA TA's traditional business is to design, build and provide services to research reactors and naval propulsion nuclear reactors.

The division also includes the operations of the business unit combining AREVA's operations in renewable energies: wind, bioenergies and hydrogen.

**The Back End division contributed 13% to AREVA's consolidated revenue in 2008, i.e. 1.692 billion euros.** It combines operations for the recycling of fuel following its use in nuclear power plants. The division also provides logistics, engineering, clean-up and

dismantling services. AREVA is the world leader in the back end of the nuclear cycle. The group offers a complete range of used fuel management solutions, including dry storage for the "open" or "once-through" cycle, and recycling and MOX fuel fabrication for the "closed" cycle. AREVA's customer base in the back end of the fuel cycle is chiefly comprised of European utilities. The group has signed agreements to transfer technology to Japan, the United States and China in connection with work to define end-of-cycle solutions.

**The Transmission & Distribution division contributed 38% to AREVA's consolidated revenue in 2008, i.e. 5.065 billion euros.** The Transmission & Distribution division manufactures, installs and maintains equipment and systems to transmit and distribute medium and high voltage electricity. One of a very few suppliers on the global electricity transmission and distribution market, the Transmission & Distribution division is ranked third in this sector worldwide. With a global presence consisting of 65 manufacturing sites in 36 countries and a sales force in nearly 100 countries, AREVA T&D is recognized for the strength of its technology, particularly in high voltage systems.

**AREVA's biggest advantage is that the group is active on all markets for CO<sub>2</sub>-free power generation and electricity transmission and distribution.** Its integrated business model makes the group the only supplier capable of meeting customer requirements at every stage of the value chain, whether for engineering and fabrication of new CO<sub>2</sub>-free power generation capacity, the supply of nuclear materials and fuel, equipment and services for power plants, solutions for used fuel recycling and storage, or products and services for electricity transmission and distribution. The group also meets their expectations for global solutions that protect the environment and comply with stringent safety criteria.

To strengthen its commercial presence in integrated offers, the group established AREVA Solutions, which markets innovative multi-product/multi-service solutions tailored to customers' new expectations.

**The group is recognized for its technological expertise at every stage of the nuclear cycle,** backed by 30 years of research and operating experience with proprietary processes and a range of new generation reactors to meet the energy challenges of the 21<sup>st</sup> century. These assets give the group a considerable advantage particularly in next-generation reactors and the back end of the fuel cycle.

**AREVA does business in Europe, North America and Asia, where it is guided by sustainable development principles** in achieving profitable growth in a socially responsible manner. For example, the group's nuclear operations are exercised only in countries that comply with the international nuclear non-proliferation regulations and that conform to their resulting commitments.



**AREVA's baseload business provides excellent visibility.** In the nuclear divisions, which contribute 61% of AREVA's revenue, medium and long term contracts and recurring services represent a significant percentage of the group's business. Visibility is also excellent in the Transmission & Distribution division, thanks to a diversified backlog of orders from a wide range of customers seeking to maintain established relationships. The group's backlog came to nearly 48.246 billion euros in 2008. The backlog has risen constantly over the past few years, confirming that the revival of nuclear power is a market reality.

**AREVA's business is the growing energy market.** The energy sector is growing rapidly around the globe. Several long-term trends underpin this growth, including strong population growth in emerging countries. That factor alone has a significant impact on demand for electricity, which is expected to double by 2030 (source: IEA, *2008 World Energy Outlook*). The volatility of oil and gas prices, their rising production costs and, above all, their negative contribution to greenhouse gas emissions will have a not insignificant impact on the future energy mix, with the advantage going to technologies that emit few greenhouse gases and are less sensitive to the price of oil. The energy sector has invested very large amounts of capital in recent years to meet increasing demand and to replace part of existing production capacity. The International Energy Agency projects 13.6 trillion US dollars in capital spending over the 2007-2030 period, split equally between new generating capacity and transmission and distribution infrastructure (IEA, *2008 World Energy Outlook*). AREVA is active on both of these markets, both of which constitute strong drivers for growth in the years to come.

The world's reactor fleet represents 15% of today's power generation and can be expected to grow and to be replaced over the medium and long terms. Nuclear power does not emit greenhouse gases and generates competitively priced energy, while the use of uranium contributes to security of supply. These factors explain the strong drive to build new plants and/or modernize existing ones. In the next two decades, the first impacts of this **"nuclear revival"** will be on developed countries with existing nuclear power programs that wish to replace reactors as they near the end of licensed operations. Finland and France were forerunners in this respect: each of them has already started construction of the next-generation AREVA EPR™ reactor. The United Kingdom, the United States, Canada and Italy have also committed to developing a new fleet of reactors. Fast developing countries will contribute to the nuclear revival as well: China, India, Brazil, South Africa and Russia plan to develop nuclear generating capacities to sustain their economic and industrial growth. Some countries rich in oil and gas have also demonstrated an interest in nuclear power. For example, the United Arab Emirates want to build nuclear power plants to preserve their oil and gas resources and gain access to state-of-the-art technologies for carbon-free power generation.

In all of these countries, AREVA is positioned as a **supplier of global solutions** combining next-generation reactors, fuel and services, including used fuel recycling. The group consolidated its positions

in 2008 after successfully marketing the EPR™ reactor in **Finland, France and China**. In **the United Kingdom**, E.ON and AREVA have signed a global agreement on nuclear power. In **Bulgaria**, AREVA signed a contract to participate in the construction of the Belene nuclear power plant as part of the Carsib consortium between AREVA and Siemens.

The nuclear revival benefits all of the group's nuclear operations, including the Front End and Back End divisions, and not just reactor construction, confirming the relevancy of the group's integrated business model.

Customer investments in electricity **transmission and distribution systems** (T&D) will also generate significant investments. The IEA forecasts 6.8 trillion US dollars in cumulative capital spending from 2007 to 2030 (source: IEA, *2008 World Energy Outlook*). The sustainable growth of the T&D market will be fueled by grid modernizations, new interconnections, the need to connect new power generating capacities (particularly over long distances), the emergence of renewable energies and the focus on energy efficiency. As the third largest player on the global T&D market, AREVA plans to take full advantage of these opportunities. This was demonstrated by the growth in T&D revenue in 2008, which was up 17% compared with 2007.

The group also intends to become a leader in **renewable energies**, which have a real role to play in the energy mix of tomorrow. Assisted by increasingly attractive regulatory and rate-making incentives, several technologies have reached technical maturity and are now competitive compared with the cost of other energy sources when carbon values are included. Renewable energies are particularly buoyant in Europe, where the European Union has set a goal of a 20% share for renewable energies in the energy mix by 2020 (corresponding to approximately 34% of the electricity generated by renewable sources). North America is also a growth region, as power companies strive to meet requirements to acquire renewable energy capacities. In addition, niche renewable energy markets can be found in emerging countries, where low-cost resources are often plentiful (e.g. biomass in Brazil and India, solar in the Sahara region, etc.). AREVA is convinced that renewable energies contribute to the economic growth, rural development and improvement of economically deprived areas in these countries, and are thus vital to sustainable development. AREVA's Renewable Energies business unit is the group's champion in offshore wind energy, biomass electricity and hydrogen.

AREVA thus has all the resources needed to take full advantage of the energy market's growth. It is an industry leader, active around the globe, and recognized for its expertise and technologies. The group is ready to meet the challenges facing its customers: to generate and deliver energy safely, at a competitive cost and without emitting greenhouse gases.

## 6.2.2. Strategy

**“Enable everyone to have access to ever cleaner, safer and more economical energy”: that is the goal we have set for ourselves at AREVA.** The AREVA group offers solutions for CO<sub>2</sub>-free power generation and electricity transmission and distribution.

AREVA's strategy is to leverage its integrated model to strengthen its position as world leader. The group is present in every segment of the nuclear value chain and can provide solutions to meet the strategic challenges facing its utility customers.

AREVA's integrated model is setting the standard for the market and is imitated by many competitors. Toshiba/Westinghouse, General Electric and Mitsubishi Heavy Industries have gradually deployed a strategy for partial integration of the value chain through acquisitions, equity interests and/or strategic partnerships. Russia's approach is even more representative: the Russian government recently combined all of its nuclear fuel cycle operations under the umbrella of a single entity, AtomEnergProm.

**The group wants to leverage its experience and know-how** to ensure business growth while complying with stringent safety, security and risk prevention requirements.

For each of its businesses, AREVA has defined several major strategic goals that are fully consistent with its overall mission.

In nuclear markets, AREVA wants to capitalize on its integrated business model to spearhead the nuclear revival. The group has three main lines of action:

- In the construction of new nuclear power plants, the group's experience in current construction projects puts it ahead of the competition. **Its objective is to build one third of new nuclear capacity in accessible markets.** The group will focus on markets where it can leverage the synergies of the integrated offering while capitalizing on its existing reactor designs to achieve economies of scale. To meet the needs of the international market, AREVA is developing a line of reactors with capacities ranging from 1,000 to 1,600 MWe. Control of the supply chain for critical components is a key success factor of the AREVA business model: AREVA has invested heavily in France and in the United States and concluded strategic agreements with component suppliers to secure the production capacities required to satisfy demand for new builds.
- **AREVA's second objective is to secure the fuel cycle supply chain to protect its existing and future customers** in light of the growing number of reactors and supply pressures for natural uranium and enrichment services. First, AREVA must expand mineral reserves and increase production. In 2007, the group acquired UraMin Inc. to increase its uranium production and diversify its mining portfolio. AREVA also strengthened its partnership

with Kazatomprom in Kazakhstan to increase natural uranium production. In industrial processing, AREVA is upgrading its uranium chemistry and enrichment production capacities to meet new demand with appropriately located facilities. For example, AREVA will have renewed its uranium conversion capacities at the Comurhex plant in France and built two new enrichment plants by 2012-2015: the Georges-Besse II plant at the Tricastin site in France and the Eagle Rock plant in Idaho in the United States. These capital programs are financed in part by its customers: in June 2008, the GDF-SUEZ group acquired a 5% stake in AREVA's new Georges-Besse II uranium enrichment plant.

- Thirdly, sustainable development in nuclear power requires **technologically mature, long-term solutions for used fuel management.** AREVA is far ahead of the competition, having developed advanced technologies to recycle 96% of the materials contained in used fuel into fresh fuel. AREVA's process divides waste volumes by 5 and their radiotoxicity by 10. Recycling is also conducive to non-proliferation: AREVA is able to offer total used fuel management services, including plutonium recycling in MOX fuel. A growing number of nuclear countries have expressed interest in AREVA's technology, thus confirming its determination to expand this line of business. AREVA has successfully transferred the recycling technology to Japan, where the Rokkasho Mura reprocessing plant is being established. The US and Chinese markets are AREVA's next potential areas for growth.

In Renewable Energies, AREVA's goal is to expand its offering and strengthen its presence on three target markets: wind power, biomass and hydrogen energy.

- In wind power, faced with the inability to acquire a controlling interest and reap all of the synergies identified, AREVA sold its 29.9% stake in REpower to Suzlon in June 2008. AREVA chose to develop its business in the offshore wind market *via* the German company Multibrid, acquired in September 2007, a key player in the manufacturing of high output offshore wind turbines (5 MW). With this acquisition, the group now has the industrial capacity, the technology and the resources to participate in growing number of wind farm projects in northern Europe.
- In biomass, the group strengthened its position with the acquisition of Koblitz in January 2008. Koblitz is the Brazilian leader in the design and manufacturing of biomass power plants fueled with *bagasse* (*bagasse* is sugar cane stalk residue). Koblitz has installed more than 2000 MWe of capacity in Brazil. In addition to being a leader on the Brazilian market, the company constitutes a vital industrial and knowledge base for AREVA's global offering. AREVA created ADAGE™, a joint venture with Duke Energy, to develop biomass power plants in the United States.

- In hydrogen, AREVA's subsidiary Hélium will industrialize the manufacturing of stationary generators.

AREVA's strategy on the Transmission and Distribution market rests on three pillars:

- **grow faster than the market** by strengthening its operations in growth regions and segments. AREVA is bolstering its capacities and marketing efforts in fast growing countries such as China and India;
- **bolster productivity and optimization activities.** AREVA is continuing to roll out its optimization plan based on four main performance drivers: boost procurement performance, improve processes, redeploy manufacturing facilities and optimize the business portfolio;
- **targeted acquisitions and partnerships in all growth markets.**

By achieving these objectives, the group will **maintain a strong balance sheet, high earnings, and solid cash flows.** It is the group's policy to maintain a strong balance sheet. This is a guarantee of security for its customers and enables the group to enter into major contracts, especially in connection with new reactor sales. It is also essential to the success of its businesses and to the financing of future investments.

AREVA has set up provisions for its end-of-life-cycle liabilities and created a dedicated financial portfolio to cover all of its estimated end-of-life-cycle expenses when they come due. A special committee of the Supervisory Board monitors the dedicated asset portfolio and our coverage of future end-of-lifecycle expenses.

Maintaining strong and recurring operating cash flow allows the group to fund its capital expenditures and create value for its shareholders. Towards that end, the group will continue to improve productivity and expects to achieve double-digit operating margin by 2012.

These main lines of action are the foundation of AREVA's development strategy. Three areas require substantial investment:

- **Human assets:** employee recruitment, integration and training are top priorities to prepare for expected growth. The group recruited 15,049 people in 2008, *i.e.* 20% of the total workforce.
- **Research and development:** R&D projects are oriented towards supporting existing operations and businesses, and developing new business applications. The group's total R&D spending

is expected to double in the years to come, reaching 8% of consolidated revenue in 2012.

- **Industrial Capex:** major investments are required to increase production and expand our geographic footprint. AREVA plans to make capital investments totaling 10 to 12 billion euros over the 2008-2012 period (excluding acquisitions).

In addition, AREVA relies on a large number of strategic partners to contribute specific know-how and knowledge of local markets and customer requirements. Accordingly, we have entered into many partnership agreements in recent years, demonstrating the flexibility of our business model in meeting customer needs. These partnerships are part and parcel of the group's culture and do not necessarily require an equity investment. Partners include:

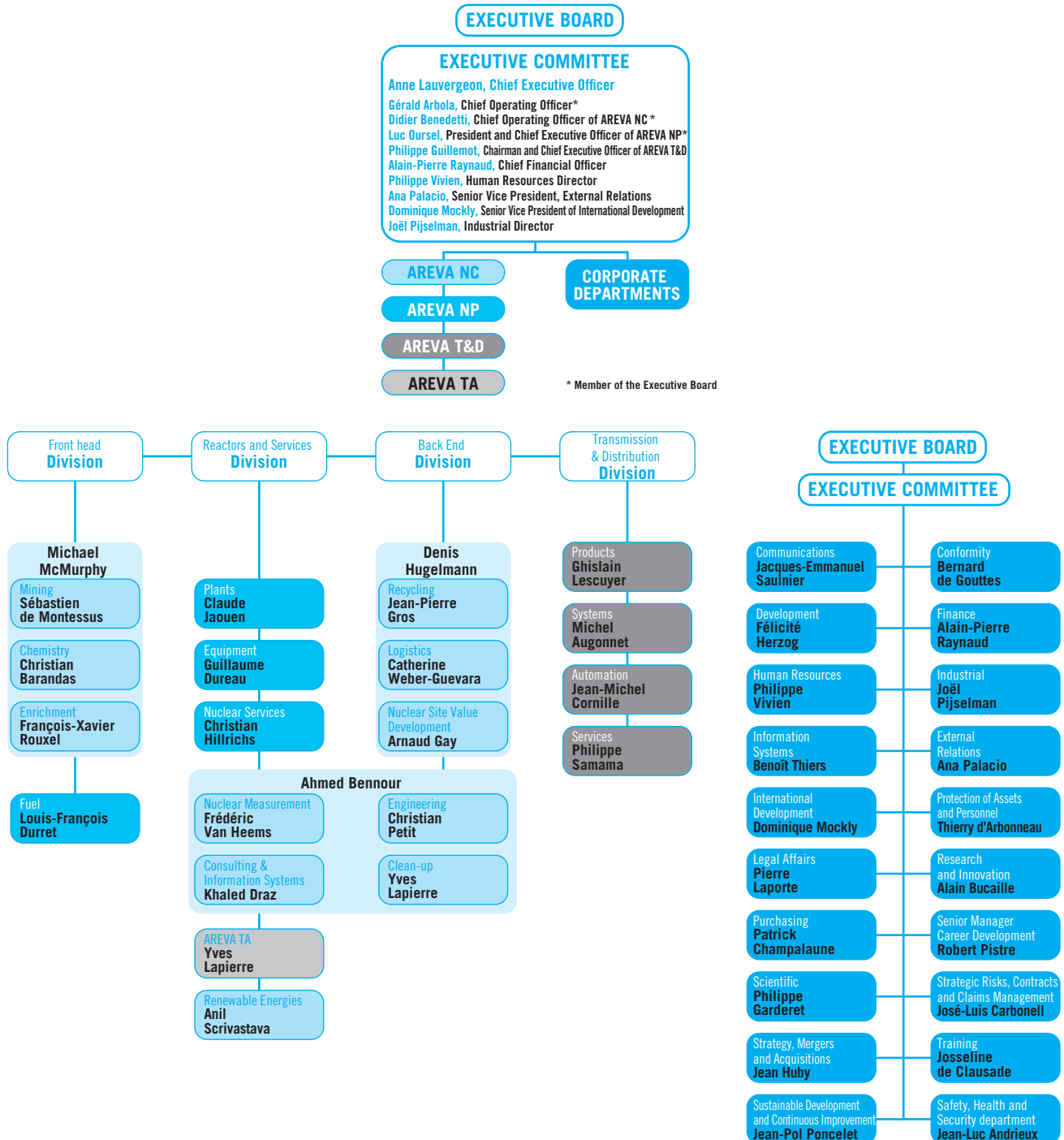
- industrial groups such as Mitsubishi, Japan Steel Works, Total, URENCO, Cameco, Northrop Grumman, and Shanghai Electric;
- engineering groups such as Bechtel, Washington Group, Technip, Aveng, Bouygues, Amec and Shaw;
- customers such as EDF, E.On, Constellation Energy, CGNPC, JNFL and GDF-SUEZ; and
- governments and government-owned companies, including Niger, Kazatomprom of Kazakhstan, CNNC of China, OCP of Morocco, and the Jordan Atomic Energy Commission.

**AREVA intends to carry out its growth strategy according to the principles of sustainable development, a core AREVA value and a key to its operating excellence.** The group incorporates sustainable development into the management methods of each of its businesses through the AREVA Way initiative. Through this initiative, implemented since 2003 and applicable to all of the group's entities, each unit conducts self-assessments of its economic, social and environmental performance in relation to AREVA's sustainable development commitments. Each unit then establishes its own continuous improvement objectives to achieve the group's overall strategic goals. These objectives are reviewed periodically by AREVA's executive management.

### 6.2.3. Operational organization

The AREVA group is organized into four divisions – the Front End, Reactors and Services, Back End, and Transmission & Distribution divisions – which together comprise 20 business units.

The AREVA group's management organization is aligned with the markets to which it provides products and services, as shown below.



### 6.2.4. AREVA's competitive position by business sector

Due to the unique character of the processes involved, each stage in the nuclear cycle constitutes an industry in its own right, with its own technologies and business models. The AREVA group has built up know-how that places it in the lead worldwide, and it has adopted an industrial organization that is consistent with these different business sectors. AREVA is the world leader in civilian nuclear power, as illustrated below.

	Market 2008	CAMECO	URENCO	USEC	AREVA	Toshiba / Westinghouse	NDA/BNG <sup>(2)</sup>	AEP (Russia) <sup>(3)</sup>	General Electric / Hitachi <sup>(4)</sup>	Others
Front End	Mining/Natural uranium*	60,400 t	15-20%		5-10% <sup>(1)</sup>	20-25%		20-25%		20-25%
	Conversion/Chemistry	57,800 t	20-25%		5-10% <sup>(1)</sup>	25-30%		25-30%		20-25%
	Enrichment*	47 M SWU**		20-25%	25-30%	20-25%		20-25%		5-10%
	LWR Enriched Uranium fuel (UO <sub>2</sub> )	6,800 MT				30-35% <sup>(9)</sup>	20-25%	10-15%	15-20%	10-15% (MHI)
Reactors and Services		€15 billion				20-25%	15-20%	5-10%	10-15%	35-40%
Back End	Treatment***	33,200 t				70-75%		10-15% <sup>(5)</sup>	10-15% <sup>(6)</sup>	JNFL <sup>(7)</sup> in future
	Recycling (MOX fuel)***	2,470 t				70-75%		1-5% <sup>(8)</sup>		25-30 % <sup>(9)</sup> (Belgonucléaire) JNFL <sup>(7)</sup> in future )

\* Compared with 2006, the lowering of tails assay linked to rising uranium prices reduced the uranium market and increased the enrichment market.

\*\* Separative work units.

\*\*\* Cumulative amount, in metric tons of heavy metal, of used fuel treated and of MOX fuel fabricated, according to AREVA estimates.

(1) Without mining or conversion facility, USEC sells natural uranium and conversion services provided by its enrichment activity and/or the US DOE.

(2) Nuclear Management Partners Ltd. signed on November 24th 2008 a contract with the NDA for the management and operations of the Sellafield nuclear complex; AREVA is a member of NMP.

(3) AtomEnergProm.

(4) The final decision to merge their nuclear operations was made on July 12th, 2007.

(5) The NDA's Reprocessing Plant (THORP) in Sellafield has restarted its production in 2008.

(6) The RT1 facility is today wholly owned by ROSATOM.

(7) The JNFL's treatment plant (800 MT) is under active testing and the MOX plant (130 MT) is under design.

(8) SMP production remains very low.

(9) Belgonucléaire's Dessel plant ceased production mid 2006.

(10) Including Yi Bin fuel factory (just as Westinghouse' figure includes ENUSA data).

The T&D division has a global market share of 10-12%, compared with 23-25% for ABB and 16-18% for Siemens. The other competitors – Schneider, GE, XD Group, and others – have a the market share of less than 5%.

### 6.2.5. A few fundamental concepts for an understanding of the group's nuclear power operations

#### Using fission energy in nuclear power plants

A nuclear power plant is an electric generating station with one or more reactors. Like all conventional thermal power plants, it consists of a steam supply system that converts water into steam. The steam drives a turbine, which in turn drives a generator, producing electricity.

In nuclear power plants, the only area in which radioactivity is present is the steam supply system, called the “reactor”.

The reactor is enclosed in a reinforced containment building meeting nuclear safety requirements. The three main components needed to sustain, control and cool the fission process in the reactor core are fuel, a moderator and a coolant. The combination of these three components determines the reactor type or model. Several combinations have been tested, but only a few of them have gone beyond the prototype stage to commercial operations.

#### A heat source and a cooling source

Like all other power plants, a nuclear power plant has a heat source (the nuclear steam supply system with its heat exchangers) and a cooling source to remove the resulting heat. This is why power plants are usually built near the sea or a river – the water is used to cool the steam. Many power plants also have cooling towers, where the water is sprayed, evaporating as it falls and dissipating residual heat.

#### Moderator and coolant

During the fission process, neutrons are released at very high speed. As they hit light atoms and slow down, they react much more with the uranium-235 atoms.

Reactors called “thermal neutron” or slow reactors take advantage of this property, which reduces the uranium-235 enrichment level required for the chain reaction. In light water reactors, water is the slowing medium, or moderator, as well as the heat removal medium, or coolant.

#### The world's most prevalent reactor: the pressurized water reactor

In pressurized water reactors (PWRs), the fuel is made of slightly enriched uranium and the moderator and coolant both consist of water.

The reactor core is flooded with pressurized water from the primary cooling system. The fission reaction heats the water. The heat is transferred *via* heat exchangers to water in a secondary cooling system, converting it to steam. The nuclear steam supply system consists of the reactor core and the steam generators. For safety reasons, the primary cooling system is separate from the secondary cooling system, whose steam drives the turbo-generator.

PWR reactors have a triple containment system to prevent the release of radioactive fission products. The primary barrier in this system is the metal cladding around the fuel. The secondary barrier consists of the separate primary and secondary cooling systems. The third barrier is comprised of the nuclear steam supply system enclosed in a concrete containment building designed to contain hazardous products in the event of a leak. Most of the reactors in the French nuclear power program are PWRs, as is the case around the globe.

Boiling water reactors (BWR) are generally comparable to PWRs. The main difference is that the water boils when it is exposed to the fuel and the primary and secondary cooling systems are not separate.

### 6.2.6. A few fundamental concepts for an understanding of the transmission and distribution business

Electricity is generated at relatively low voltages of 10,000 to 25,000 volts. The voltage is increased before the electricity is transmitted. Transmission over high voltage lines (230,000 to 765,000 volts) reduces power losses due to heating and enables electricity to be transported over long distances at low cost.

The electric power supply system consists of the transmission lines and their connection to stations and substations. Electricity moves through the system according to a law of physics known as

“the path of least resistance”, like water flowing through a canal system. Electricity enters a medium voltage distribution system *via* a sub-station. A final substation reduces the voltage to 120 or 240 volts for use by the consumer.

The deregulation of electricity markets and the need to transport electricity across borders require the development of interconnections between power systems operated by different companies.



## 6.3. Business divisions

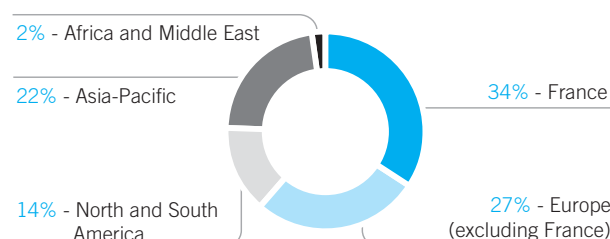
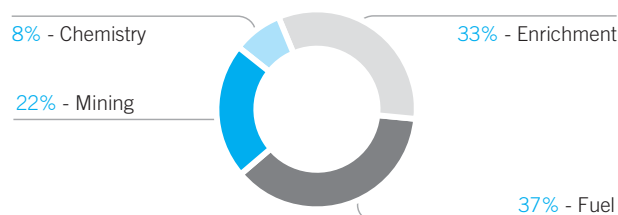
### 6.3.1. Front End division

#### Key data

(in millions of euros, IFRS)	2008	2007
Revenue*	3,363	3,140
Operating income	453	496
Workforce at year end	14,240 employees	12,577 employees

\* Contribution to consolidated revenue.

#### 2008 revenue by business unit and geographical area



#### Overview

**The Front End division represents 26% of AREVA group revenue in 2008.** It combines all of the fuel cycle operations that take place before nuclear power is generated: uranium exploration, mining and concentration; conversion into uranium hexafluoride (UF<sub>6</sub>); uranium enrichment services; and nuclear fuel design and fabrication.

**AREVA operates in every stage of the nuclear fuel cycle.** This gives the group a decided competitive edge enabling it to offer its customers innovative solutions tailored to their requirements. AREVA is one of the top leaders in the front end of the nuclear cycle.

In mining, AREVA is the world's third largest producer of uranium. Its market share in 2008 was approximately 20%, or close to 12,200 metric tons sold. The group has a world-class diversified mining portfolio with operations in Canada, Niger and Kazakhstan. Other deposits are under development in Africa and Canada. The group gained access to additional reserves in Africa when it acquired UraMin Inc. (which has been renamed AREVA Resources Southern Africa).

In Chemistry, AREVA is the one of the world's top suppliers of conversion services, with a market share of around 25%. AREVA has two main sites for uranium conversion operations: Malvési, where ore concentrates are purified, and Pierrelatte, which

produces UF<sub>6</sub>. The group has launched a multi-year program to replace these facilities.

In Enrichment, AREVA is one of the world leaders in enrichment services, with some 24% of the world's available capacity. AREVA has one production site, the Georges-Besse plant at Pierrelatte. A new plant, Georges-Besse II (GBII), is under construction at the same site. The GBII plant will use centrifugation technology. Production will start in 2009. With this new facility, the group will continue to grow in this business segment and secure supplies for its customers, who have already purchased a significant share of the plant's future production.

In Fuel, AREVA ranks first worldwide. It supplies close to 40% of the western world's fuel requirements for pressurized water reactors (PWRs) and boiling water reactors (BWRs). AREVA also supplies fuel to the world's research reactors. The group's industrial operations are diversified at locations in Europe (Germany, France and Belgium) and in the United States.

The group operates mines and manufacturing plants in Europe, North America, Asia and Africa. Its business model is characterized by strong integration of its operations, making it possible to make major long-term investments and to offer all the products and services needed by customers for their reactors.



The division's customers are primarily operators of nuclear power plants (utilities) and research reactors.

Customers retain ownership of the materials used in all these operations. They buy uranium concentrates from AREVA, as well as industrial conversion services, up through production of the fuel assembly. By being active in every segment of the fuel cycle, the group is able to tailor its offer to its customers' specific requirements.

In the current market environment, customers are increasingly concerned about securing their supplies through medium and long term contracts. Customers with new reactors in particular want to secure their requirements in contracts covering a significant percentage of their power plant's service life. The division anticipated this development by strengthening its mining portfolio and investing heavily in new production capacity.

These long-term contractual relations ensure excellent visibility on the division's backlog, which came to nearly 27 billion euros at the end of 2008.

## Strategy and Outlook

The nuclear revival is gaining momentum worldwide, benefiting the division directly. The total annual market for natural uranium is approximately from 60,000 to 65,000 MT; for enriched uranium, it is 50 million separative work units (SWU - see Glossary). In the fuel business, the division mainly serves the market for Western-designed light water reactors, of which there are about 300 worldwide. These reactors require approximately 7,000 MT of fuel each year.

AREVA intends not only to grow its market share in the Front End business, but also to expand with an integrated services offer providing a strong competitive advantage.

The division's strategic objective is to ensure the security of supply for fuel and related materials for existing customers as well as customers acquiring new reactors.

To this end, the group will continue to develop its mineral resources, expand and replace its industrial facilities, and expand its fuel offering.

### Increasing AREVA's mineral resources and production

For more than 15 years, the market for natural uranium has suffered from a severe imbalance between primary supply of uranium and demand.

This imbalance is offset by the use of so-called secondary resources. The secondary resources come from strategic inventories stockpiled by utilities in the 1980s and, beginning in the late 1990s, from the arrival on the market of materials originating in the former Soviet Block. They can also be traced to the arrival on

the civilian market of natural uranium derived by diluting highly enriched uranium (HEU) from dismantled Russian and American weapons.

The "Megatons to Megawatts" agreement between the United States and Russia signed on February 18, 1993 is the first non-proliferation agreement providing for the commercial reuse of fissile materials. Over a 20-year period through 2013, Russia has agreed to convert 500 MT of HEU into low-enriched uranium for civilian use. The HEU enrichment component used in this manner currently comes to about 5.5 million SWU. The natural uranium component, in the form of  $UF_6$ , represents an average of around 9,000 MT of natural uranium per year. AREVA's market share of this component averages around 2,600 MT of natural uranium per year.

Moreover, as the nuclear revival picks up speed, utilities are anticipating growth in the demand for natural uranium.

In response, AREVA undertook a vast program to increase its uranium production and resources over the long term. This requires the development of existing reserves, an increase in exploration spending and an acquisition policy such as the 2007 acquisition of UraMin Inc., a Canadian company now called AREVA Resources Southern Africa.

Increasing production will not only serve existing contracts and ensure their renewal, but will conquer new business as well:

- it will replace depleted secondary resources with primary resources at the beginning of the next decade; and
- it will ensure uranium supply associated with the group's sale of new reactors.

Uranium demand tied to new reactor sales is expected to increase continuously beginning in the middle of the next decade. The group's ability to meet that demand over the long haul will be a decisive competitive advantage for reactor sales.

The group will be able to rely on a large and diversified portfolio of properties, giving it a particularly strong position.

In fact, AREVA has mining rights in three key areas: Canada, Niger and Kazakhstan. With the acquisition of UraMin Inc., the group now also operates in Namibia, South Africa and the Central African Republic.

This diversification of resources is important to secure supplies to utilities, which want long-term guarantees of uranium deliveries. Partnerships may be established with customers interested in co-owning mining assets to secure future supplies.

The group will continue its exploration and acquisition activities over time to maintain reserves at 20 years of production. The global financial crisis may provide new opportunities to develop the group's mining production capacity.

## Replacing and expanding enrichment and conversion plants

The conversion and enrichment markets are structured around a small number of international players in the United States, Europe and Russia. The nuclear revival sweeping the world will translate into strong market growth. AREVA has prepared for this by replacing its facilities.

Beginning in 2007, AREVA decided to renew its conversion production resources by building new production plants to replace existing ones at the Malvési and Tricastin sites in the Aude and Drome departments of France respectively. This is known as the Comurhex II project. Commercial production, with a baseline of 15,000 MT per year, is scheduled to come on line in 2012. Capacity will be stepped up to 21,000 MT of uranium per year as market conditions justify.

In addition the group's existing enrichment plant, Georges-Besse, will be replaced by a new facility named Georges-Besse II. Production will begin in 2009. The new plant uses commercially proven centrifuge enrichment technology, which will make enrichment prices less dependent on the price of electricity, which is the primary cost component of a gaseous diffusion plant such as Georges-Besse. Some customers have expressed an interest in becoming shareholders in the new plant. For instance, in 2008, the GDF-SUEZ group acquired 5% of the share capital of Société d'Enrichissement du Tricastin (SET), which operates the Georges-Besse II plant.

AREVA is also planning to expand in the United States: the group will build the Eagle Rock Enrichment Facility in Idaho to serve the fast growing US enrichment market.

The Comurhex II, Georges-Besse II and Eagle Rock Enrichment Facility projects, combined with the group's other major projects, will enable AREVA to secure its position as a sustainable and integrated player in the front end of the fuel cycle that supports the sale of new reactors while continuing to provide services to existing reactors.

## Setting the standard for fuel assembly supply

The fuel fabrication industry has strong barriers to entry consisting of a wide range of technical specifications which only reactor designers can fully grasp. It is nonetheless still a highly competitive market, given the excess production capacity that exists worldwide. Market growth is also a function of installed generating capacity and plant load factors, minus the effect of heightened fuel performance.

AREVA supplies one third of the market and intends to preserve its leadership position. Every unit of the group is mobilized to ensure the quality and performance of its products by improving their operating characteristics and reducing reactor operating costs, and to renew its range of PWR and BWR products by designing new and even more innovative products.

## Multiplying internal synergies to compete more effectively

AREVA's main competitors operate in only part of the front end of the cycle. These competitors are Cameco in the Mining and Chemistry businesses, Converdyn in conversion, URENCO and USEC in the Enrichment business, and Westinghouse, General Electric and their Japanese partners in Fuel. For several years, these competitors have taken steps to migrate to an integrated model. Russia's nuclear industry, which is now unified through AtomEnergProm, currently appears to be the only player that may eventually be able to offer products and services spanning the entire front end to compete with AREVA.

At a time when pressures are taking shape in certain segments of the nuclear cycle, AREVA intends to provide its customers the added value of its unique positioning in every step of the fuel cycle and to develop innovative offers by harvesting internal synergies, particularly through the AREVA Solutions program.

### 6.3.1.1. Mining business unit

#### 6.3.1.1.1. Key data

(in millions of euros)	2008	2007
Revenue <sup>(1)</sup>	770	728
Workforce at year end	4,602 employees*	3,525 employees

\* Workforce proportionate to percentage of AREVA's stake in mining joint ventures (uranium and gold operations combined). In all, 6,164 people worked at the mine sites operated by AREVA in 2008.

(1) Contribution to consolidated revenue.

#### 6.3.1.1.2. Businesses

In addition to uranium trading, the Mining business unit's four main activities are:

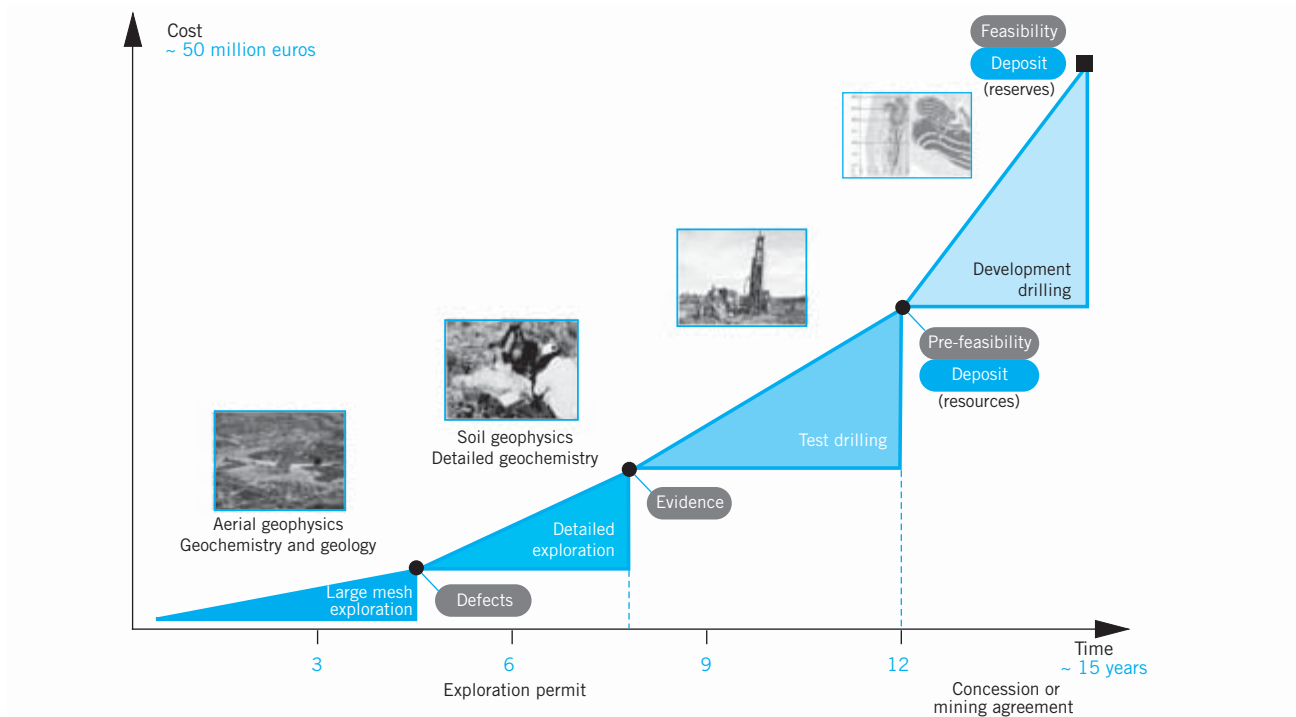
- mineral exploration, *i.e.* discovering new ore bodies for future mining;
- mining operations: ore extraction using various methods and techniques;
- ore processing: concentration of uranium contained in ore using chemical processes;
- site reclamation after mining: restoration of mine sites in accordance with applicable environmental standards.

The group's mining operations focus first and foremost on uranium. A relatively abundant metal that is evenly distributed in the earth's crust, natural uranium contains two main isotopes: 99% of the natural uranium is non-fissile  $U_{238}$ , while 0.7% is fissile  $U_{235}$ .

AREVA also produces gold through La Mancha, a subsidiary established on September 28, 2006 by combining the group's gold assets with those of Canadian company La Mancha Resources Inc. This diversification into gold began in the 1980s and helped maintain mining know-how at a time when the uranium market was depressed.

Mining operations cover particularly long cycles requiring significant capital expenditures over several years before the operations themselves begin, *i.e.* until the first deliveries of uranium are made and the first sales proceeds collected. Then cash flow increases before once again falling off in the final years of operation.

### Uranium mining business model: from exploration to mining feasibility\*



\* Before licensing (exploration and construction permit process: 5 to 10 years).  
Source: AREVA.

The first phases of exploration consist of detecting surface or subterranean mineral indicators using aerial or ground geophysics (gravimetry, electromagnetics, radiometry) as well as surface geological surveys. AREVA selects targets for their promising mineralization history. This is followed by test drilling to develop an initial estimate of the deposit's resources.

Once the attractiveness of the deposit has been confirmed, the drilling grid is tightened to refine the estimate of resources and confirm mining feasibility, both technically and economically (reclassification from resource to reserve).

These operations, which require an exploration permit that eventually confers mining rights, take an average of 10 to 15 years.

Once the technical and financial feasibility has been demonstrated, the ore is mined, either from open pit or underground mines, or using *in situ* recovery techniques (see Glossary). The choice of method is dictated by the ore body's characteristics.

Ore extracted from open pit and underground mines is transported to a processing plant. There, it is milled and the ore is attacked, usually with acidic solutions. The uranium is extracted from the resulting liquor using organic solutions or ion exchange resins. It is then precipitated and dried to produce a concentrate called "yellowcake". This product is packaged and shipped to the conversion plant of the customer's choice.

In-situ recovery techniques are used to recover uranium from low grade or very low grade deposits. In-situ leaching can often be implemented quickly. The method consists of injecting an oxidizing solution into the mineralized area to dissolve the uranium selectively. The solution is then pumped to the surface and processed in special plants.

Mining reclamation is an important activity that calls for specific mining and civil engineering techniques and involves many areas of expertise.

#### 6.3.1.1.3. Manufacturing and human resources

The Mining business unit has staff on five continents. The uranium production sites are located in three countries: Canada, Niger and Kazakhstan.

### Main production sites of the Mining business unit



#### > CANADIAN SITES

AREVA receives production from two mine sites in Canada: McClean Lake, operated by AREVA, and McArthur River, operated by a joint venture with Cameco Corporation. A third deposit, Cigar Lake, also operated by Cameco Corporation, could come into production in the coming years. Production startup at the Midwest site, initially scheduled for 2011, was postponed.

These sites are located approximately 600 kilometers north of Saskatoon in the Athabasca basin of Saskatchewan Province.

The group deploys ISO 14001-compliant environmental management systems at all sites and for all operations. McClean Lake, Cluff Lake (shut down five years ago) and the group's exploration activities were all certified under ISO 14001 in 2000 and 2004.

For the past three years, AREVA has stepped up its exploration efforts in Canada, particularly in the Athabasca basin, which remains the country's most promising region for uranium mining, but also in Quebec and Nunavut.

### McClellan Lake

AREVA operates McClellan Lake and is a 70% owner alongside Denison Mines Ltd, which has a 22.5% stake, and Overseas Uranium Resources Development Company Ltd of Japan (Ourd), which owns 7.5%.

Uranium production started in 1999 with ore extraction from small deposits near the surface.

The ore is processed in the Jeb mill, commissioned less than ten years ago. The plant can produce approximately 8 million pounds of  $U_3O_8$  per year (3,000 metric tons). The joint venture between AREVA and its partners has 450 employees, 40% of whom come from the local community.

### McArthur River

McArthur River is operated by Cameco Corporation, which holds a 69.8% interest (AREVA 30.2%). McArthur is the largest high grade uranium deposit in the world. The deposit was discovered in 1988 and mining began in December 1999.

Remotely operated equipment is used to mine the deposit to prevent direct exposure of the miners to the very high-grade ore body. The ore is processed at the Key Lake mill located about 100 kilometers south of the deposit. The mill is operated by Cameco Corporation, which holds an 83.3% interest (AREVA 16.7%). This joint venture employs about 310 people.

New operating procedures and new pumping capacities have been successfully implemented under the oversight of province regulators since the excavation incident that occurred in 2003, causing partial flooding of the mine.

### Cigar Lake

Cigar Lake will be operated by a joint venture consisting of Cameco Corporation (50.03%), AREVA (37.1%), Idemitsu Uranium Exploration Canada Ltd (7.88%) and Tepco Resources Inc. (5%).

Cigar Lake is the world's second largest high grade uranium deposit, after McArthur River.

AREVA discovered the deposit in 1981 and contributed to the development of the mining method. Located 450 meters below the surface in fractured, water-saturated rock, the deposit cannot be mined with conventional methods. Freeze technology is used to harden the ground. The ore is removed with high pressure water jets (jet boring technique). Infrastructure drifts are all located in more solid rock under the deposit to position equipment, drill the ore body to freeze the ground, and mine it by jet boring.

Following receipt of the administrative permits, the partners decided to mine the deposit in December 2004 and launched the construction phase.

On October 23, 2006, the tunnel used to access the upper area of the ore body collapsed partially just below the water table, completely flooding the mine. Borehole drilling from the surface to plug the collapsed drift with concrete was completed. At this stage, Cameco believed that operations could restart in the coming years, subject to approval by the Canadian Nuclear Safety Commission (CNSC). Pumping operations were interrupted in August 2008 when the water inflow increased in the mine. Production is now unlikely to begin before 2012.

Cigar Lake should produce 6,900 MT of uranium per year at full capacity (18 million pounds of  $U_3O_8$ ). The ore will be processed at the McClellan and Rabbit Lake mills during the first phase of operations, lasting approximately 15 years.

### Midwest

AREVA owns 69.16% of the Midwest project and is the designated operator. Denison and OURD own 25.17% and 5.67% of the project respectively. Total anticipated annual production is approximately 3,000 MT of uranium. The ore will be processed by the Jeb mill. The feasibility study has been completed and the environmental impact study was submitted in October 2007. The Mae deposit may contribute additional resources representing 50% of these reserves. Production start-up has been postponed for this project.

### > NIGER SITES

CEA exploration teams detected uranium in Niger at the end of the 1950s. The uranium deposit is located in the piedmont plains west of the granitic Air mountains. The deposits are sedimentary.

Two companies, Somaïr and Cominak, were established to operate the mines, located 1200 kilometers north of Niamey. Mining development led to the creation of two new cities, Arlit and Akokan.

Approximately 2,000 people work at these sites, in addition to 160 employees at AREVA NC's Niger platform based in Niamey. In addition to providing jobs, the operating companies offer health, social and educational services to the local populations of this isolated area.

As of today, deposits have only been mined in the Arlit region. AREVA's concession covers 360 square kilometers (140 square miles). Both Somaïr and Cominak have ISO 14001 certification.

The discovery of new deposits in this uranium-rich province is a strong probability. The group is therefore conducting a major exploration program and the business unit submitted 19 new permit applications in 2006 that comply with the terms of Nigerian mining law. Nine of these applications, considered high priority projects, were submitted to the Ministry of Mining and Energy at the beginning of 2007. AREVA received four of the nine permits requested.

### Somaïr

Somaïr (Société des Mines de l'Aïr) was established in 1968. The company is operated by AREVA, which owns 63.4% of the share capital, with the government of Niger owning the remaining 36.6% through SOPAMIN, the Niger mining assets company.

Somaïr has operated several mines near Arlit since 1971. The ore is extracted in open pit mines and processed in a 2,000 MT mill (5.2 million pounds of  $U_3O_8$ ) at the site. Somaïr employs about 800 people.

### Cominak

Cominak (Compagnie Minière d'Akouta) was established in 1974. AREVA is the operator of the company and owns 34% of its shares. Other shareholders are SOPAMIN, the Niger mining assets company of Niger (31%), Overseas Uranium Development Company (Ourd) (25%), and Enusa Industrias Avanzadas S.A of Spain (10%).

Since 1978, Cominak has operated Akouta and Akola, two large deposits near the town of Akokan. The ore is extracted underground. The site mill has a capacity of 2,000 MT of uranium per year (5.2 million pounds of  $U_3O_8$ ). Cominak employs about 1,200 people.

### Imouraren project

In July 2006, AREVA received an exploration permit for Imouraren, 80 kilometers south of Arlit. The permit includes an ore body discovered in 1966 which was to have been operated in the 1980s. Operations had to be suspended when the market collapsed. AREVA has decided to restart the project now that market conditions are more favorable. The feasibility study was completed in December 2007 and was filed in April 2008. AREVA received the mining permit for the deposit in early January 2009.

### > KAZAKHSTAN SITES

The mining company Katco was established in 1997 to develop and operate the Muyunkum and Tortkuduk deposits in southern Kazakhstan, approximately 250 kilometers north of Simkent. The company headquarters are located in Almaty.

Shareholders include AREVA (51%) and the Kazakh company Kazatomprom (49%), which is responsible for overseeing national nuclear operations, particularly natural uranium production.

Development of the two mine sites, located approximately 100 kilometers apart, started in April 2004 after the signature of a series of agreements between the shareholders. These agreements followed a feasibility study lasting more than three years with a full-scale pilot plant. The initial objective for nominal production was 1,500 MT of uranium per year (3.9 million pounds of  $U_3O_8$ ) for both deposits. Katco produced 1,356 MT of uranium in 2008. It is now the largest *in-situ* recovery operation (see Glossary) in the world.

Considering the size of the deposits, the prospects for ore discovery in new areas under permit to the company, and the recent 35-year

extension of Katco's underground mining concession, production could be increased by 4,000 MT beginning in 2012.

### > URAMIN INC. SITES (AREVA RESOURCES SOUTHERN AFRICA)

Following the acquisition of UraMin Inc. in July 2007, the business unit launched the development of the Trekkopje site in Namibia. Production is expected to begin in 2009/2010. Processing tests are currently in progress at the site. Development has begun of the Ryst Kuil project in South Africa and the Bakouma project in the Central African Republic.

### > SITE RECLAMATION

The group has spent more than 400 million euros to date to dismantle mining facilities and reclaim 13 sites in France, Gabon, the United States and Canada. Once reclamation has been completed, the land is reseeded and monitored, which involves monitoring and analysis of numerous environmental parameters. Monitoring is conducted as part of AREVA's environmental management system over a period of time determined by the improvement and stability of chemical and radiological parameters, with objectives going well beyond the regulatory requirements. This period is specific to the site's natural characteristics as well as to local community expectations. Experience to date indicates that this period is generally 10 years or more.

In France, mill tailings are inventoried by ANDRA, the French radioactive waste management agency. AREVA remains the owner of the tailings, which are subject to specific radiological and environmental monitoring certified under ISO 14001.

## 6.3.1.1.4. Market and competitive position

### > MARKET

The demand for uranium by nuclear power programs worldwide, expressed in natural uranium equivalent, was around 62,000 MT in 2008. Demand has risen modestly over the last five years, from 0.5% to 1% per year, reflecting increased load factors, the commissioning of new reactors, and increased capacity at an ever growing number of reactors. In addition, some utilities, seeking to rebuild their inventories, have contributed to rising demand over the past two years.

World production increased slightly in 2008 to about 43,000 MT, from 41,770 MT in 2007. It was boosted by capacity increases at existing mines (Katco, Langer Heinrich, Rössing) and the start of production at new mines in Kazakhstan, despite difficulties encountered at certain operating mines (Key Lake).

World production continues to cover a little less than two thirds of uranium consumption; the balance is satisfied with secondary sources (excess inventories held by some utilities and fuel cycle companies, material from diluted HEU, use of MOX fuel, uranium from used fuel treatment, re-enriched uranium tails – see Glossary).

Due to the depletion of excess uranium inventories, particularly those of the utilities and those stockpiled in Russia, primary



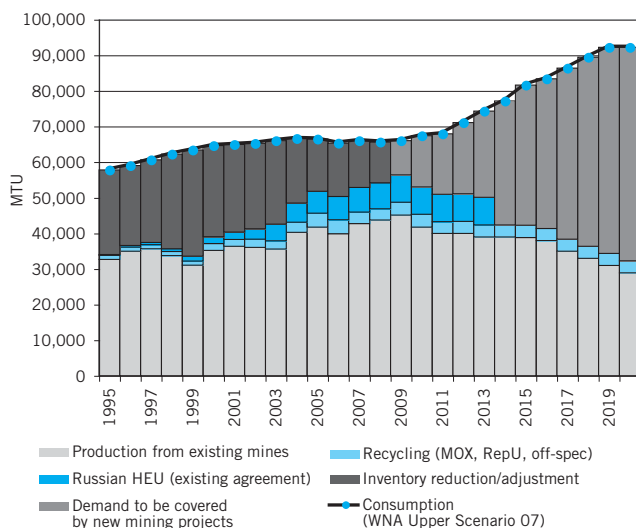
sources will represent a growing share of supply and demand, as shown in the chart below.

The increase in production will be the result of new mines offsetting lower mine production and shut-downs expected after 2010.

These projects include Cigar Lake, Midwest and Kiggavik in Canada, various projects in Kazakhstan, the Ukraine and Russia, Imouraren in Niger, Trekkopje and the Rossing expansion in Namibia, and the expansions of Ranger and Olympic Dam in Australia.

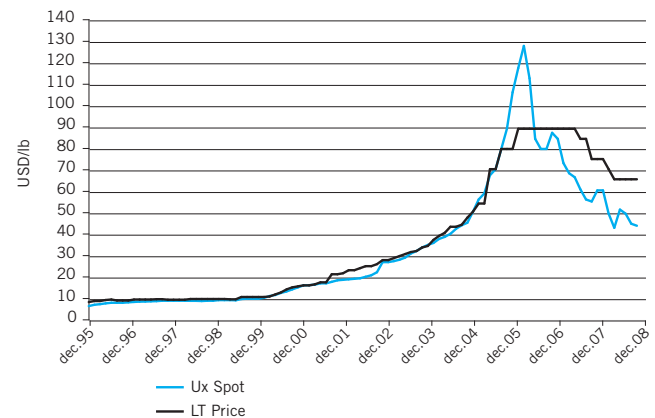
Junior mining companies are not expected to make a significant contribution to production for approximately ten years. Two formerly junior companies are the exception: Uranium One and Paladin, which have become real producers.

#### > WORLD SUPPLY AND DEMAND



Source: based on WNA 2007 data.

#### > URANIUM PRICE INDICATORS, 2001-2008 (IN CURRENT US DOLLARS)



Source: UxC.

The need for primary production to once again become the main and lasting source of supply, combined with steady purchases by investment funds, kept pressure on uranium prices in 2007, and was reinforced by announcements of delayed production at Cigar Lake and Midwest.

The spot price rose sharply in 2007, peaking at 135 US dollars per pound in June 2007 and falling steadily since then. Despite a brief upturn in the summer of 2008, it continued to fall, nearing 40 US dollars per pound at the end of March 2009. This drop is indicative of imbalance in the market, with a slight increase in primary production on the one hand and continuing secondary resources and lagging demand due to the economic crisis on the other. The long-term price stabilized in late 2008/early 2009 at around 70 US dollars (vs. 90 US dollars previously).



## &gt; ESTIMATED WORLD PRODUCTION IN 2008

## Top ten uranium producing countries

Rank	Country	Production tU	%
1	Canada	9,000	20.8%
2	Kazakhstan	8,521	19.7%
3	Australia	8,470	19.6%
4	Namibia	4,345	10.0%
5	Russia	3,521	8.1%
6	Uzbekistan	2,300	5.3%
7	USA	1,507	3.5%
8	China	950	2.2%
9	Ukraine	830	1.9%
10	Niger	332	0.8%
<b>Total top 10</b>		<b>42,476</b>	<b>98.1%</b>
	Other	824	1.8%
<b>World Production</b>		<b>43,300</b>	<b>100.0%</b>

Source AREVA.

## Top ten uranium producers

Rank	Producer	Production	%
1	Rio Tinto	7,955	18.4%
2	Cameco	6,517	15.1%
3	AREVA	6,307	14.6%
4	Kazatomprom	5,691	13.1%
5	ATOMREDMET ZOLOTTO	3,687	8.5%
6	BHP-Bill/ODM	3,384	7.8%
7	Navoi/Uzbekistan	2,300	5.3%
8	Uranium One	1,102	2.5%
9	Chine CNNC	950	2.2%
10	Paladin	917	2.1%
<b>Total top 10</b>		<b>38,810</b>	<b>89.6%</b>
	Other	4,490	10.4%
<b>Worldwide production</b>		<b>43,300</b>	<b>100.0%</b>

Source AREVA.

## 6.3.1.1.5. Resources, reserves and production sites

## &gt; URANIUM

Mineral reserves in deposits accessible to the group come to 237,569 metric tons of uranium. Reserves in the ground are supplemented with so-called secondary sources. In particular, AREVA has access to the equivalent of close to 2,600 MT of natural uranium per year through 2013 in connection so-called "Russian HEU" agreements to reuse uranium from Russia's dismantled nuclear weapons.

As in 2007, the 2008 annual report was prepared based on mineral resources in the ground to ensure consistency with reporting methods used by the group's partners and competitors.

The volume of resources that may reasonably be expected to be upgraded to reserves in the mid term (measured and indicated resources) is 91,210 MT. This figure reflects a significant effort by the group to develop and bring into production its portfolio of resources, particularly with the acquisition of UraMin Inc. and the acceleration of exploration, which has already allowed a substantial portion of its resources to be upgraded to reserves. The volume of inferred resources accessible to AREVA is 156,327 MT.

The development of projects initially suspended for economic reasons decreases the potential of other mineral resources in the ground, which are preserved for the longer term. They came to 57,910 MT as of the end of 2008.

The group's resources and reserves at year-end 2008, together with its uranium production in 2008, are shown in the tables below. Uranium from diluted Russian HEU and other secondary sources is not included.

## Estimating methods

AREVA's resources and reserves are estimated based on data gathered by the group's employees or taken from audited reports. The business unit's Reserves department is responsible for these estimates.

In Canada, the group's reserves are the subject of independent estimates or audit reports by the shareholders of the companies operating the mines.

See the Glossary for definitions of "mineral reserves in the ground", "mineral resources in the ground", and "other mineral resources in the ground".

## AREVA equity interests in uranium projects

Country	Site	Operator	AREVA share		Type*
			Share in JV (%)	Available to AREVA** (%)	
South Africa	Ryst Kuil Project	AREVA NC	74.00%	74.00%	n.d.
Australia	Koongarra	AREVA NC	100.00%	100.00%	OP
Canada	Cigar Lake	Cameco	37.10%	37.10%	UG
Canada	Dawn Lake	Cameco	23.09%	23.09%	n.d.
Canada	Key Lake	Cameco	16.67%	16.67%	OP
Canada	Kiggavik	AREVA NC	99.00%	99.00%	OP
Canada	McArthur	Cameco	30.20%	30.20%	UG
Canada	McClean	AREVA NC	70.00%	70.00%	OP/UG
Canada	Midwest	AREVA NC	69.16%	69.16%	OP
Canada	Millennium	Cameco	27.94%	27.94%	UG
Canada	Sissons Schultz	AREVA NC	50.00%	50.00%	OP/UG
United States	Malco Texas	AREVA NC	71.00%	71.00%	ISR
United States	Malco Wyoming	AREVA NC	71.00%	71.00%	ISR
United States	Pathfinder	AREVA NC	100.00%	100.00%	OP
France	AREVA NC France	AREVA NC	100.00%	100.00%	n.d.
Kazakhstan	Katco	AREVA NC	51.00%	100.00%	ISR
Mongolia	Dulaan Uul	AREVA NC	70.00%	70.00%	n.d.
Namibia	Trekkopje Project	AREVA NC	100.00%	100.00%	OP
Niger	Arlit Concession	AREVA NC	100.00%	100.00%	n.d.
Niger	Cominak	AREVA NC	34.00%	46.40%	UG
Niger	Imouraren TD and TS	AREVA NC	66.65%	65.00%	OP
Niger	Somair	AREVA NC	63.40%	100.00%	OP/UG
Central African Republic	Bakouma	AREVA NC	100.00%	88.00%	n.d.

\* Type of operation: ISR: In Situ Recovery; OP: Open Pit; UG: Underground; n.d.: not defined.

\*\* Quantity of uranium likely to be sold/distributed to AREVA by the mining joint venture.

Source: AREVA.

**2008 production**

In metric tons of uranium (MTU)

		Total	Share in JV	Available share (*)	Type
Country	Site	2008	2008	2008	
		MTU	MTU	MTU	
Canada	McArthur	6,383	1,927	1,927	Mill
Canada	McClellan	1,249	875	875	Mill
<b>Total</b>	<b>Canada</b>	<b>7,632</b>	<b>2,802</b>	<b>2,802</b>	
France	Hérault Mining Division	5	5	5	Rehabilitation
<b>Total</b>	<b>France</b>	<b>5</b>	<b>5</b>	<b>5</b>	
Kazakhstan	Katco	1,356	692	1,356	ISR
<b>Total</b>	<b>Kazakhstan</b>	<b>1,356</b>	<b>692</b>	<b>1,356</b>	
Niger	Cominak	1,289	438	401	Mill
Niger	Somaïr	1,743	1,105	1,743	Mill
Total	<b>Niger</b>	<b>3,032</b>	<b>1,543</b>	<b>2,144</b>	
<b>Total</b>		<b>12,025</b>	<b>5,042</b>	<b>6,307</b>	

\* Share available to AREVA: Share of resources and production likely to be sold/distributed to AREVA NC by the mining joint venture. For reserves, this share corresponds to uranium in concentrates, i.e. taking into account mining and milling recovery.

Source: AREVA.

## Mineral reserves in the ground

In metric tons of uranium (MTU) (estimates as of year-end 2008)

Country	Site	Proven			Probable			Total reserves			Recovery	AREVA share	
		Mineral	Grade	Metal	Mineral	Grade	Metal	Mineral	Grade	Metal		Share in JV <sup>(*)</sup>	Available to AREVA <sup>(*)</sup>
		KT	%U	MTU	KT	%U	MTU	KT	%U	MTU	%	MTU	MTU
Canada	Cigar Lake	497	175.14	87,045	0	0.00	0	497	175.14	87,045	98.50%	31,809	31,809
Canada	Key Lake	62	4.40	272	0	0.00	0	62	4.40	272	97.90%	44	44
Canada	McArthur	450	145.50	65,436	280	223.31	62,510	730	175.35	127,946	97.90%	37,822	37,822
Canada	McClellan	376	6.66	2,502	0	0.00	0	376	6.66	2,502	96.00%	1,681	1,681
<b>Total</b>	<b>Canada</b>	<b>1,384</b>	<b>112.16</b>	<b>155,256</b>	<b>280</b>	<b>223.31</b>	<b>62,510</b>	<b>1,664</b>	<b>130.86</b>	<b>217,766</b>	<b>98.12%</b>	<b>71,357</b>	<b>71,357</b>
Kazakhstan	Katco	894	0.66	590	33,129	0.81	26,678	34,023	0.80	27,268	79.04%	10,992	21,554
<b>Total</b>	<b>Kazakhstan</b>	<b>894</b>	<b>0.66</b>	<b>590</b>	<b>33,129</b>	<b>0.81</b>	<b>26,678</b>	<b>34,023</b>	<b>0.80</b>	<b>27,268</b>	<b>79.04%</b>	<b>10,992</b>	<b>21,554</b>
Niger	Cominak	1,648	3.47	5,716	5,344	3.70	19,750	6,992	3.64	25,466	96.20%	8,329	11,367
Niger	Imouraren TD	38,728	1.10	42,583	89,512	1.05	94,386	128,240	1.07	136,969	93.35%	89,502	89,502
Niger	Imouraren TS	25,569	0.47	11,936	75,066	0.46	34,615	100,635	0.46	46,551	62.42%	20,340	20,340
Niger	Somaïr <sup>(1)</sup>	7,253	2.17	15,739	3,171	2.86	9,065	10,424	2.38	24,804	94.39%	14,844	23,413
<b>Total</b>	<b>Niger</b>	<b>73,198</b>	<b>1.04</b>	<b>75,974</b>	<b>173,093</b>	<b>0.91</b>	<b>157,816</b>	<b>246,292</b>	<b>0.95</b>	<b>233,790</b>	<b>87.61%</b>	<b>133,015</b>	<b>144,622</b>
<b>Total</b>		<b>75,477</b>	<b>3.07</b>	<b>231,820</b>	<b>206,502</b>	<b>1.20</b>	<b>247,005</b>	<b>281,979</b>	<b>1.70</b>	<b>478,824</b>		<b>215,365</b>	<b>237,533</b>

(1) Somaïr's lease does not cover all of the Artois deposit. An application will be submitted soon to expand the lease area. Proven reserves reported here include all of the Artois deposit, including 0.492 million MT of ore at 1.89% outside the lease, i.e. 928 MT of uranium.

\* Share of resources and production likely to be sold/distributed to AREVA by the mining joint venture.

Note: The terms "proven" and "probable" correspond to the level of reliability in estimates of mineral reserves in terms of volume, grade, density, form and physical characteristics (see Glossary).

Source: AREVA.

## Mineral resources in the ground

In metric tons of uranium (MTU) (estimates as of year-end 2008)

Country	Site	Measured			Indicated			Measured + indicated			AREVA share
		Mineral	Grade	Metal	Mineral	Grade	Metal	Mineral	Grade	Metal	Available to AREVA Mes + Ind (*)
		KT	%U	MTU	KT	%U	MTU	KT	%U	MTU	MTU
South Africa	Ryst Kuil Project	0	0.00	0	0	0.00	0	0	0.00	0	0
<b>Total</b>	<b>South Africa</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>
Canada	Cigar Lake	0	0.00	0	61	41.62	2,539	61	41.62	2,539	942
Canada	Kiggavik	0	0.00	0	0	0.00	0	0	0.00	0	0
Canada	McArthur	209	77.95	16,298	40	71.01	2,830	249	76.84	19,129	5,776
Canada	McClean	192	21.39	4,115	118	15.13	1,785	310	19.01	5,900	4,130
Canada	Midwest	0	0.00	0	1,103	14.81	16,340	1,103	14.81	16,340	11,301
Canada	Millennium	0	0.00	0	469	38.38	18,002	469	38.38	18,002	5,029
Canada	Sissons Schultz	0	0.00	0	0	0.00	0	0	0.00	0	0
<b>Total</b>	<b>Canada</b>	<b>401</b>	<b>50.85</b>	<b>20,413</b>	<b>1,791</b>	<b>23.17</b>	<b>41,496</b>	<b>2,192</b>	<b>28.24</b>	<b>61,909</b>	<b>27,177</b>
Kazakhstan	Katco	0	0.00	0	0	0.00	0	0	0.00	0	0
<b>Total</b>	<b>Kazakhstan</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>
Mongolia	Dulaan Uul	0	0.00	0	0	0.00	0	0	0.00	0	0
<b>Total</b>	<b>Mongolia</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>
Namibia	Trekopje Project	6,587	0.13	872	327,854	0.13	41,472	334,441	0.13	42,344	42,344
<b>Total</b>	<b>Namibia</b>	<b>6,587</b>	<b>0.13</b>	<b>872</b>	<b>327,854</b>	<b>0.13</b>	<b>41,472</b>	<b>334,441</b>	<b>0.13</b>	<b>42,344</b>	<b>42,344</b>
Niger	Arlit Concession	0	0.00	0	0	0.00	0	0	0.00	0	0
Niger	Cominak	0	0.00	0	163	3.93	639	163	3.93	639	296
Niger	Imouraren TD	0	0.00	0	0	0.00	0	0	0.00	0	0
Niger	Imouraren TS	0	0.00	0	11,023	0.78	8,612	11,023	0.78	8,612	6,028
Niger	Somair <sup>(1)</sup>	12,036	0.87	10,464	4,673	1.05	4,900	16,709	0.92	15,364	15,364
<b>Total</b>	<b>Niger</b>	<b>12,036</b>	<b>0.87</b>	<b>10,464</b>	<b>15,858</b>	<b>0.89</b>	<b>14,151</b>	<b>27,895</b>	<b>0.88</b>	<b>24,615</b>	<b>21,689</b>
Central African Republic	Bakouma	0	0.00	0	0	0.00	0	0	0.00	0	0
<b>Total</b>	<b>Central African Republic</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>
<b>Total</b>		<b>19,025</b>	<b>1.67</b>	<b>31,749</b>	<b>345,503</b>	<b>0.28</b>	<b>97,119</b>	<b>364,528</b>	<b>0.35</b>	<b>128,868</b>	<b>91,210</b>

(1) Somair's lease does not cover all of the Artois deposit. An application will be submitted soon to expand the lease area. Measured resources reported here include all of the Artois deposit, including 1.15 million MT of ore at 0.83% outside the lease, i.e. 958 MT of uranium.

\* Share of resources and production likely to be sold/distributed to AREVA by the mining joint venture.

Note: The terms "measured", "indicated" and "inferred" correspond to the level of reliability in estimates of mineral resources in terms of volume, grade, density, form and physical characteristics (see Glossary).

Source: AREVA.

## Mineral resources in the ground (continued)

Country	Site	Inferred			Available to AREVA Inf (*)
		Mineral	Grade	Metal	
		KT	%U	MTU	MTU
South Africa	Ryst Kuil Project	9,095	0.85	7,733	5,722
<b>Total</b>	<b>South Africa</b>	<b>9,095</b>	<b>0.85</b>	<b>7,733</b>	<b>5,722</b>
Canada	Cigar Lake	317	143.43	45,466	16,868
Canada	Kiggavik	5,673	2.74	15,553	15,398
Canada	McArthur	643	83.20	53,471	16,146
Canada	McClellan	0	0.00	0	0
Canada	Midwest	9	180.65	1,662	1,149
Canada	Millennium	214	17.43	3,731	1,042
Canada	Sissons Schultz	16,673	2.02	33,600	16,800
<b>Total</b>	<b>Canada</b>	<b>23,529</b>	<b>6.52</b>	<b>153,484</b>	<b>67,403</b>
Kazakhstan	Katco	19,359	0.75	14,510	14,510
<b>Total</b>	<b>Kazakhstan</b>	<b>19,359</b>	<b>0.75</b>	<b>14,510</b>	<b>14,510</b>
Mongolia	Dulaan Uul	59,044	0.17	9,888	6,922
<b>Total</b>	<b>Mongolia</b>	<b>59,044</b>	<b>0.17</b>	<b>9,888</b>	<b>6,922</b>
Namibia	Trekopje Project	28,968	0.11	3,099	3,099
<b>Total</b>	<b>Namibia</b>	<b>28,968</b>	<b>0.11</b>	<b>3,099</b>	<b>3,099</b>
Niger	Arlit Concession	12,845	1.59	20,403	20,403
Niger	Cominak	8,759	2.72	23,817	11,051
Niger	Imouraren TD	6,925	0.98	6,798	4,759
Niger	Imouraren TS	7,295	0.46	3,329	2,330
Niger	Somair <sup>(1)</sup>	5,507	2.06	11,367	11,367
<b>Total</b>	<b>Niger</b>	<b>41,332</b>	<b>1.59</b>	<b>65,714</b>	<b>49,910</b>
Central African Republic	Bakouma	5,740	1.72	9,896	8,709
<b>Total</b>	<b>Central African Republic</b>	<b>5,740</b>	<b>1.72</b>	<b>9,896</b>	<b>8,709</b>
<b>Total</b>		<b>187,066</b>	<b>1.41</b>	<b>264,323</b>	<b>156,274</b>

(1) Somair's lease does not cover all of the Artois deposit. An application to expand the lease area is in progress. Measured resources reported here include all of the Artois deposit, including 1.15 million MT of ore at 0.83% outside the lease, i.e. 958 MT of uranium.

\* Share of resources and production likely to be sold/distributed to AREVA by the mining joint venture.

Note: The terms "measured", "indicated" and "inferred" correspond to the degree of reliability of mineral resource estimates in terms of volume, grade, density, form and physical characteristics (see Glossary).

Source: AREVA.

### Other mineral resources in the ground

In metric tons of uranium (MTU) (estimates as of year-end 2008)

Country	Site	Measured			Indicated			Measured + indicated			AREVA share
		Mineral	Grade	Metal	Mineral	Grade	Metal	Mineral	Grade	Metal	Available to AREVA Mes + Ind <sup>(*)</sup>
		KT	%U	MTU	KT	%U	MTU	KT	%U	MTU	MTU
Australia	Koongarra	624	10.55	6,585	188	5.33	1,000	812	9.34	7,585	7,585
<b>Total</b>	<b>Australia</b>	<b>624</b>	<b>10.55</b>	<b>6,585</b>	<b>188</b>	<b>5.33</b>	<b>1,000</b>	<b>812</b>	<b>9.34</b>	<b>7,585</b>	<b>7,585</b>
Canada	Dawn Lake	0	0.00	0	347	14.35	4,977	347	14.35	4,977	1,149
Canada	McClellan	540	5.32	2,870	0	0.00	0	540	5.32	2,870	2,009
<b>Total</b>	<b>Canada</b>	<b>540</b>	<b>5.32</b>	<b>2,870</b>	<b>347</b>	<b>14.35</b>	<b>4,977</b>	<b>887</b>	<b>8.85</b>	<b>7,847</b>	<b>3,158</b>
United States	Malco Texas	0	0.00	0	808	0.84	677	808	0.84	677	481
United States	Malco Wyoming	1,773	0.88	1,557	6,400	0.93	5,949	8,173	0.92	7,506	5,329
United States	Pathfinder	0	0.00	0	1,498	2.44	3,653	1,498	2.44	3,653	3,653
<b>Total</b>	<b>United States</b>	<b>1,773</b>	<b>0.88</b>	<b>1,557</b>	<b>8,706</b>	<b>1.18</b>	<b>10,279</b>	<b>10,479</b>	<b>1.13</b>	<b>11,836</b>	<b>9,463</b>
France	AREVA NC France	143	1.20	172	6,249	1.81	11,279	6,392	1.79	11,451	11,451
<b>Total</b>	<b>France</b>	<b>143</b>	<b>1.20</b>	<b>172</b>	<b>6,249</b>	<b>1.81</b>	<b>11,279</b>	<b>6,392</b>	<b>1.79</b>	<b>11,451</b>	<b>11,451</b>
Kazakhstan	Katco	0	0.00	0	10,578	0.77	8,179	10,578	0.77	8,179	8,179
<b>Total</b>	<b>Kazakhstan</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>10,578</b>	<b>0.77</b>	<b>8,179</b>	<b>10,578</b>	<b>0.77</b>	<b>8,179</b>	<b>8,179</b>
Niger	Cominak	980	3.53	3,463	954	2.85	2,718	1,934	3.20	6,182	2,868
Niger	Somair	11,144	0.74	8,298	334	2.68	895	11,478	0.80	9,193	9,193
<b>Total</b>	<b>Niger</b>	<b>12,124</b>	<b>0.97</b>	<b>11,761</b>	<b>1,288</b>	<b>2.81</b>	<b>3,613</b>	<b>13,412</b>	<b>1.15</b>	<b>15,374</b>	<b>12,061</b>
<b>Total</b>		<b>15,204</b>	<b>1.51</b>	<b>22,944</b>	<b>27,355</b>	<b>1.44</b>	<b>39,328</b>	<b>42,559</b>	<b>1.46</b>	<b>62,272</b>	<b>51,896</b>

\* Share available to AREVA: For reserves, this share corresponds to uranium in concentrates, i.e. after taking into account mining and milling recovery. For resources, the share available to AREVA corresponds to uranium in the ground, i.e. excluding processing losses during mining and milling recovery, which are not known at this time.

Note: The terms "measured", "indicated" and "inferred" correspond to the degree of reliability of mineral resource estimates in terms of volume, grade, density, form and physical characteristics (see Glossary).

Source: AREVA.



## Other mineral resources in the ground (continued)

Country	Site	Inferred			Available to AREVA Inf <sup>(*)</sup>
		Mineral	Grade	Metal	
		KT	%U	MTU	MTU
Australia	Koongarra	0	0.00	0	0
<b>Total</b>	<b>Australia</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>
Canada	Dawn Lake	0	0.00	0	0
Canada	McClellan	0	0.00	0	0
<b>Total</b>	<b>Canada</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>
United States	Malco Texas	0	0.00	0	0
United States	Malco Wyoming	0	0.00	0	0
United States	Pathfinder	2,818	1.10	3,100	3,100
<b>Total</b>	<b>United States</b>	<b>2,818</b>	<b>1.10</b>	<b>3,100</b>	<b>3,100</b>
France	AREVA NC France	287	0.48	139	139
<b>Total</b>	<b>France</b>	<b>287</b>	<b>0.48</b>	<b>139</b>	<b>139</b>
Kazakhstan	Katco	4,180	0.64	2,684	2,684
<b>Total</b>	<b>Kazakhstan</b>	<b>4,180</b>	<b>0.64</b>	<b>2,684</b>	<b>2,684</b>
Niger	Cominak	0	0.00	0	0
Niger	Somaïr	0	0.00	0	0
<b>Total</b>	<b>Niger</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>
<b>Total</b>		<b>7,285</b>	<b>0.81</b>	<b>5,923</b>	<b>5,923</b>

\* Share available to AREVA: For reserves, this share corresponds to uranium in concentrates, i.e. after taking into account mining and milling recovery. For resources, the share available to AREVA corresponds to uranium in the ground, i.e. excluding processing losses during mining and milling recovery, which are not known at this time.

Note: The terms "measured", "indicated" and "inferred" correspond to the degree of reliability of mineral resource estimates in terms of volume, grade, density, form and physical characteristics (see Glossary).

Source: AREVA.

## > GOLD

La Mancha, a subsidiary of AREVA, is a diversified international gold producer that operates two gold mines in Africa and one in Australia. Another one is under development in Australia.

As of December 31, 2008, the gold mining projects were as follows:

Country	Site	Operator	AREVA share	
			Share in JV	Available to AREVA
			(%)	(%)
Australia	Frog's Leg	LMRA	32.32%	32.32%
Australia	White Foil	LMRA	63.38%	63.38%
Côte d'Ivoire	Fetekro	Cominor	41.19%	41.19%
Côte d'Ivoire	SMI	Cominor	29.09%	29.09%
Sudan	AMC	Cominor	25.35%	25.35%

Note: AREVA share in La Mancha: 63.375%.

## 2008 production

in kilograms of gold (*kgAu*)

Country	Site	La Mancha share	Total Production	AREVA share
		oz.	kg	kg
Australia	Frog's Leg	15,375	938	303
Australia	White Foil	1,910	59	38
Sudan	HASSAI	29,270	2,276	577
Côte d'Ivoire	ITY	24,995	1,694	493
<b>Total</b>		<b>71,550</b>	<b>4,967</b>	<b>1,410</b>

## 2008 reserves

in kilograms of gold (*kgAu*)

Proven			Probable			Total reserves					
						AREVA share					
Mineral	Grade	Metal	Mineral	Grade	Metal	Mineral	Grade	Metal	Share in JV *	Available to AREVA*	
KT	g/MT	kg	KT	g/MT	kg	KT	g/MT	kg	kg	kg	
Total	2,708	5.36	14,504	6,448	4.74	30,534	9,156	4.92	45,038	12,395	14,005

\* Share available to AREVA: Share of resources and production likely to be sold/distributed to AREVA by the mining joint venture. For reserves, this share is expressed in concentrates, i.e. after taking into account mining and milling recovery.

## 2008 resources

in kilograms of gold (*kgAu*)

	Measured			Indicated			Measured + indicated				
							AREVA share				
	Mineral	Grade	Metal	Mineral	Grade	Metal	Mineral	Grade	Metal	Share in JV *	Available to AREVA*
	KT	g/MT	kg	KT	g/MT	kg	KT	g/MT	kg	kg	kg
Total	5,840	2.76	16,092	12,722	3.18	40,507	18,563	3.05	56,599	20,974	20,974
Inferred											
							AREVA share				
				Mineral	Grade		Metal		Share in JV *	Available to AREVA*	
				KT	g/MT		kg		kg	kg	
Total				12,049	3.13		37,677		11,851	11,851	

\* Share available to AREVA: Share of resources and production likely to be sold/distributed to AREVA by the mining joint venture. For reserves, this share is expressed in concentrates, i.e. after taking into account mining and milling recovery.

Source: La Mancha Resources Inc.

## Other 2008 resources

in kilograms of gold (*kgAu*)

	Measured			Indicated			Measured + indicated				
	Mineral	Grade	Metal	Mineral	Grade	Metal	AREVA share				
							Mineral	Grade	Metal	Share in JV (*)	Available to AREVA(*)
	KT	g/MT	kg	KT	g/MT	kg	KT	g/MT	kg	kg	kg
<b>Total</b>	<b>30</b>	<b>9.10</b>	<b>273</b>	<b>1,514</b>	<b>4.85</b>	<b>7,344</b>	<b>1,544</b>	<b>4.93</b>	<b>7,617</b>	<b>2,039</b>	<b>2,039</b>

	Inferred				
	Mineral	Grade	Metal	AREVA share	
				Share in JV (*)	Available to AREVA(*)
	KT	g/MT	kg	kg	kg
<b>Total</b>	<b>2,076</b>	<b>4.05</b>	<b>8,418</b>	<b>2,597</b>	<b>2,597</b>

\* Share available to AREVA: Share of resources and production likely to be sold/distributed to AREVA by the mining joint venture. For reserves, this share is expressed in concentrates, i.e. after taking into account mining and milling recovery.  
Source: La Mancha Resources Inc.

For more information, visit [www.lamancharesources.com](http://www.lamancharesources.com).

#### 6.3.1.1.6. Relations with customers and suppliers

##### > CUSTOMERS

The portfolio of contracts indicates a clear trend toward longer term contracts to ensure security of supply to utilities for their power plant operations.

With tighter supplies creating upward pressures on prices, the trend initiated in 2004 towards new mixed price formulas was confirmed in 2007. After reaching a peak of 135 dollars per pound in June 2007, the spot price gradually fell to about 50 dollars per pound at the end of 2008. Mixed price formulas are a combination of a base price indexed to inflation and price indicators reflecting uranium market conditions at the time of delivery.

It is likely that spot prices will become an essential component of pricing conditions as the imbalance between supply and demand continues in the short term. In addition, considering the economic model inherent in the development of uranium deposits (see section 6.3.1.1.2., "Businesses"), pricing terms generally include a floor price to ensure that the producer can operate future projects profitably.

##### > SUPPLIERS

Except for the special supply contract for uranium obtained by diluting highly enriched uranium (HEU) from the dismantling of Russia's military arsenal, the uranium offered to customers by the Mining business unit comes from the mineral resources of companies with which it is involved or is bought on the market by its trading subsidiary UG (Urangesellschaft).

It should be noted that increases in 2008 in commodity prices for chemical reagents, energy, mechanical parts, etc., have an impact on the business unit's production costs.

#### 6.3.1.1.7. Research and development

##### > MINERAL EXPLORATION

Unlike most uranium mining companies, AREVA continued its mineral exploration program during 20 years of market collapse. Approximately 3% of the business unit's revenue is allocated to this program. With this strategy, AREVA was able to preserve the know-how of its geology department, collect and analyze up-to-date scientific data, and prepare new projects in anticipation of a market turnaround. With a growing budget of around 56 million euros in 2008, AREVA will deploy an ambitious exploration program over the next few years and in the medium term plans to triple its expenses.

##### Near term outlook

The first action items are to accelerate development efforts near active mine sites and to prepare new exploration campaigns in uranium-rich provinces familiar to the group.

In Niger, analysis of the results collected during the 2004 aerial geophysics campaign led to applications for targeted permits whose approval was delayed due to changes in the mining law. The group received permits in 2006 for Agebout and Afouday, including the Imouraren deposit. AREVA started significant development work to improve the characterization of the Imouraren ore body and determine mining feasibility.

In Saskatchewan Province, Canada, encouraging results continued to come in from Shea Creek. In Australia, exploration continues in the Olympic Dam area and on sedimentary subjects.

#### Medium and long term outlook

Teams of geologists, mining engineers, chemists and economists are working on emerging projects as well as on older prospects, particularly in Africa, North America and Central Asia.

#### > SEARCH

The Mining business unit also performs research and studies to develop its techniques for mine operation and estimating, ore processing in a mill, and in situ recovery.

#### 6.3.1.1.8. Operations and highlights

AREVA is implementing a stimulus plan to double production to 12,000 MTU in 2012.

This plan focuses first and foremost on increasing production, particularly at new projects (Katco, Trekkopje, Imouraren), controlling production costs, and searching for new deposits through exploration and external growth.

The group sold 12,254 MT of uranium in 2008, including trading activities (spot market sales), compared with 13,436 MT in 2007. The year-on-year decrease reflects less trading business (spot market sales).

#### > EXPLORATION

In September 2008, AREVA signed an agreement with the government of Jordan to explore and develop uranium deposits in the Central Jordan region.

#### > PRODUCTION

Despite a significant drop, Canadian production remained AREVA's largest source of supply by volume in 2008, representing 45% of its total uranium deliveries. Cameco announced a new delay at the Cigar Lake mine, now anticipated to enter production in 2012 at the earliest.

In Niger, AREVA continued to implement a capital spending program to prepare for and rapidly increase production capacity at existing facilities.

Production remained stable in Niger in 2008, which represents 40% of the group's total uranium deliveries; the Akola and Akouta deposits are operated by Cominak and the Tamou deposit is operated by Somair.

Concerning the Imouraren deposit, the technical and financial feasibility study for this ore body was submitted to the Nigerian government in April 2008. The mining permit was granted in early January 2009.

Total production in Kazakhstan reached 1,356 MT of uranium in 2008. The Tortkuduk plant is in operation.

#### > EQUITY INTERESTS

AREVA acquired a total stake of 15% in Murchison in 2008, in two installments (June and December). The company changed its name to Forte Energy during the year.

#### > COMMERCIAL NEGOTIATIONS

Negotiations with Niger concluded on January 13, 2008, leading to a revaluation of the average price for 2008 and 2009.

In December 2008, under the agreement signed with India's Department of Atomic Energy, AREVA agreed to supply 300 metric tons of natural uranium to power company Nuclear Power Corporation of India Ltd (NPCIL) for its reactors subject to the safeguards of the International Atomic Energy Agency (IAEA). The contract is pursuant to the bilateral agreement signed by France and India on September 30, 2008 related to cooperation in the development of peaceful applications of nuclear energy.

#### 6.3.1.1.9. Outlook and development goals

The Mining business unit had a significant backlog at the end of 2008. One of AREVA's major goals, towards which it has been working since 2005, continues to be the diversification of its customer portfolio.

The change in uranium prices had a relatively small impact on the business unit's revenue and income through 2008, and will have a much greater impact starting in 2009. During the 2007-2008 period, for example, only one third of the amounts to be delivered is indexed to market prices.

Against the backdrop of the nuclear revival and rising demand, uranium is once again a strategic resource. AREVA is therefore leveraging all of its assets to bolster its position as a leading supplier. Its revitalization plan aims to bring new projects on line quickly, expand its partnerships and acquisitions, and discover new ore bodies by investing in exploration.

In Canada in particular, the business unit's specialists are studying the feasibility of the Kiggavik-Sissons and Shea Creek projects. In Niger, fast-track development of the Imouraren project is under way. In other African countries, the Trekkopje, Ryst Kuil and Bakouma projects were launched following the UraMin Inc. acquisition.

At the same time, the group is investing in human resources, with more than 250 geologists on staff as of the end of 2008, the continuation of AREVA Mining College, and the hiring of more than 1000 people in 2008.

Having gathered together the necessary technical, human and financial resources to increase its production and marketing capabilities, AREVA intends to strengthen its position on the uranium market even further.

### 6.3.1.2. Chemistry business unit

#### 6.3.1.2.1. Key data

(in millions of euros)	2008	2007
Revenue *	253	229
Workforce at year end	1,666 employees	1,630 employees

\* Contribution to consolidated revenue.

#### 6.3.1.2.2. Businesses

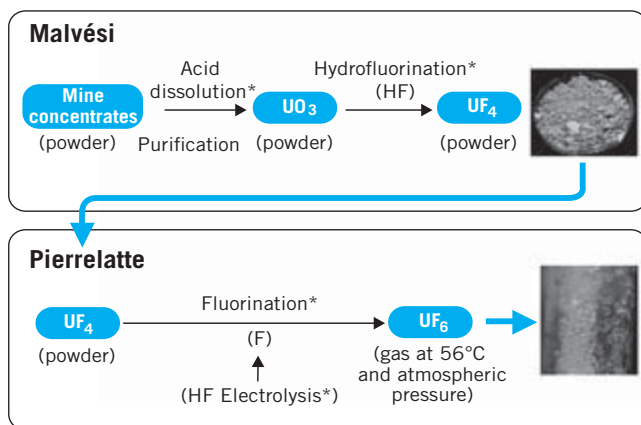
##### > CONVERSION OF NATURAL URANIUM ( $U_3O_8$ ) INTO URANIUM HEXAFLUORIDE ( $UF_6$ )

The Chemistry business unit's primary business is to convert natural uranium ( $U_3O_8$ ) into uranium hexafluoride ( $UF_6$ ). Uranium enrichment, the necessary next step in nuclear fuel fabrication, requires uranium in the chemical form of  $UF_6$  as feed material for all types of enrichment technologies.

Uranium concentrates shipped from the mine for conversion are owned by the electric utility customer. Conversion is a two-stage process. In the first stage, the uranium is converted into uranium tetrafluoride ( $UF_4$ ). This involves dissolving the mine concentrates with acid, then purifying, precipitating and calcining them to produce  $UO_3$  powder. This product is then hydrofluorinated with hydrofluoric acid, which converts it into  $UF_4$ , which is granular and green in appearance. These operations are carried out at the Comurhex Malvési plant in Narbonne, France.

In the second stage, the  $UF_4$  is converted into uranium hexafluoride ( $UF_6$ ) through fluorination. One of the chemical characteristics of  $UF_6$  is that it turns into a gas when heated at relatively low temperature. The fluorine used in this process is produced through electrolysis of hydrofluoric acid. These operations are carried out in the Comurhex Pierrelatte plant in southern France.

The following diagram summarizes the process.



\* Purely chemical operations (no change to the uranium's isotopic composition).

##### > STABILIZING URANIUM HEXAFLUORIDE ( $UF_6$ ) THROUGH DEFLUORINATION

The uranium enrichment process (see Enrichment business unit) generates depleted uranium hexafluoride that has a reduced proportion of the isotope  $U_{235}$ . This depleted uranium is converted into stable, insoluble and non-corrosive uranium oxide that can be safely stored pending reuse. The AREVA Pierrelatte defluorination plant is the only facility in the world to convert depleted uranium hexafluoride into oxide on a production scale.

The conversion of depleted uranium hexafluoride into an oxide generates an ultra-pure 70% hydrofluoric acid, a marketable by-product.

##### > RECYCLING OF URANIUM FROM USED FUEL

After a residence time of three to four years, nuclear fuel is unloaded from the reactor still containing 96% uranium. The uranium is recovered through treatment operations performed at the AREVA La Hague plant (see Treatment business unit) and is shipped to the Chemistry business unit's site (AREVA NC Pierrelatte) in the form of uranyl nitrate, where it will be converted into a stable oxide through denitration for storage or reconverted into uranium hexafluoride.

Some European reactors, including the Cruas power plant in France, are loaded with fuel made of recycled uranium from used fuel treatment.

##### > OTHER FLUORINE DERIVATIVES

The business unit's conversion know-how, particularly in the field of uranium fluorination, has been used to diversify into non-nuclear applications as well.

For instance, Comurhex developed a line of fluorine derivatives which now represent about 1% of the business unit's revenue:

- fluorine-nitrogen products are used in the automotive industry to treat plastic materials and seal gasoline tanks;
- chlorine trifluoride is used to clean Eurodif's gaseous diffusion enrichment barriers and, in its ultra-pure form, to fabricate microprocessors.

In the fluorochemicals sector, Air Liquide and Air Products are the two main customers. The group is the leading producer of fluorine in Europe and the second largest in the world.

##### > TECHNOLOGY SALES

AREVA earns a return from its internationally recognized expertise in depleted uranium defluorination by selling its technology to world class companies. AREVA's know-how will enable customers to store this reusable material safely and to produce hydrofluoric acid that can be marketed to the chemical industry.

### 6.3.1.2.3. Manufacturing and human resources

The Chemistry business unit operates at four plant sites in France:

- the Comurhex Malvézi plant produces  $UF_4$  in five furnaces, which operate concurrently;
- the Comurhex Pierrelatte plant produces  $UF_6$  in two flame reactors;
- the AREVA NC Pierrelatte plant defluorinates depleted uranium in four production lines;
- two AREVA NC Pierrelatte plants and the Comurhex Pierrelatte plant convert uranyl nitrate, through denitration, into oxide or hexafluoride;
- the AREVA NC Miramas plant recycles lithium.

The business unit has an annual production capacity of 14,000 metric tons (MT) for  $UF_6$  conversion, 14,500 MT for defluorination, 2,400 MT for denitration and 80 MT for fluorine derivatives.

The proximity of the Chemistry business unit's facilities at the Tricastin site to those of the Enrichment business unit represents real savings to our customers by reducing  $UF_6$  transportation costs to the Eurodif Production plant and enhancing safety.

The business unit's personnel are certified for work involving toxic chemicals and the specific characteristics of uranium.

### 6.3.1.2.4. Market and competitive position

The annual demand for conversion services in 2008 was around 57,800 MT, including 18,500 MT in Western and Central Europe, 5,700 MT in Eastern and Southeastern Europe, 19,400 MT in North America, and 13,300 MT in Asia.

With 11,000 MT of  $UF_6$  produced in 2008, AREVA is a major global player in uranium conversion services. Its main competitors are Rosatom in Russia, Converdyn in the United States and Cameco in Canada. Russia has a large amount of underused capacity at its Rosatom plants, estimated at 19,000 metric tons per year, due to technical and geographical limitations. Converdyn and Cameco have conversion capacities comparable to those of AREVA, at 13,000 MT per year and 12,500 MT per year respectively. However, Cameco's conversion facility was out of service for more than 10 months in 2008 because of sub-surface contamination on site.

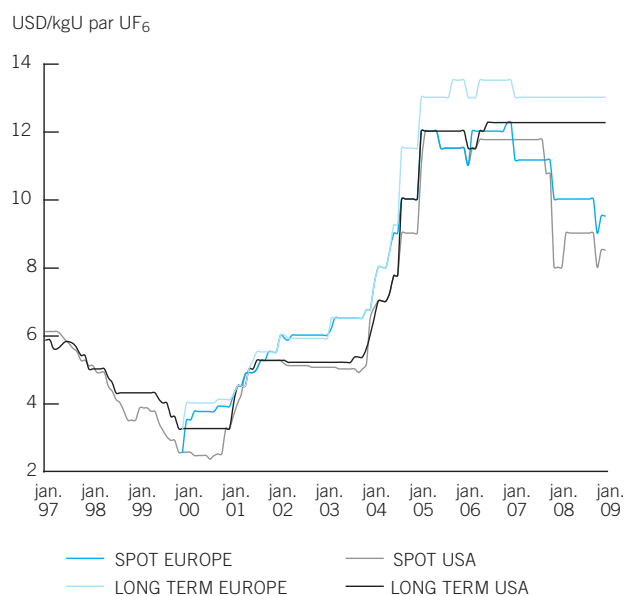
Prices for  $UF_6$  conversion tumbled in 2000-2001, falling to 2.50 US dollars per kilogram of uranium contained in the  $UF_6$ ,

mainly due to the arrival of  $UF_6$  inventories on the market in the wake of USEC's privatization in the United States and to the use of HEU <sup>(1)</sup>.

Prices rose in 2002-2003, as shown in the graph below, returning to the levels of the early 1990s, *i.e.* around 6.00 US dollars per kilogram. Since 2004, the representative price for  $UF_6$  conversion in Europe shot up to close to 12.00 US dollars per kilogram in early 2005 under the cumulative effect of the absorption of  $UF_6$  inventories available on the market, Converdyn's difficulties, reduced quantities of  $UF_6$  stemming from the use of HEU, and BNFL's announced intention of withdrawing from the market.

In 2005, prices stabilized at about 12.00-13.00 US dollars per kilogram in the various geographic markets, despite BNFL's announcement that it plans to continue to operate its plant. In 2006, benchmark prices were stable in North America and Europe at around 12.00-13.00 US dollars per kilogram. Stability was confirmed in 2007 for long term indicators. However, spot prices had dropped to 8-10 US dollars per kilo by the end of 2007. This downturn was confirmed in 2008, even as one of the main producers was forced to shut down its facilities.

### $UF_6$ conversion price indices



Source: Trade Tech.

(1) HEU: Highly Enriched Uranium

#### 6.3.1.2.5. Relations with customers and suppliers

##### > CUSTOMERS

At the request of nuclear utility customers, the average term of three to five years is being raised to as many as ten years for recently signed conversion contracts. In 2008, Comurhex delivered to more than 25 utility customers and traders across the globe. Most of the Chemistry business unit's customers are located in Europe, Asia and the United States. Technology sales contracts are usually for five-year terms.

##### > SUPPLIERS

The Chemistry business unit limits its exposure to interruptions of chemical reagent supplies needed for production operations by contracting with suppliers based in Europe as well as in the rest of the world.

#### 6.3.1.2.6. Operations and highlights

To meet customer demand, AREVA converted 11,000 MT of  $U_3O_8$  into  $UF_6$  in 2008, compared with 13,700 MT in 2007. In parallel, defluorination operations produced 10,900 MT in 2008 compared with 5,400 MT in 2007.

Several long-term contracts were signed in 2008 or are in the process of being finalized with utility customers in Japan, China, the United States and Europe. In addition to representing substantial future revenues, these contracts extend as far as 2028 and are indicative of AREVA's diversified regional presence in the conversion market.

In 2007, AREVA decided to replace its conversion production capacity to meet the growing needs of its customers. In 2008, construction and operating permit applications were submitted to the authorities of the Drôme department for the Pierrelatte site and the Aude department for the Malvézi site near Narbonne. In addition, construction platforms were prepared at both locations so that construction of buildings in the new conversion plant can begin in 2009.

In technology sales, the Chemistry business unit sold a plant with two lines for depleted  $UF_6$  defluorination to Tenex for the latter's Zelenogorsk site in Siberia. Equipment manufactured in France was delivered in 2007 and assembled in Russia in 2008, despite local administrative difficulties. As of the end of 2008, various testing phases had been carried out on this equipment. Equipment testing continues and the facility is scheduled for start-up in 2009. After a first training session in 2007, Russian engineers trained for several weeks at the Tricastin site at the beginning of 2008.

#### 6.3.1.2.7. Outlook and development goals

The Chemistry business unit's strategic objective is to bolster its position as a major player on the global uranium conversion market. It will continue to benefit from the integration of AREVA group businesses and its physical proximity to Europe's enrichment plants.

To achieve this goal, AREVA has decided to invest 610 million euros at the Narbonne and Pierrelatte sites to replace uranium conversion production resources. This is known as the Comurhex II project. The new production baseline of 15,000 MT is scheduled to be operational in 2012. The capacity can be raised to 21,000 MT when required by the market.

A project is also under way to build a  $UF_6$  fluorination plant for reprocessed uranium. It should give AREVA a unique tool for reprocessed uranium (RepU) recycling in Europe.

Technical studies already undertaken in 2007 to strengthen operations for the long term and replace the Chemistry business unit's facilities continued in 2008. The main objectives of these studies are:

- to use the best technologies in AREVA's new natural and reprocessed uranium (RepU) conversion facilities;
- to increase productivity in existing facilities; and
- to reduce environmental impacts.

The projects now in progress will provide the conversion capacity necessary to satisfy the market. All are consistent with AREVA's sustainable development approach. The Chemistry business unit's goal is to reduce its environmental impacts and to improve facility safety continually. Steps were taken at each site to achieve these goals, and particularly to strengthen the Environmental Management System, optimize waste disposal, and reduce the quantity of water taken from the environment.

#### 6.3.1.3. Enrichment business unit

##### 6.3.1.3.1. Key data

(in millions of euros, IFRS)	2008	2007
Revenue *	1,093	1,059
Workforce at year end	2,458 employees	2,095 employees

\* Contribution to consolidated revenue.

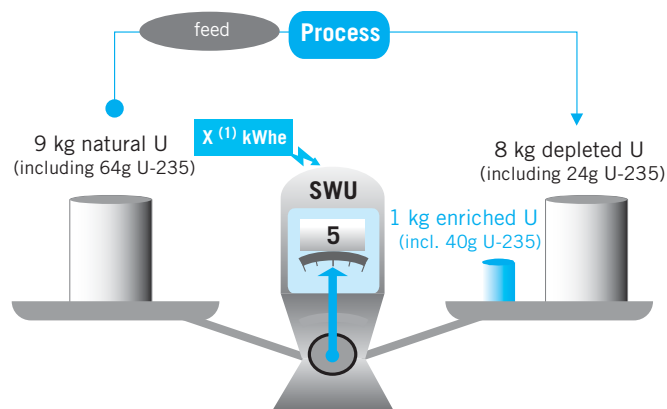
##### 6.3.1.3.2. Businesses

The Enrichment business unit alters the isotopic composition of natural uranium. This operation is performed on uranium



hexafluoride ( $UF_6$ ). The customer delivers natural  $UF_6$  to the enrichment facility.  $UF_6$  is a chemical compound of uranium and gaseous fluorine that contains the fissile isotope of uranium ( $U_{235}$ ) needed to make nuclear fuel for light water reactors. Enrichment is the process whereby the 0.7% content of  $U_{235}$  in natural  $UF_6$  is raised to 3% to 5% to achieve a level of fuel reactivity suitable for reactor requirements.

An enrichment plant's production is expressed in separative work units (SWU). This unit is proportionate to the quantity of uranium processed and is a measure of the work required to separate the fissile isotope. As shown in the figure below, it takes nine kilograms of  $UF_6$  and five SWUs to produce one kilogram of enriched uranium (at a 4% enrichment level) and eight kilograms of depleted uranium (at 0.3%).



(1) Varies depending on the process.  
Source: AREVA.

Two enrichment processes are in use worldwide: centrifugation and gaseous diffusion. Currently, the AREVA group uses the latter process.

However, the agreement signed with URENCO and its shareholders in 2003, finalized in July 2006, gives AREVA access to the use of the centrifugation technology. By implementing this technology, the new Georges-Besse II plant will consume 50 times less electricity than the gaseous diffusion process (see section 6.3.1.3.6., "Operations and highlights"). Another advantage of centrifuge technology is its modular construction, enabling gradual ramp-up of production and adjustment of production capacity to market demand. This technology is set to be used in the new Georges-Besse II plant, whose construction is expected to span the 2006-2016 period.

The capital-intensive enrichment industry also has a strong political dimension. Historically, major nuclear nations have sought to control their own production capabilities to ensure energy self-sufficiency while limiting nuclear proliferation. This aspect is vital to an understanding of decisions by the key market players.

### 6.3.1.3.3. Manufacturing and human resources

The Enrichment business unit is based at the Tricastin nuclear site, which spans the Drôme and Vaucluse departments in France's Rhone valley.

The Enrichment business unit uses the Georges-Besse plant of its subsidiary Eurodif to perform enrichment services. AREVA NC holds a 59.7% stake in Eurodif, directly or indirectly, and the remaining 40.3% is held by foreign partners <sup>(1)</sup>.

The Socatri plant, a wholly owned subsidiary of Eurodif at the same site, maintains equipment used by the Georges-Besse plant and processes uranium-bearing liquid effluents.

The Georges-Besse plant and Socatri have ISO 9001, ISO 14001 and OHSAS 18001 certification under an integrated management system since 2004 and 2006 respectively. Since the finalization of the agreement on centrifugation in 2006, the Enrichment business unit's workforce includes 50% of the ETC <sup>(2)</sup> workforce.

Excluding ETC, approximately 90% of all Enrichment business unit employees work at the Georges-Besse plant and the Socatri plant.

The Georges-Besse enrichment plant consists of an enrichment cascade with 1,400 diffusion stages divided into 70 groups. It has a maximum enrichment capacity of 10.8 million SWU per year.

The gaseous diffusion process takes advantage of differences in the atomic weights of  $U_{235}$  and  $U_{238}$  to separate these two isotopes in  $UF_6$ . The gas molecules are in perpetual motion and strike the walls of whatever encloses them. Since these molecules all have the same kinetic energy, the lighter ones – those of the  $U_{235}$  isotope – are also the fastest and strike the wall of the enclosure more often statistically than the heavier molecules of the  $U_{238}$  isotope. If that wall is porous, the lighter molecule has a higher probability of crossing through this barrier than the heavier molecule.

The  $UF_6$  is brought to the gaseous state and enriched in a series of steps in a cascade of diffusion barriers. This isotopic separation is the enrichment service sold to electric utilities. The separative work unit (SWU) is an international unit of measure for enrichment services and sales, and is independent of the separation technology used.

(1) The other shareholders of Eurodif SA are Synatom of Belgium, Enea of Italy, Enusa of Spain, and Sofidif, a company owned by French and Iranian interests. AREVA NC has a 60% stake in Sofidif.

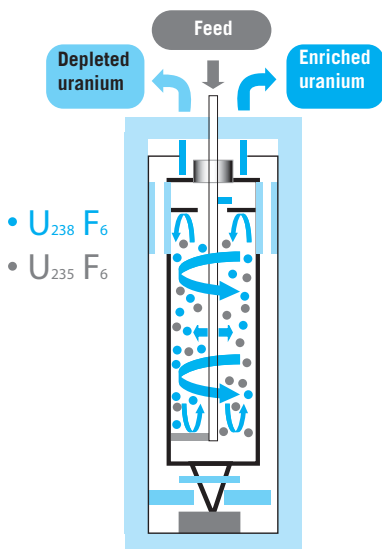
(2) Enrichment Technology Company.

In providing enrichment services to some 100 reactors operated by 30 utilities worldwide, the Enrichment business unit consumes, when operating at full capacity, as much electricity as the greater Paris area, or an average of 3 to 4% of France's entire generation of electricity. For some customers, representing about half of total volume, SWU sales are made under a processing contract in which the customer provides the electricity necessary for its own enrichment requirements. Consequently, the customer only pays for the enrichment service, and not for the cost of the electricity.

AREVA is the majority shareholder of Société d'Enrichissement du Tricastin (SET), which will operate the Georges-Besse II plant. The plant will use centrifuge enrichment technology developed by ETC.

As in gaseous diffusion, the centrifuge enrichment process uses the difference in atomic weight between  $U_{235}$  and  $U_{238}$  to separate these two isotopes in the  $UF_6$ , though the technology is different.

#### Centrifuge enrichment concept



Source: AREVA.

The centrifugal force of the machine throws the heaviest particles to the cylinder walls, effectively separating them from the lighter isotope. The gas enriched in the lighter isotope, located closer to the center of the bowl, flows towards the top of the machine, while the gas with the heavier isotope flows towards the bottom. The enriched and depleted products are recovered at either end of the machine.

#### 6.3.1.3.4. Market and competitive position

Available worldwide enrichment capacity <sup>(1)</sup> is approximately 50 million SWU, including 5.5 million SWU from the dilution of HEU from Russia's defense program (see section 6.3.1., "Front End division", "Strategy and Outlook" paragraph), for which USEC of the United States is the sole importer. Available capacities are shown below.

Operator	Available capacity	Process
USEC-production	5 million SWU/year	Gaseous diffusion
USEC-Russian HEU	5.5 million SWU/year	Dilution
AREVA/Eurodif (France)	10.8 million SWU/year	Gaseous diffusion
AtomEnergProm (Russia)	17 million SWU/year	Centrifugation
URENCO (UK, Germany, Netherlands)	10.3 million SWU/year	Centrifugation
CNNC (China)	1.3 million SWU/year	Centrifugation
Other (Japan, Brazil)	0.1 million SWU/year	Centrifugation
<b>Total</b>	<b>50 million SWU/year</b>	

Source: AREVA.

The AREVA group thus has close to 22% of the world's total available capacity, HEU included. World demand for reactors is roughly equal to global capacity, as follows:

- Eastern Europe and Russia: 13%;
- Asia: 22%;
- Western Europe: 33%;
- North and South America: 32%.

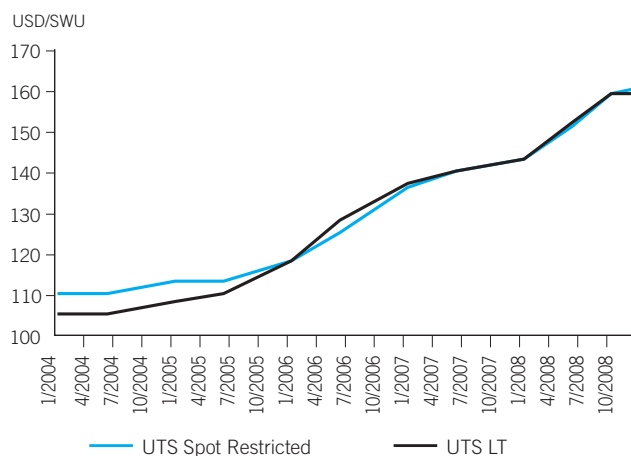
AREVA has the largest share of the Western European enrichment market, ahead of URENCO and AtomEnergProm. In the Eastern part of the European Union (new member countries), the demand is almost entirely met by AtomEnergProm, for historical reasons. However, this situation is expected to change. AtomEnergProm is also the sole supplier in Russia and the CIS.

A significant share of the US market is supplied with enriched uranium from blended HEU from Russia. The American enrichment company USEC uses Russian HEU to supplement its domestic production and obtain material for exports. Both URENCO and AREVA have a significant presence in the US market, despite the edge that USEC has due to its access to HEU. However, USEC filed dumping and illegal subsidies claims against the European companies (see section 20.6., "Legal and arbitration proceedings"). USEC remains the largest supplier to Asia, for historical reasons, ahead of URENCO and AREVA, with JNFL (Japan) and CNNC (China) supplying marginal quantities.

(1) Taking into account agreements limiting Russian sales in the European Union and the United States

Excess capacity characterized the 1995-2000 period, mainly due to the use of HEU, which caused prices to fall. This was amplified by USEC's commercial strategy in the face of growing competition from the other enrichers at a time when the US dollar was very strong against the euro. Prices have risen significantly since 2001: the spot price went from 80.00 US dollars to 135.00 US dollars per SWU by the end of 2008. This price increase reflects the impact on the market of a decrease in tails assay requested by customers and the market's anticipation of a potential imbalance between supply and demand when older gaseous diffusion enrichment plants are shut down and some centrifuge capacity becomes obsolete. However, the price rise in US dollars is significantly lessened by the drop in the US dollar/euro exchange rate over the period.

#### SWU spot prices from 2004 to the end of 2008 (in current US dollars)



Source: Average SWU values published monthly by Nuexco/TradeTech.

Market growth continues to be limited in volume but relatively secure, essentially in Asia, where nuclear power programs are growing faster than in the other three major regions of the world. The growth in this market is also due to the widespread increase in nuclear power plant load factors, burn-ups requiring higher enrichment assays, new projects, and inventory building by certain power companies concerned about a market imbalance.

Another factor is the general lowering of tails assays sought by utilities, especially in the past two years, driven by the rapid price increase for natural uranium.

The market is also regulated by geopolitical considerations. In Europe, the Euratom Supply Agency monitors the supply of uranium and enrichment services in accordance with the Corfu Declaration, which governs SWU imports into the European Union. In the United States, implementation of the HEU agreement allows imports into the US of materials from dismantled Russian weapons. Pursuant to the Suspension Agreement, Russia also agrees not to deliver any other enrichment service to the United States. In Russia, AtomEnergoProm competitors are still unable to access the uranium enrichment market.

#### 6.3.1.3.5. Relations with customers and suppliers

##### > CUSTOMERS

The market for enrichment services is a medium-term market, with contracts currently signed for an average of eight to ten years. In addition to EDF, its biggest customer, the Enrichment business unit has close to 30 utility customers divided among the United States, Europe and Asia, representing commitments from a hundred reactors worldwide.

##### > SUPPLIERS

As long as the gaseous diffusion process remains in service, electricity is the business unit's largest procurement.

As in previous years, the Enrichment business unit constantly seeks to procure electricity on the market at a competitive cost.

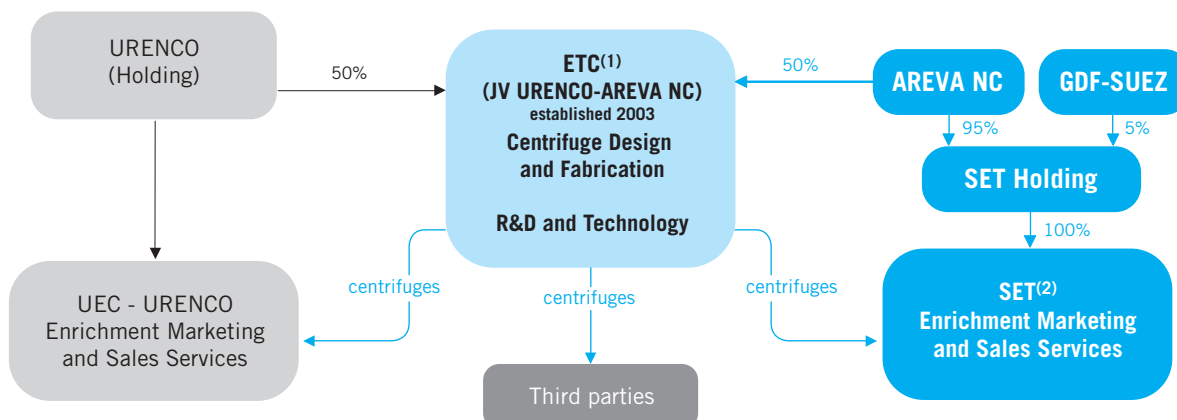
#### 6.3.1.3.6. Operations and highlights

In 2008, having finalizing the acquisition of 50% of ETC alongside URENCO in July 2006, AREVA continued the construction of the new Georges Besse II plant, which began in mid-2006. A significant milestone was reached on February 15, 2008, when ETF (the French subsidiary of ETC) took possession of the centrifuge assembly building. This event marked the beginning of the project's industrial phase. New milestones have been reached since then: ETF assembled its first centrifuges, which have also been tested with UF<sub>6</sub> and serial assembly of the centrifuges for the first enrichment cascades will be launched so that the first SWU will be produced in 2009.

In terms of financing, the GDF-SUEZ group decided to acquire a 5% interest in SET. This agreement implements the two group's decision to strengthen their industrial cooperation and secures supply for part of SUEZ's enriched uranium requirements.

The ETC legal structure is shown below.

### ETC legal structure



(1) Enrichment Technology Company.

(2) Société Enrichissement du Tricastin.

Source: AREVA.

Commercially, a large volume of enrichment services was sold in 2008, as was the case in previous years.

AREVA signed a number of very large contracts in 2008, further strengthening its backlog.

In France, AREVA signed a long term contract with EDF to supply enrichment services over a very long period.

As of the end of 2008, the average backlog was equal to about 10 years of sales.

At the same time, to meet the energy requirements of the US market, AREVA launched a project to build a new uranium enrichment plant in that country. On May 6, 2008, the group chose Bonneville County in Idaho as the location for the new plant. AREVA has already started the permitting process with local, state and federal authorities in the United States, including submittal of a construction and operating permit application to the Nuclear Regulatory Commission (NRC). The facility, named Eagle Rock Enrichment Facility (EREF), will use centrifuge technology developed by ETC. It will provide enrichment services to nuclear power plant operators in the United States. The plant will have a capacity of 3 million SWU per year. Production is scheduled to begin in 2014.

In early July 2008, a significant safety-related event occurred at the Socatri site (Tricastin) during the transfer of liquid effluents at a water treatment facility: a tank containing uranium-bearing effluents overflowed, releasing 74 kg of these effluents to the environment. The spill was caused by the simultaneous failure of several containment barriers. The French nuclear safety authority, ASN, classified this as a Level 1 event on the International

Nuclear Event Scale (INES), which ranks events from 0 to 7. The industrial water treatment facility that was the source of the event was being renovated at the time as part of an upgrade program launched in 2006. Consistent with its policy of transparency, AREVA communicated on the event and documented the lessons learned in accordance with the group's continuous improvement initiative. The group also kept local stakeholders informed – local residents, elected representatives and area businesses – via the local information commission. In particular, it presented to the commission the measures taken for environmental monitoring and their results. For the future, AREVA will continue to implement its capital upgrades program at the Tricastin site, giving particular attention to resources dedicated to environmental monitoring.

For more information regarding the customs dispute initiated by USEC against Eurodif in December 2000, please refer to section 2.6., “Legal and arbitration proceedings” of this Reference Document.

#### 6.3.1.3.7. Outlook and development goals

Demand is assured for the next 20 years, based on current nuclear power programs and the known service life of reactors. Growth is limited but relatively steady. Growth in Asia should coincide with the nuclear revival in some countries, particularly the United States and China.

US power companies have shown their interest in AREVA's future EREF enrichment plant by reserving a large share of its production capacity over a very long period, thus ensuring the plant's return on investment. In 2009, AREVA will pursue ongoing negotiations with various parties to begin production in 2014.

Furthermore, several companies have expressed interest in becoming minority shareholders in SET. New partners are likely to be selected in 2009 in connection with SWU sales.

For the coming years, the Enrichment business unit's main goal is to transition smoothly from the gaseous diffusion process to the centrifugation process, with commercial production of the first SWUs from centrifugation in 2009.

Construction of the new Georges-Besse II plant, at a cost of 3 billion euros <sup>(1)</sup> over the 2006-2016 period, will gradually replace the existing plant, ensuring the continuity of deliveries over the very long term.

#### 6.3.1.4. Fuel business unit

##### 6.3.1.4.1. Key data

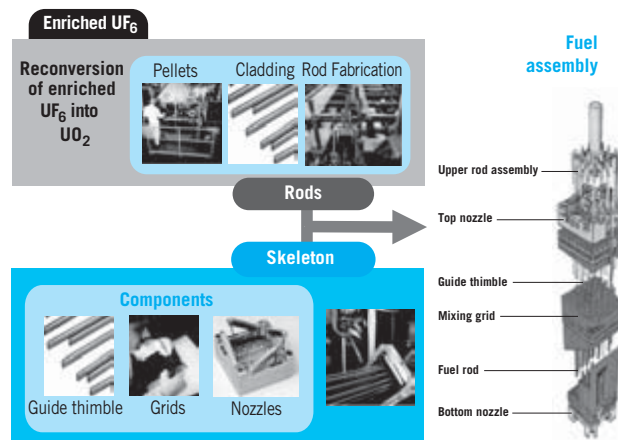
(in millions of euros, IFRS)	2008	2007
Revenue *	1,248	1,124
Workforce at year end	5,256 employees	5,083 employees

\* Contribution to consolidated revenue.

##### 6.3.1.4.2. Businesses

The Fuel business unit designs, fabricates and sells nuclear fuel assemblies for pressurized water reactor (PWR) and boiling water reactor (BWR) power plants and for research reactors. The fissile material remains the property of the customer. In addition to conventional enriched uranium oxide fuel ( $UO_2$ ), the business unit supplies MOX fuel and enriched reprocessed uranium fuel (ERU – see Glossary) using fissile materials recycled from used fuel. The Fuel business unit sells part of the group's MOX fuel. The Back End division's Recycling business unit fabricates the MOX fuel (see section 6.3.3.1., "Recycling and Nuclear Site Value Development business units").

#### Main stages in fuel assembly fabrication for PWR



Source: AREVA.

Reactor safety is a function of several requirements:

- containment of all radioactive materials, as defined by nuclear safety standards, under both normal and accidental conditions;
- control of the chain reaction; and
- cooling of the reactor core.

Fuel assemblies contribute to reactor safety by sealing fissile materials and radioactive fission products inside zirconium alloy cladding, which forms the primary containment barrier.

Once unloaded from the reactor, the fuel assembly must continue to provide fissile material and fission product containment. Fuel design must also allow for residual heat dissipation and fuel handling, even after having been stored for relatively long periods. In addition, the fuel design must allow for treatment when the closed fuel cycle has been chosen.

Used fuel is replaced every 12 to 24 months with partial core reloads representing 20% to 50% of the total number of assemblies in the reactor, depending on core management techniques and fuel assembly performance.

The number of assemblies replaced simultaneously constitutes a reload.

(1) In constant 2001 euros.

The Fuel business unit has expertise in every aspect of the fuel design and fabrication process, from the production of zirconium and its alloys to fabrication of the final fuel assembly. Nuclear fuel is by no means an ordinary or easily substituted product. A large number of high-level scientific and technical skills are needed to achieve flawless design and fabrication quality, an absolute requirement. The Fuel business unit has expertise in three key areas:

- Fuel design: This brings into play neutronic, thermo-hydraulic and mechanical strength codes and a database built on lessons learned from many years of reactor operations. Fuel designs are referenced in the reactor license application, making the fuel designer one of the utility's most important partners during discussions with the nuclear safety authorities.
- Zirconium and zirconium alloy production: This draws on expertise in chemical and metallurgical processes and technologies.
- Fuel assembly fabrication: This requires knowledge of chemistry, powder metallurgy, various assembly techniques, including advanced welding, mechanical systems and machining, and numerous non-destructive examination methods and physical/chemical analyses.

The Fuel business unit also manufactures and markets finished and semi-finished zirconium products. Several of the business unit's competitors – fuel designers and/or fabricators – are also its customers.

#### 6.3.1.4.3. Manufacturing capabilities

The Fuel business unit is organized into three business lines for fuel assemblies for both PWR and BWR reactors:

- Design and Sales, based in Germany, France and the United States;

- a Zirconium business line encompassing the full range of manufacturing processes, from zircon ore to finished product, which operates five plants in France and one in Germany, with each plant specializing in one aspect of zirconium metallurgy or forming;
- the Fuel Fabrication business line, organized into eight plant sites, three in the United States and five in Europe, which mainly supply European utilities.

CERCA is also part of the Fuel business unit's organization. Cerca has plants in France and is mainly active in the fabrication and sale of fuel elements for research reactors, a market in which it is the world leader. It also fabricates and sells radioactive sources for medical and laboratory applications.

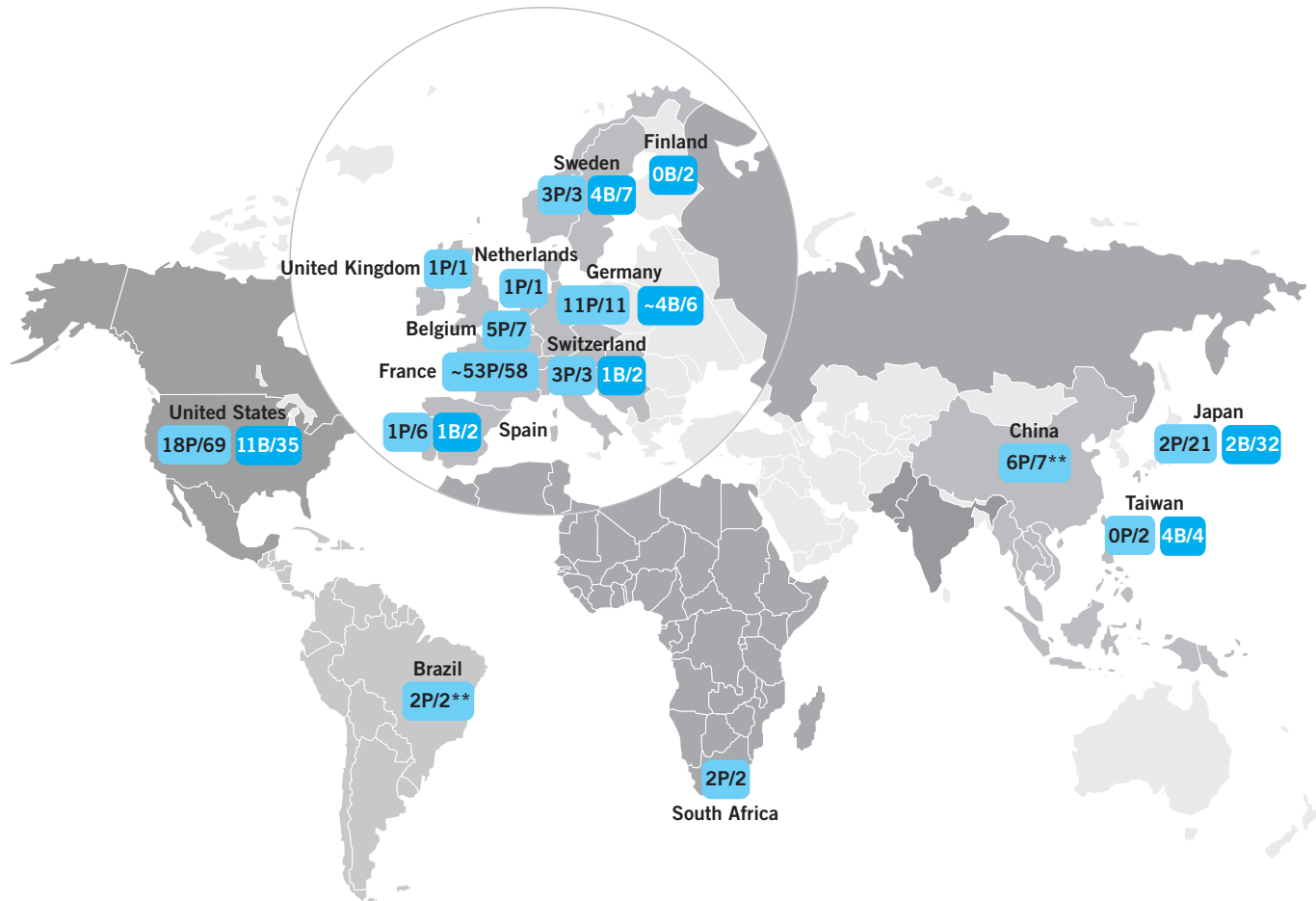
#### 6.3.1.4.4. Market and competitive position

The Fuel business unit's principle business is the fuel assembly market for BWRs and PWRs – excluding the Russia-designed VVERs – and for research reactors. AREVA's share of this market is stable at about 40%.

In 2008, the worldwide market, excluding the former Soviet Union, remained stable at about 7,000 MTHM (uranium or plutonium) contained in the assemblies. The United States accounts for 38% of world demand, Europe 36% and Asia 26%.

The fuel industry has reorganized several times over the past few years, leaving three leading groups to satisfy 80% of global fuel demand: AREVA, Toshiba-Westinghouse and GNF. Over the years, the AREVA group has supplied a total of more than 189,000 fuel assemblies to its customers, two-thirds of them PWR and one-third BWR. Today, 135 of the world's 305 operating PWRs and BWRs (as of the end of 2008, excluding VVERs) routinely use AREVA fuel, as shown in the figure below.

### World map of reactors loaded with AREVA fuel



\*\* Local fabricator that uses AREVA NP technology.

Note 1: P = pressurized water reactor (PWR); B = boiling water reactor (BWR). (-/-) = Number of reactors supplied with fuel by AREVA/total number of reactors in service.

Note 2: In addition to the PWR and BWR reactors in operation worldwide shown on this map, there are also PWRs and BWRs that do not use AREVA fuel, located in Mexico (2 BWR), Slovenia (1 PWR), South Korea (16 PWR), India (2 BWR) and Pakistan (1 PWR).

Sources: IAEA, WNA (October 2008).

Of the 135 reactors supplied with fuel by AREVA:

- two-thirds are reactors designed by AREVA, demonstrating the synergies between the Fuel business unit and the Reactors and Services division, which account for 92% of AREVA's installed capacity; and
- the other third represents 21% of AREVA's competitors' installed capacity.

As the following charts show, the AREVA group continues to be the European leader and the key challenger in the United States. This stability is explained to a large extent by the fact that deliveries were made under the same multi-year contracts that governed deliveries in previous years.

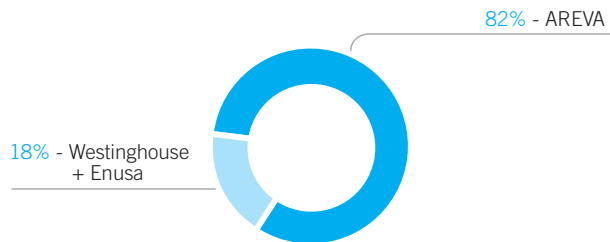


## Market share of fuel players in 2008

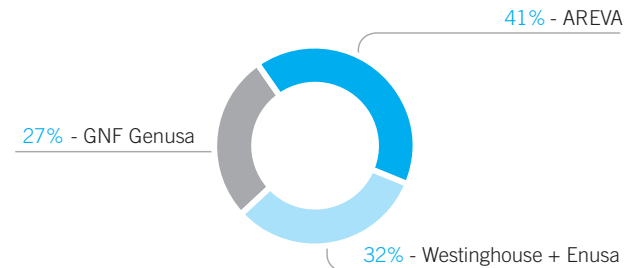
### EUROPE

**Total European market: 2,127 MT/year**

PWR\* market in Europe = 1,800 MT/year



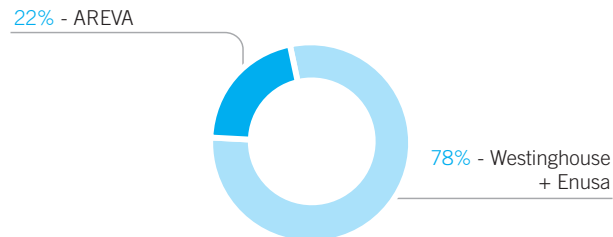
BWR market in Europe = 327MT/year



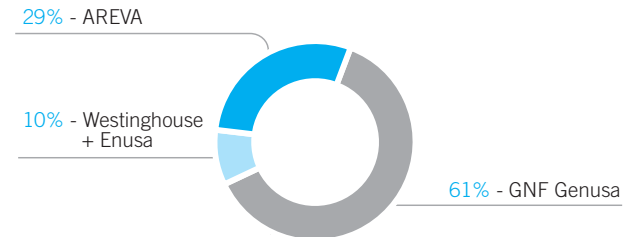
### UNITED STATES

**Total United States market: 2,257 MT/year**

PWR\* market in United States = 1,434 MT/year



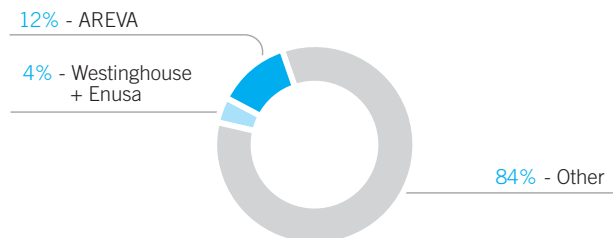
BWR market in United States = 823 MT/year



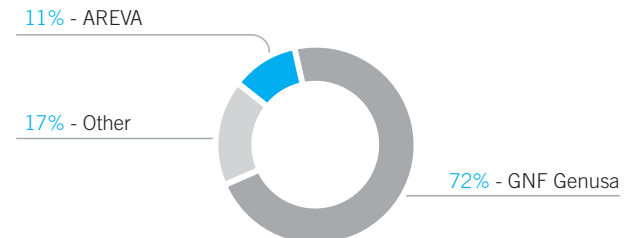
### ASIA

**Total Asian market: 1,483 MT/year**

PWR\* market in Asia = 874 MT/year



BWR market in Asia = 609 MT/year



\* excluding VVERs.

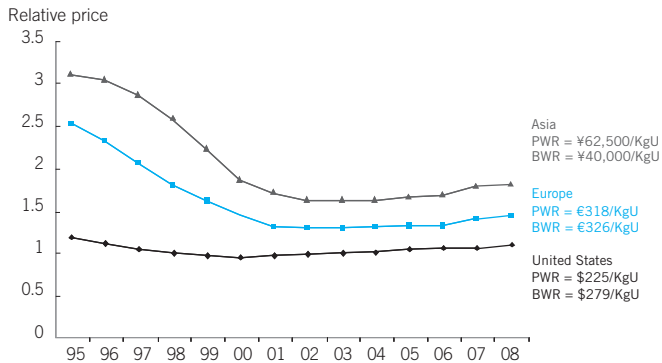
Source: Nuclear Assurance Corporation (Fuel Trac, 10/2008 edition); average values for 2008 +/- 1 year.

The existing requirements of operating reactors still determine demand, which will remain generally flat in terms of volume, since the number of reactors connected to the grid worldwide is expected to remain relatively stable until 2012. A noticeable increase in fuel demand will occur when a sufficient number of new power plants have been connected to the grid, considering that older reactors will be retired in the meantime.

Under these circumstances, excess fuel fabrication capacity will continue to be high worldwide.

These elements are contributing to price harmonization in the main regions of Asia, Europe and North America.

### Fuel fabrication prices



Source: CKA.

#### 6.3.1.4.5. Relations with customers and suppliers

##### > CUSTOMERS

AREVA operates mainly under multi-year contracts covering one or more reactors for the same utility. These contracts usually include services such as transportation and handling, technical support for fuel loading and unloading operations, fuel inspection during scheduled outages, or even underwater repair of damaged fuel rods or assemblies at the utility's reactor site. Given their importance for customer operations, the contracts normally include penalty clauses, generally capped at the amount of the fuel supplier's added value. Warranties are provided for:

- fuel integrity under normal operating conditions and up to the contractual burn-up (see Glossary);
- satisfactory reactor operations at nominal power;
- compatibility with fuel assemblies already in the reactor, recognizing that the reactor core is refueled in fractions; and
- transportability and the ability to be stored safely after irradiation.

##### > SUPPLIERS

Generally speaking, rising energy prices and pressures on demand from China's economy in the first half of the year pushed prices up for all commodities. However, commodity prices showed strong signs of stabilizing during the second half of the year.

The zirconium needed to fabricate most of the Fuel business unit's products is affected by pressures in the zircon market. Zircon is the basic commodity from which metallic zirconium is extracted at the Jarrie plant. The cost of zircon stabilized due to a more favorable dollar exchange rate and the positive impact of activities to secure the supply chain (search for new suppliers, contract extensions). The price of another base product, carbon black, continued to fluctuate along with the price of oil, to which is pegged, with a

16% hike in 2006, a 9% increase in 2007, and a 19% jump in 2008. After stabilizing in 2006, electricity prices under the EDF/AREVA contract began climbing again in 2007. The supply of magnesium has been secured, in terms of both volume and price, under long-term contracts since 2007.

Subcontracted fabrication services primarily relate to spacer grid stamping, a key structural component of the fuel assembly. This service is secured via partnership agreements with Métalis, Novus and ETM, the main providers of these services. Heraeus acquired the operations of Platexcis, our leading supplier for Silver/Indium/Cadmium rods used to manufacture control rods. This required requalification of the new organization (processes and products) once the production equipment had been moved to the Hanau plant.

#### 6.3.1.4.6. Operations and highlights

Commercially, several significant orders were recorded in 2008:

- a contract with Taiwan Power Company (Taipower) to supply fuel assemblies for units 1 and 2 of the Chinshan and Kuosheng nuclear power plants (BWRs). The contract is valued at more than 200 million US dollars. The group will supply five fuel reloads to each of the four reactors. The customer has an option to acquire three additional reloads. In addition to fuel fabrication, the Fuel business unit will perform studies for fuel design and certification and will provide operating support services, including assistance for core monitoring;
- a contract with Southern California Edison to supply demonstration assemblies for the San Onofre nuclear plant;
- the renewal of a contract with British Energy to supply two enriched reprocessed uranium reloads (ERU);
- AREVA signed a memorandum of understanding with Brazilian utility Eletronuclear for cooperation in providing expertise on the fabrication of nuclear for the Brazilian nuclear program;
- CÉZUS, in charge of the zirconium line, successfully renewed its leading non-group contracts. In early 2008, CÉZUS opened a wholly-owned commercial subsidiary in Japan (CÉZUS Japan) to provide enhanced service to Japanese customers;
- the Fuel business unit signed several strategic agreements to develop its operations in Asia:
  - an agreement in the front end of the nuclear cycle was signed with the mining company Kazatomprom of Kazakhstan. Under this agreement, the business unit will provide engineering support for the construction of nuclear fuel assembly lines in Kazatomprom's metal plant in Ulba. As part of a joint company owned by Kazatomprom (51%) and AREVA (49%), this installation will include a 400 metric ton per year fuel assembly line, for which Kazatomprom will supply the fuel pellets. The marketing of this fuel will be done by a joint company (51% AREVA, 49% Kazatomprom),

- in Tokyo, AREVA, Mitsubishi Heavy Industries Ltd. (MHI), Mitsubishi Material Corporation (MMC) and Mitsubishi Corporation (MC) signed a quadripartite agreement to establish a joint company specialized in nuclear fuel (“Newco”). Newco will develop, design, fabricate and market nuclear fuel. Relying on the technology and experience of each of the partner companies, Newco will strengthen their fuel design and fabrication business against a backdrop of increasing growth in the nuclear energy sector.

Cerca’s share of the research reactor fuel market continues to be high as a result of the ongoing program to modify reactors to allow them to use fuel that is less than 20% enriched in  $U_{235}$  (TRIGA reactors in the United States). The LEA (Laboratoire Etalons d’Activité) radioactive source calibration laboratory had strong performance in 2008 with the delivery of the first primary source rods to Japan.

In manufacturing, the business unit continues to optimize its manufacturing capabilities.

- The Romans site renovation program begun in 2004 continued on schedule and within budget (total budget: 100 million euros over the 2005-2008 period). The two conversion furnaces completed in late 2007 were placed in service, followed by the two pellet manufacturing lines, including, in September 2008, the South line featuring the first pneumatic feed transfer system. The control room was entirely revamped. The old consoles were removed and replaced by a central control system. The renovation aims to meet the most stringent nuclear safety, industrial safety and radiation protection standards.
- During a servicing operation performed on July 17, a defect was detected in piping connecting the Cerca fuel fabrication plant to the treatment station at the Romans site. This event, which had no impact on the environment, was classified at Level 1 on the International Nuclear Event Scale (INES), which has 8 levels, from 0 to 7.
- In addition, several action plans were launched to improve product reliability and production quality after a few anomalies surfaced in 2008. Improvement activities have already been carried out. Resistance welding, for instance, is now certified at all of our production sites. The company also designed an

improved spacer grid, and a reload using this improved component has already been delivered.

Last April, the Design and Sales department set up a new global engineering organization. The goal is to improve the consistency of the design process and the use of resources around the globe.

The new organization, as much as the increased capacity, will increase the flexibility and security of supply to provide the best possible response to customer requirements.

#### 6.3.1.4.7. Outlook and development goals

The business unit’s primary objective is fuel reliability and all of its employees are focused on ensuring product performance and quality.

Commercially, the business unit’s objective is to bolster its international market share by expanding its market positions in the United States and Asia, chiefly China and Japan, while maintaining its strong European base and preserving its operating margin at all times.

To achieve this objective, the business unit is implementing a series of targeted actions:

- In products, the Fuel business unit is continuing to optimize its portfolio of existing products and to reduce the number of manufacturing processes. Development programs, including Gaia (PWR) and Delta (BWR), will be pursued to satisfy already identified long-term requirements. The purpose of these programs is to define the fuel assemblies destined to replace existing designs by the years 2010-2015.
- On the manufacturing side, the business unit continued to optimize its production plants to gain the flexibility needed to respond to a wide spectrum of customer requirements while improving productivity. The business unit stepped up the sharing of best practices among its sites and bolstered plant versatility to enable each site to fabricate different types of fuel assemblies.

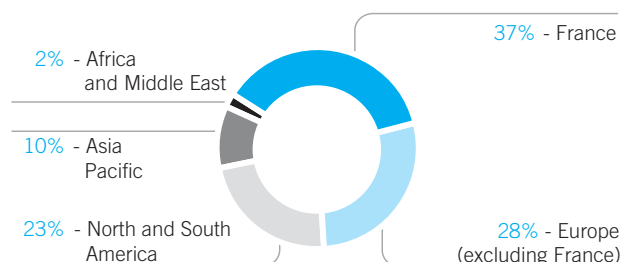
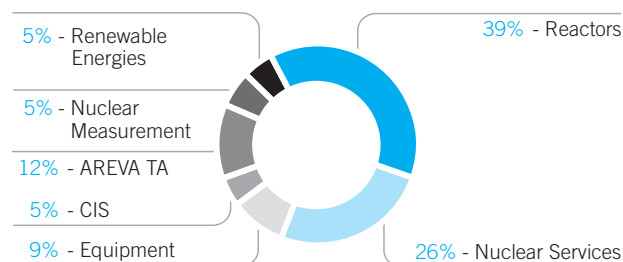
## 6.3.2. Reactors and Services division

### Key data

(in millions of euros)	2008	2007
Revenue *	3,037	2 717
Operating income	(687)	(178)
Workforce at year end	19,477 employees	16,500 employees

\* Contribution to consolidated revenue.

### 2008 revenue by business unit and geographical area



### Overview

**The Reactors and Services division contributed 23% to AREVA group revenue.** The division designs and builds the two leading types of reactors currently in use around the world – pressurized water reactors (PWR) and boiling water reactors (BWR) – as well as naval propulsion and research/test reactors. It also offers products and services for upgrades, inspection and servicing of all types of nuclear power plants and for nuclear propulsion.

The division is organized into seven business units:

- Plants business unit: design, engineering and construction of nuclear power plants;
- Equipment business unit: design and manufacture of nuclear power plant components;
- Nuclear Services business unit: maintenance, inspection and servicing of nuclear power plants;
- AREVA TA business unit: design and fabrication of naval propulsion reactors and ultra-safe complex systems;
- Nuclear Measurement business unit: design and fabrication of nuclear measurement instrumentation;
- Consulting and Information Systems business unit: consulting, systems integration and IT outsourcing;
- Renewable Energies business unit.

In terms of installed capacity, AREVA supplied the majority of the world's pressurized water reactors (PWR), representing close to two-thirds of all nuclear power reactors in the world. AREVA's reactors are located in key regions of the globe: North and South America, South Africa, China, South Korea and Western Europe. Its main competitors are groups such as Westinghouse/Toshiba and AtomEnergProm in Russia.

The group also has solid experience in boiling water reactors (BWR), for which General Electric is the world leader. There is a more limited market for BWRs than for PWRs; BWR units are in service in Japan, the United States, Germany and Northern Europe.

The new Renewable Energies business unit gives concrete expression to AREVA's strategy of expanding its offer for CO<sub>2</sub>-free technologies. In the wind energy field, AREVA is developing high power turbines that convert the wind's motive power into electricity. In 2007, AREVA acquired a 51% stake in Multibrid, a German manufacturer of offshore wind turbines. In the Bioenergy field, AREVA supplies turnkey biomass and biogas power plants that recycle organic materials of plant and animal origin into energy. In January 2008, AREVA acquired 70% of Koblitz, a Brazilian firm that supplies sugar cane-based biomass power plants and small hydroelectric plants. AREVA's subsidiary Helion offers hydrogen production and power generation solutions using water electrolysis and fuel cell technologies.

## Strategy and Outlook

The Reactors and Services division intends to assert its world leadership in nuclear power by conquering one third of the accessible market for new power plants and by promoting the nuclear option as an alternative to fossil fuels throughout the world. This objective is accompanied by AREVA's determination to expand into renewable energies, a natural partner to nuclear power for fighting CO<sub>2</sub> emissions, in which a significant position is targeted by 2012.

To achieve this objective, the Reactors and Services division is building new reactors in Finland, France and China. These are the first Generation III+ reactors in the world. AREVA's advanced technology gives it a unique advantage to compete on all markets.

In Europe, the group traditionally has very strong positions in France and Germany. It has also developed bonds with major operators in other countries. In particular, AREVA plans to take a large share of new power plant construction in the United Kingdom. To achieve this goal, E.On and AREVA signed an umbrella cooperation agreement related to nuclear power generation. The EPR™ reactor was chosen for its economic and environmental performance and for its level of safety, unrivaled in the current market.

The United States, which has the world's largest installed generating capacity, is also a growth engine for the Reactors and Services division. The group is number one in the services sector in that country and has conquered considerable market share in heavy equipment replacement at operating power plants as well as instrumentation and control system modernization and service life extension. AREVA has several strategic partners in the United States: Bechtel Power Corporation and UniStar Nuclear Energy for the design of the US EPR™ reactor, and AmerenUE and PPL, which want to build EPR™ reactors.

In Asia, the leading accessible markets are located in China and India.

The AREVA group has been active in China for 20 years, building four of that country's ten nuclear plant units in operation as of the end of 2006. Following the contract awarded at the end of 2007, AREVA will build China's first two EPR™ nuclear islands in Guangdong Province.

In India, AREVA expects to supply several reactors by 2020. A memorandum of understanding was signed to that effect between AREVA and Nuclear Power Corporation of India Limited (NPCIL).

Significant development opportunities exist in the United Arab Emirates as well. Total, GDF-SUEZ and AREVA signed a partnership agreement to propose a nuclear generating plant in the United Arab Emirates to authorities of that country. Local partners will be associated with the project.

To reach its development goals, the Reactors and Services division is pursuing several strategic lines of action:

- successfully complete construction of the first EPR™ reactors and mine lessons learned from them to optimize future projects;
- strengthen the division's line of PWRs by developing the ATMEA1 reactor in partnership with Mitsubishi Heavy Industries. ATMEA1 is a pressurized water reactor in the 1,000-1,100+ MWe capacity range;
- expand the product portfolio by developing the KERENA™ reactor (formerly the SWR 1000) in partnership with E.On. KERENA™ is a boiling water reactor in the 1,250+ MWe capacity range. Like the EPR™ reactor and the ATMEA1 reactor, this Generation III+ reactor will offer the highest level of safety during operations. For E.On, it will become the standard for nuclear power plant projects in the intermediate capacity range;
- strengthen and structure nuclear engineering resources at the regional level to meet an expected sharp increase in demand in the coming years. A major worldwide recruitment effort has been under way since 2004-2005. The group plans to continue its policy of selective acquisitions and alliances in this field;
- secure the supply chain for reactor construction, both by making the necessary investments and through partnerships:
  - in 2008, AREVA and Northrop Grumman Shipbuilding, a subsidiary of Northrop Grumman Corporation, decided to create a new engineering and heavy component manufacturing site in Newport News, Virginia, to meet the needs of the fast growing US nuclear market. The establishment of AREVA Newport News offers two major advantages: proximity to the customer base and production in the US dollar zone. Following the capacity expansion at the Chalon/Saint-Marcel plant in France, the new plant will strengthen AREVA's ability to support the global nuclear revival,
  - Japan Steel Works, Ltd. (JSW) and AREVA signed a major industrial agreement for the supply of large forgings. This agreement ensures AREVA supplies through 2016 and beyond. AREVA also announced the purchase of a 1.3% interest in JSW, in agreement with JSW's management. This agreement secures AREVA supplies to meeting growing demand in the nuclear business;
- continue to develop expertise in the reactor services field and offer innovative integrated services, particularly in outage management;
- pave the way for the reactors of the future by participating in international research and development programs pertaining to Generation IV fast neutron reactors and high-temperature reactors (see section 11.1.4., "Future directions in technology"), for which the group has a strong base of expertise from past efforts in France and Germany;
- become a renowned industrial player with a significant role in renewable energies.

### 6.3.2.1. Plants business unit

#### 6.3.2.1.1. Key data

(in millions of euros)	2008	2007
Revenue *	1,171	1,053
Workforce at year end	5,959 employees	5,167 employees

\* Contribution to consolidated revenue.

#### 6.3.2.1.2. Introduction and definitions

A “nuclear power plant” is defined as an industrial plant that generates electrical or thermal energy from one or more nuclear reactors. A “nuclear reactor” is a system that produces heat from the energy released by the fission of uranium and plutonium atoms during a controlled chain reaction. A “nuclear steam supply system” is the combination of equipment used to produce pressurized water vapor from fission energy. A “nuclear island” is the system encompassing the nuclear steam supply system and the fuel-related facilities, as well as the equipment required for the system’s operation and safety. A “conventional island” consists of the alternating current turbogenerator coupled to the nuclear island, along with the equipment required for its operation.

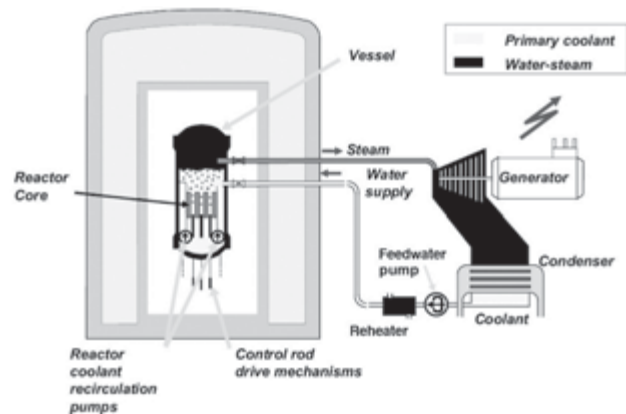
A nuclear power station consists of a nuclear island, a conventional island and miscellaneous equipment.

In nuclear power stations, the turbogenerator unit is driven by the steam produced by energy released through fission of the material in the fuel constituting the reactor core.

Light water reactors (in which water is used as both the coolant and the moderator) now count for more three quarters of the nuclear power reactors in service worldwide. There are two major types of “light” water reactors, as opposed to the heavy water used in other reactor types: boiling water reactors (BWR) and pressurized water reactors (PWR).

#### > BOILING WATER REACTOR (BWR) OPERATING CONCEPT

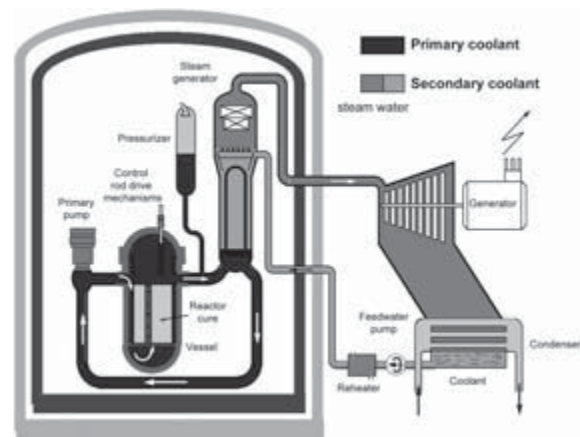
In BWRs (see figure below), water vaporizes in the vessel containing the core, comprising the fuel assemblies. The heat from the core is released in the water flowing through it. This steam drives the turbine, then cools and returns to liquid form in the condenser before recirculation in the reactor vessel. Thus, in a BWR, the water is in a closed cycle in which the steam expands directly into the turbine.



Source: AREVA.

#### > PRESSURIZED WATER REACTOR (PWR) OPERATING CONCEPT

In a PWR (see figure below), an intermediate cooling system – the secondary cooling system – is placed between water in the primary cooling system, heated by the reactor core, and the turbine. The heat generated in the reactor’s primary cooling system is released to the water in the secondary cooling system via heat exchangers called steam generators. The water from the secondary cooling system is vaporized in the secondary part of the steam generators, and the resulting steam drives the turbine. The “energy generation” function is thus separate from the “steam generation” function in the PWR.

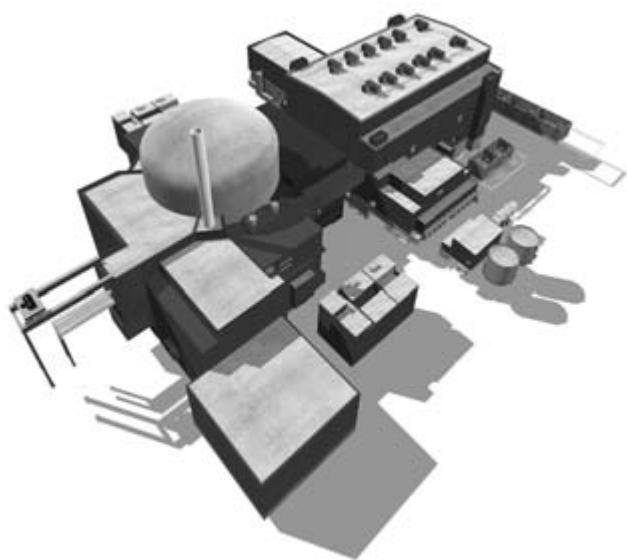


Source: AREVA.

The group is involved in both of these reactor technologies, which represent the majority of reactors in service worldwide.



## The group's offering of Generation III+ reactors



Source: AREVA.

AREVA's line of reactors includes the EPR™ reactor and ATMEA1, both of which are pressurized water reactors, and KERENA™<sup>(1)</sup>, a boiling water reactor. All of them are Generation III+ reactors that offer significant breakthroughs in terms of competitiveness and safety, fewer environmental impacts, and simplicity of operation. All AREVA reactors capitalize on proven technologies while integrating innovative systems. These models have a very high level of safety thanks to significant technology advances that help prevent and reduce the risk of an incident and provide greater protection for the neighboring population. They are also designed to withstand the crash of a commercial airplane. They have an estimated service life of 60 years, as opposed to an initial service life of 40 years for other reactor systems. Measures were taken from the beginning of the design phase to respond to environmental concerns while achieving better fuel utilization and waste volume reduction, for example by optimizing fuel burn-up. In reducing long-lived radioactive waste production by 15%, the design provides even better responses to environmental concerns. The EPR™ reactor is the most powerful PWR marketed by AREVA. It uses either fuel made with uranium oxide enriched to 5% or MOX fuel (recycled fuel – see Glossary). Its net electrical output is in the range of 1,600+ MWe.

The ATMEA joint venture, formed in November 2007 by Mitsubishi Heavy Industries, Ltd. (MHI) and AREVA in equal shares, is working on the design of ATMEA1, which will have approximately 1,100+ MWe of power. ATMEA has begun to develop and promote the ATMEA1 reactor on the international market. The reactor will meet the demand for mid-range nuclear reactors. It features advanced safety and security systems, high thermal yields, and a flexible 12 to 24 month operating cycle. ATMEA1 will be ready for the market in 2010.

AREVA is developing its latest boiling water reactor KERENA™<sup>(1)</sup>. Positioned in the medium-capacity market, KERENA™'s electrical output is approximately 1,250+ MWe, providing operators with a high level of safety and flexibility.

### 6.3.2.1.3. Businesses

The Plants business unit is involved in every aspect of nuclear steam supply system and nuclear island construction, from design through connection to the grid. It also provides support for facility operations and for dismantling. Its operations cover three main segments:

- a) Nuclear island construction:
  - design, construction and start-up of nuclear islands;
  - design and fabrication of electrical systems and advanced instrumentation and control systems for new reactors.
- b) Installed base business to support operating reactors:
  - engineering services to support heavy component replacement, enhance performance, extend service life, and other renovations and improvements to power plants and their operations;
  - upgrades to and renovation of instrumentation and control systems;
  - services for fast neutron reactors, including their dismantling;
  - a variety of services for research reactors.
- c) Research & Development activities.

### 6.3.2.1.4. Manufacturing and human resources

The Plants business unit's primary assets are engineering resources in:

- France (35% of the workforce);
- Germany (43% of the workforce);
- the United States (22% of the workforce); and
- subsidiaries and joint ventures in Sweden, Slovakia and China.

(1) KERENA™: formerly SWR 1000



The Plants business unit also has its own advanced technology development and testing capabilities, with facilities at its technical centers in Karlstein and Erlangen, Germany, and in Le Creusot and Chalon, France.

Experienced employees were very much in demand in 2008 to transfer their know-how to a new generation of employees. To prepare for growth in the new builds segment, a plan to strengthen the business unit's human resources was set in motion in 2003, resulting in the hiring of several hundred employees per year since then, the majority of them engineers, with a good balance between young graduates and seasoned personnel, mainly in France, Germany and the United States. The plan significantly lowered the age pyramid while stepping up subcontracting and mobility within the group.

#### 6.3.2.1.5. Market and competitive position

The business units operations are exercised only in countries that comply with the Treaty on the Non-Proliferation of Nuclear Weapons and that conform to their resulting commitments. The Plants business unit is a frontrunner in this market for business relating to the design of nuclear steam supply systems, for which it is an original equipment manufacturer (OEM). This business is growing on all market segments.

For new builds, AREVA is the first nuclear reactor constructor in the West to have received new reactor orders since 1999. Its competitors are Westinghouse, sold by BNFL to Toshiba of Japan in 2006, General Electric in the United States, FAEC in Russia, and AECL in Canada.

Reactor construction is a market that is destined to grow considerably. It is estimated that more than 500 GWe net of total generating capacity will be needed by 2030 through new power plant start-ups and life extension of existing reactors (see section 6.1.1.2.3., "Outlook for installed nuclear generating capacity").

#### 6.3.2.1.6. Relations with customers and suppliers

The business unit's customers are nuclear utilities all over the world, both for new builds and for the installed business base, which cover a very wide range of services.

The Equipment business unit is the in-house supplier of strategic long-lead heavy components for nuclear power plants, including the reactor vessel, steam generators, reactor coolant pumps and piping, and pressurizer. Auxiliary equipment such as piping, valves, tanks and heat exchangers, is purchased from conventional suppliers that the group has certified for quality assurance.

The business unit offers full-service reactor solutions in synergy with other group entities such as the Fuel business unit and the Nuclear Services business unit. The Plants business unit also works in close cooperation with the Front End and Back End divisions to offer integrated solutions.

#### 6.3.2.1.7. Research and development

Within the framework of the group's overall research and development programs, total R&D spending represented closed to 18% of revenue. Whether conducted in-house or in partnership with research organizations, research and development efforts focused on:

- all of the key technologies for pressurized and boiling water reactors and for the design of or changes to new reactor systems, and technology development for the new generation of reactors;
- development and validation of modeling tools and related engineering methods concerning the process, safety, equipment and systems (neutronics, thermohydraulics, materials, mechanics, chemistry, circuits and instrumentation and control);
- development of products and engineering services to support the existing reactor fleet (performance improvement, life extension, etc.);
- deployment of a standardization program for the EPR™ reactor to reduce costs by reaping the benefits of mass production.

Pursuant to an agreement signed by AREVA and Mitsubishi on October 19, 2006 for joint development of a 1,100 MWe PWR nuclear island, the conceptual design phase was successfully completed in 2007 and basic design work began in November 2007. At the same time, the companies' joint subsidiary, ATMEA, was established. In July 2008, the International Atomic Energy Agency (IAEA) completed its review of the ATMEA1 reactor's safety features. In its report, it concluded that the ATMEA1 reactor meets the IAEA's Fundamental Safety Principles and all key safety-related requirements.

In the United States, the certification application for the EPR™ reactor was submitted to the Nuclear Regulatory Commission (NRC) on December 11, 2007. The review process continued throughout 2008. Another important milestone was reached in September 2008. The AREVA/Bechtel Power Corporation team signed a multi-year contract with UniStar Nuclear Energy to develop a conceptual design of a US EPR™ reactor to be located near the Calvert Cliffs nuclear power plant.

The business unit continued to plan for the future through its work on two types of reactors:

- sodium-cooled fast neutron reactors, a long-standing area of expertise for the company: Research on innovations in this field began in 2006 following recent government decisions favorable to fast neutron reactors. The objective of this phase, conducted in partnership with the CEA and EDF, is to be able, by the end of 2012, to finalize the major design bases of a future generation of fast neutron reactors for which a demonstrator may be available in 2025;
- high temperature reactors: R&D work on a commercial high temperature reactor for mixed power/heat generation continued. The US Department of Energy (DOE) plans to build a New Generation Nuclear Power Plant (NGNP) at the Idaho National Laboratory (INL) and may issue a request for proposals for the conceptual design.

### 6.3.2.1.8. Operations and highlights

#### > REACTORS UNDER CONSTRUCTION

##### Finland

In December 2003, TVO awarded a contract to the AREVA & Siemens consortium for the turnkey supply of an EPR™ reactor at Olkiluoto (the OLS project). This is the first advanced Generation III+ power plant under construction in the world.

Construction progressed in 2008: the outer shell of the reactor building rose from +20.10 meters above grade to +41 meters. In August, the first rooms of the fuel building and two safeguard buildings were turned over to the installation teams. Electric work began in October. In November, the first accumulator was installed in the reactor building and the first heat exchanger was installed in the safeguard building. The workforce at the site had risen to 3,500 people by the end of 2008. The peak workforce of 4,000 is expected in 2009. Progress was also achieved in heavy components: the reactor vessel was completed in 2008 and delivered to Olkiluoto on January 4, 2009. Manufacturing of the first steam generator, the four hot legs of the cooling system and the four cold legs was also completed.

Following delays, measures to accelerate the project were taken by TVO and the consortium, but the customer has not implemented them in a satisfactory manner. While challenges remain in the overall project, the consortium is doing everything in its power to anticipate and contain schedule uncertainties.

Most of the civil works should be completed in 2009. The finishing touch will be put on the reactor building with the placement and concreting of the dome. At the same time, installation activities will pick up pace.

##### France

As a logical extension of a previously initiated process (public energy debate in 2003, framework energy policy legislation of July 13, 2005, public debate from October 2005 to February 2006 on the appropriateness of the EPR™ reactor project at Flamanville), EDF decided in May 2006 to build the first in a series of EPR™ reactors at its Flamanville site (the FA3 project) and applied for an enabling order (*autorisation de création*) from the government. At the same time, EDF awarded major procurement contracts, including contracts to AREVA for forgings of large primary components and, following a competitive procurement, for the operating instrumentation and control system.

The license decree was granted in April 2007. AREVA and EDF sealed an agreement on the main contract for the construction of the nuclear steam supply system, which was signed in April 2007. This agreement marks AREVA's 100<sup>th</sup> reactor order. EDF launched preparatory work in the summer of 2006 and began building construction, with the first concrete poured according to schedule on December 3, 2007. The construction of the nuclear island, which constitutes a major milestone in the Flamanville EPR™ reactor, made progress: the concrete slab for the reactor building and auxiliary buildings was poured and steel work continued in other areas of the nuclear island. At the end of November 2008, the six lines of the safety injection and residual heat removal system (RIS/EVU) were welded onto the reactor building's steel liner. This is the first large AREVA-delivered equipment to be installed.

Manufacturing of the reactor vessel, the four steam generators and the primary coolant pipes is ongoing.

On October 20, 2008, AREVA inaugurated the new functional testing platform for the reactor's instrumentation and control system on the outskirts of Paris.

##### China

On November 26, 2007, AREVA signed a record-breaking partnership agreement in the civilian nuclear power field with Chinese utility Taishan Nuclear Power Company (TSNPC). The contract involves a series of agreements under which AREVA, as part of a consortium with two subsidiaries of TSNPC, will build two EPR™ nuclear islands and supply all of the materials and services needed for their operation for 15 years. A joint engineering company will also be established. The long term partnership demonstrates the timeliness of the AREVA group's business model and its integrated offering for the entire nuclear cycle. Both EPR™ reactors will be built in Taishan, Guangdong Province.

Several milestones were met last year. As agreed with the consortium, three groups of Chinese engineers arrived in Paris during the year. In May, the subcontract for the Balance Nuclear Island (BNI) was signed with Sofinel, a joint AREVA/EDF subsidiary. In July, the framework agreement and work order no.2 was signed with a group of contractors for the design of the reactor and fuel buildings, the four safeguard buildings, the nuclear auxiliaries building and the galleries. The excavation ceremony was held on August 26, 2008 and the first concrete will be poured in 2009.

Progress was also made in primary components: manufacturing of the reactor vessel and the steam generators is well under way.

The consortium's partner, China Nuclear Power Engineering Co. (CNPEC), ordered numerous BNI components.

### United States

The US nuclear landscape continues to evolve favorably, although some delays are expected as a result of the recent worldwide economic slowdown.

A certification application for the EPR™ reactor design was accepted for technical review by the US Nuclear Regulatory Commission (NRC) in March 2008. The business unit is taking every step necessary to respond to NRC requests for additional information (RAI) without delay. The review is ongoing and is expected to culminate in certification in 2011. Priority was also given to contract negotiations with UniStar Nuclear Energy (UNE) and consortium partner Bechtel Power Corporation for engineering and construction work. UNE awarded the contract to the consortium in September 2008, but the engineering work had already started in January 2008 and continued throughout the year.

In March 2008, UNE submitted a reference combined license application (R-COLA) to the NRC for the US EPR™ reactor design for Constellation's Calvert Cliffs 3 site. Other COLAs were submitted in July 2008 for Callaway 2 (AmerenUE) and in October 2008 for PPL's Bell Bend site and Constellation's Nine Mile Point site. Thus, four COLAs involving AREVA's EPR™ reactor are now docketed by the NRC. The Plants business unit provided support to its customers during the many public meetings held as part of the licensing review process.

The four sites have submitted loan guarantee applications to the US Department of Energy (DOE). These applications are currently under review. The names of the power companies eligible for a guarantee will be known in 2009.

In October 2008, AREVA and Northrop Grumman announced the creation of AREVA Newport News, a joint company that will build manufacturing capability in Virginia. AREVA is the majority shareholder of the company. The plant will manufacture heavy components for EPR™ reactors built in the United States. Plant construction is scheduled to begin in 2009.

### United Kingdom

In August 2007, as part of the start of the certification process, AREVA and EDF jointly launched the precertification of the EPR™ reactor in the United Kingdom with the submittal of the reactor concept to the British safety authorities. The application was accompanied by letters of interest from 10 British utilities: British Energy, Centrica, E.ON, Endesa, Iberdrola, RWE, Scottish & Southern Energy, GDF-SUEZ, Union Fenosa and Vattenfall, which see in the EPR™ reactor a reactor suited to the new requirements for nuclear power plants in the United Kingdom. At the same time, the UK government carried out a public consultation and officially announced in early January 2008 its decision to include nuclear power in the future British energy mix.

On April 23, 2008, E.ON and AREVA signed a framework cooperation agreement in the field of nuclear power. A preliminary safety report for the design of a EPR™ reactor was later submitted for review to the country's licensing authority, the Health and Safety Executive/Environment Agency, as part of a Generic Design Assessment process (GDA).

On December 4, 2008, AREVA announced an industrial action plan to ensure the efficient development of EPR™ reactor projects in the United Kingdom. They could be the first reactors built in the UK for more than 20 years. This decision was backed up by the group's partnership with EDF as part of the GDA process for the EPR™ reactor. Under this action plan, AREVA concluded a partnership agreement with UK industrial groups Rolls-Royce and Balfour-Beatty related to power plant engineering, equipment procurement and construction works.

### India

On February 4, 2009 AREVA signed a Memorandum of Understanding with the Indian nuclear reactor constructor, Nuclear Power Corporation of India Limited (NPCIL), for the construction of two EPR™ reactors at the Jaitapur site in India, designed to receive up to six EPR™ reactors ultimately.

### > OTHER PROSPECTS

#### United Arab Emirates

In January 2008, AREVA formed a partnership with Total and power company GDF-SUEZ to respond to a call for bids in the United Arab Emirates in 2009 to build reactors in Abu Dhabi.

#### Brazil

Discussions are ongoing with Eletrobras TermoNuclear S.A. in connection with the completion of the Angra 3 nuclear power plant. A contract is expected in 2010.

#### France

On January 30, 2009, the French government announced the decision to build a second EPR™ reactor at the Penly site in the Seine Maritime department. EDF will be the majority owner of the company building the reactor. The GDF-SUEZ utilities will participate in the project. Construction should begin in 2012. Connection to the grid is slated for 2017.

#### South Africa

In 2007, South Africa issued a call for tender for the first two reactors of the "Nuclear-1" program. The complete program includes several units representing up to 20,000 megawatts in all, i.e. the equivalent of 12 EPR™ reactors. Two reactor models were preselected, including the EPR™ reactor.

After initially postponing the project following the change in South Africa's government in October 2008, the Board of Directors of South African utility Eskom announced on December 5, 2008 that it is not in a position to proceed with the investment corresponding to the "Nuclear-1" program. The Department of Public Enterprises nonetheless stated that the government of South Africa still wants to turn to nuclear power to diversify the country's energy mix and reduce its carbon footprint.

Several other countries expressed an interest in building new reactors, including Italy, the Netherlands, Switzerland, Poland, Finland, Lithuania, Russia, China, Vietnam, Jordan, Morocco, Egypt and Brazil.

#### > INSTALLED BASE BUSINESS

The profitability of the Plants business unit's installed base business improved in 2008. Business remained strong in absolute value and is up 2% in relation to 2007. The market continues to be supported by utility investments to maintain or improve the performance of their generating plants. This business includes a broad range of services for numerous customers, mainly in AREVA's three national markets of France, Germany and the United States, but also for many customers elsewhere.

#### > INSTRUMENTATION & CONTROL SYSTEMS

Instrumentation and control system overhauls, mainly consisting of replacing obsolete analogue technologies with digital technologies, represents a significant percentage of renovation operations. The Plants business unit is conducting complex projects in Sweden (Oskarshamn), Finland (Loviisa), the United States (Oconee) and the Czech Republic (Dukovany). Other projects were successfully completed in China (Qinshan) and in Germany (Philipsburg 2).

In Slovakia, the AREVA-Siemens consortium was awarded a contract for the basic design of key instrumentation and control systems for a project to complete units 3 and 4 of the Mochovce nuclear power plant.

#### > OTHER ENGINEERING ACTIVITIES

##### **Bulgaria**

Following the agreement reached in late 2006 between the Bulgarian utility NEK and AtomStroyExport of Russia (ASE) to complete two Russian-designed VVER 1,000 units in Belene, the business unit, teamed with Siemens, will act as ASE's designated subcontractor to supply safety-related heating, ventilation and air cooling systems, instrumentation and control systems, and electrical equipment and systems. The business unit will also supply various safety systems such as hydrogen recombiners.

##### **France**

The large number of EDF power plants continues to require updates to a variety of technical documentation, in particular the "Regulatory Reference Documents for 900 MW and 1,300 MW

units". For the third set of 10-year inspections of the 900 MW units, the business unit continued to take part in important modifications, including the replacement of valves for the safety injection system. In 2008, the business unit continued to be heavily involved in analysis of clogged steam generators and justification of EDF's reactor operations at the time. In preparation for the third set of 10-year inspections of the 1,300 MW units, EDF asked the business unit to perform feasibility studies to increase the capacity of these units by 8%.

In addition, Superphénix dismantling operations are continuing at a steady pace and will ensure that the skills needed for restart of development work on the sodium-cooled fast neutron reactor will be maintained and expanded. A proposal was also submitted to the CEA in connection with dismantling of the Phénix reactor.

In addition, in partnership with AREVA TA and EDF, a contract was signed with the CEA for the construction of its new Jules Horowitz research reactor.

##### **Germany**

The "grand coalition" is maintaining the political consensus on the phase-out of nuclear power, thus discouraging utilities from launching major programs. Some of them, however, appear to be determined to continue investing to ensure their long-term production capabilities, like RWE and E.ON, who asked AREVA for power plant upgrades studies to optimize safety and extend their operating lives.

##### **Sweden**

The AREVA-Siemens consortium is in charge of the PLEX project awarded in 2006 to upgrade unit 2 of the Oskarshamn power plant and uprate capacity.

The business unit is also involved in the FREJ project, the world's largest PWR uprating project. Three business units – Plants, Equipment and Nuclear Services, with the latter in the lead – are cooperating to replace the steam generators and pressurizers. The Plants business unit is in charge of the safety analysis report; the Equipment business unit is supplying the equipment of the primary cooling system, which will be installed by the Nuclear Services business unit.

##### **United States**

In partnership with Day & Zimmerman, the Plants business unit is in charge of the Road to Excellence project (RTE) for customer Florida Power & Light. This turnkey program consists of approximately 40 upgrades to units 3 and 4 of the Turkey Point plant over a 5-year period.

##### **South Africa**

ESKOM continues to reflect on the timing for power uprating and steam generator replacement for Koeberg 1 and 2.

### 6.3.2.1.9. Outlook and development goals

The outlook is still good for the installed base business, given the utilities' determination to optimize reactor reliability and availability, extend service life, and enhance reactor performance. The business unit's objective is to secure recurring business by adjusting its offer to new customer requirements, improving its work tools and methods, and harvesting product synergies among operations in France, Germany and the United States, all business units combined.

In new reactor construction, the group's objective is to build one third of all new nuclear capacity on the accessible market. This means taking advantage of the opportunities offered by the accelerating nuclear power program of China, US utility initiatives, and the decisions taking shape in several countries to restart nuclear programs.

### 6.3.2.2. Equipment business unit

#### 6.3.2.2.1. Key data

<i>(in millions of euros)</i>	2008	2007
Revenue	260	215
Workforce at year end	2,323 employees	2,005 employees

\* Contribution to consolidated revenue.

#### 6.3.2.2.2. Businesses

The Equipment business unit's primary activity is the design and manufacturing of mechanical and welded components for the nuclear island:

- heavy components: steam generators, pressurizers, reactor vessels, vessel heads, and vessel internals and support structures, which are the main components required to build a nuclear steam supply system;
- mobile components: reactor coolant pump sets and control rod drive mechanisms that regulate the reaction in the reactor core;
- large forgings, castings and machined parts used in the manufacture of heavy components for the nuclear island and in process industries (petrochemicals, etc.).

#### 6.3.2.2.3. Manufacturing and human resources

The Equipment business unit operates several plant sites in France and globally. It employs 2,323 employees, up from 2007.

The Saint Marcel plant near Chalon-sur-Saône, France, is dedicated exclusively to the manufacturing of heavy nuclear equipment. The main building covers a surface area of 39,000 m<sup>2</sup> (9.64 acres) and has a lifting capacity of 1,000 metric tons. Since opening in 1975, the plant has manufactured all of the heavy components for the 900 MWe to 1450 MWe units in the French nuclear program and has delivered more than 526 heavy components – steam generators, pressurizers, reactor vessels, vessel heads and internals – to customers around the world. The plant had an average staff of 1,052 people in 2008.

The JSPM plant <sup>(1)</sup> in Jeumont, northern France, manufactures mobile equipment for nuclear power plants. The plant specializes in the design and manufacture of moving mechanical components for the nuclear island and replacement parts for those components, including reactor coolant pump sets and control rod drive mechanisms. Component installation and maintenance services also represent a significant share of the business unit's activity. Founded in 1898, the plant had a staff of 622 people in 2008.

SOMANU, a subsidiary based in Maubeuge, France, focuses on three main lines of business: it provides containment rooms, equipment maintenance services (including disassembly, decontamination, machining, revamping, equipment reinstallation and testing), and equipment storage before and after maintenance. The site had a staff of 36 people in 2008.

The Equipment business unit also operates in China through the AREVA Dongfang <sup>(2)</sup> joint venture (ADJV) formed with the DFEM group in 2005 to build JSPM-designed reactor coolant pump sets for the Chinese market. The site, located in Deyang, Sichuan province, has a 6,000 m<sup>2</sup> assembly facility. The plant has been in operation since 2007. It has 17 AREVA employees.

The Sfarsteel group, comprised of four different companies – Creusot Forge, Creusot Mécanique, Sfar and Civad – in Le Creusot and its surroundings (Saône-et-Loire department of France) employed 464 people in 2008. Its foundry and machining facilities give the Equipment business unit production capacity for large forgings and castings needed to make heavy components for the nuclear island. Production resources include a forge with two presses (7,500 MT and 11,300 MT), as well as a machining facility, which was significantly upgraded in 2008. These resources also include mechanized welding and machining facilities for mechanical sub-assemblies.

In October 2008, AREVA and Northrop Grumman Shipbuilding decided to form a joint venture to create a new engineering and component manufacturing site in Newport News, Virginia, to serve the needs of the US nuclear market. The joint venture, named AREVA Newport News, LLC <sup>(3)</sup>, will build a world-class facility to manufacture heavy components.

(1) Jeumont Solutions for Pumps and Mechanisms.

(2) JSPM 50%, DFEM (DongFang Electrical Machinery) 50%.

(3) AREVA 67%, Northrop Grumman 33%.



In addition, the management and support functions of the Equipment business unit employed 51 people in 2008 at the AREVA group's corporate office in Paris.

#### 6.3.2.2.4. Market and competitive position

The Equipment business unit's accessible market consists of all pressurized water reactors. Expansion to the boiling water reactors market in the longer term is also a possibility. The nuclear equipment market consists of two segments: the component replacement market and the new build market. The latter is growing very rapidly in light of the revival of new power plant construction around the globe, particularly in the United States, Europe and China, and prospects for the development of new markets, mainly in India and the Middle East.

This expansion is accompanied by stronger customer expectations, intense scrutiny by safety authorities (whose human resources are not keeping pace with this growth, with a resulting impact on schedules), strong competition and price pressures accentuated by fierce competition in the dollar zone. The business unit must also cope with strong pressures on the commodities market, especially for steel and nickel.

##### > HEAVY COMPONENTS

The market is characterized by substantial international competition, consisting of five main companies: Doosan and MHI <sup>(1)</sup> in Asia, Ensa and Camozzi (formerly Ansaldo) in Europe, and Babcock & Wilcox in North America. Unlike AREVA, which has an integrated offering, these competitors must associate with other partners for engineering and project management. Other potential competitors, particularly in China, are not yet active on international markets.

The Equipment business unit occupies a dominant position in France, despite the fact that EDF has completely opened up the large market for replacement steam generator fabrication to the competition. Prices having risen considerably due to higher commodity costs, especially for forgings and tubing, but margins have not followed suit and remain low for heavy components. Despite the challenging situation, the business unit aims to keep a market share of around 80%.

Price pressures continue overseas, where the competition is not waning. It will therefore be challenging to maintain the leadership position the business unit has acquired over the past five years in the US, where its market share averages 30%, without locating part of its production there. This is why AREVA decided to form AREVA Newport News, a joint company with Northrop Grumman Shipbuilding. The US market differs from the European market in the diversity of US utility demand, requiring targeted responses incorporating not only the supply of heavy components for a broad range of reactor models, but also the integration and installation of these components in existing plants. The synergies between the operations of the Equipment business unit's different sites and the group's US-based engineering and services teams are helping to bring global services solutions to the utilities and are a key discriminator in terms of the competition.

The Chinese market is very buoyant, particularly for new power plant construction. Localization being an important factor to gaining entry to the Chinese market, the business unit concluded several subcontracting agreements with Chinese companies.

##### > MOVING COMPONENTS

The market for moving components is also driven upwards by new builds. The leading competitors of the JSPM plant on this segment are Westinghouse, MHI and Curtis Wright. In the large Chinese market, where there are strong pressures to have a local presence, the AREVA group is meeting booming local requirements *via* the AREVA Dongfang joint venture.

##### > FORGINGS

The market for large forgings is an extremely favorable one, given the high level of quality required by the nuclear sector and the limited competition. Creusot Forge and its leading competitor, the Japanese company JSW <sup>(2)</sup>, supply 90% of demand. The industrial resources and know-how of these two companies make them key players in the manufacture of large forgings of heavy components for the nuclear island.

The market for large nuclear forgings is growing steadily. For many years, demand centered on replacement programs for steam generators and vessel heads. It is now strongly oriented towards new build projects.

(1) Mitsubishi Heavy Industries.

(2) Japan Steel Works.

#### 6.3.2.2.5. Operations and highlights

From a marketing perspective, orders on the new power plant market are received by the Plants business unit (see section 6.3.2.1., “Plants business unit”), which subcontracts primary component manufacturing to the Equipment business unit.

The AREVA group achieved steps forward on this market in 2008. In China, it strengthened its strategic partnership with Chinese utility CGNPC <sup>(1)</sup>. The two groups decided to form a joint venture <sup>(2)</sup> in charge of engineering and procurement for Generation II and Generation III reactors (*i.e.* the CPR 1000 and EPR™ reactors). In addition, JSMP and its subsidiary ADJV booked several large orders to supply reactor coolant pumps and control rod drive mechanisms for Generation II+ reactors in China.

In the United States, the establishment of AREVA Newport News is a significant strategic achievement for the Equipment sector, which increases its heavy component production capacity and its ability to participate in the global nuclear revival.

Key events on the heavy component replacement market include the delivery of three steam generators to EDF's Dampierre power plant and two steam generators to Brazil's Angra power plant. AREVA reasserted its leadership position on this market with an order for nine replacement steam generators for EDF's 900 MWe power plants in France. The Saint-Marcel plant will perform the contract, which includes the design, manufacturing and delivery of the nine steam generators and related services.

It also won several contracts to manufacture forged pressure envelopes for the petrochemical industry.

In addition, the business unit's different sites are increasingly mobilized by major new power plant construction projects such as Olkiluoto 3 in Finland, Ling Ao II in China and, more recently, Flamanville 3 in France. Regarding the Olkiluoto 3 project, the year was marked by MHI's successful hydraulic testing of the reactor vessel in Kobe, Japan, and the acceptance of the primary coolant system legs by the customer and the Finnish safety authorities. Another important milestone was the successful hydraulic testing of the first EPR™ reactor steam generator at the end of the year. These achievements are precursors to the delivery of the majority of the heavy components in 2009. Meanwhile, manufacturing of the four steam generators for the Flamanville 3 site continued at the Saint-Marcel plant. The reactor vessel for the Ling Ao II project was delivered on schedule.

Regarding industrial processes, the program to reduce transit time continued at the Saint-Marcel plant. This ambitious plan encompasses every function of the plant. The objective is to significantly reduce component transit time from the order to customer delivery. The plant was recognized by the American Nuclear Society for its major contribution to the development of nuclear power and the implementation of advanced industrial technologies over the past 30 years.

At the JSMP plant, the first phase of the program to boost production capacity was completed in the summer with the start-up of the control rod drive mechanism facility and the complete reorganization of the coolant pump facility. These investments are the first steps in a broader plan to increase capacity that will continue through 2011. The business unit also started construction of a new testing facility for reactor coolant pump sets in actual power plant operating conditions at flow rates never before achieved. In the area of innovation, the first part made using computer-aided design and manufacturing was machined on a 9-axis machine.

In forgings, the plan to increase capacity at Creusot Forge and Creusot Mécanique continued with the loosening of production bottlenecks and upgrades to the machining shops. Heavy maintenance of the 7,500 MT press was performed successfully during the year. In another key event, AREVA and ArcelorMittal signed a memorandum of understanding to increase Industeel <sup>(3)</sup> production earmarked for the nuclear market. A capital program will be implemented over the 2008-2010 period to increase the plant's steel ingot production capacity significantly, from 35,000 metric tons to 50,000 metric tons per year.

The business unit also took several steps to secure its entire supply chain. Japan Steel Works (JSW) and AREVA signed a major industrial agreement for the supply of large forgings, securing these supplies through 2016 and beyond.

In Bethlehem, Pennsylvania, Lehigh Heavy Forge cast the first pressurizer ring for the US EPR™ reactor, ordered and supervised by AREVA.

#### 6.3.2.2.6. Relations with customers and suppliers

##### > CUSTOMERS

On the new power plant market, the Equipment business unit acts as a subcontractor to the Plants business unit, which deals directly with the final customer. However, the Equipment business unit deals directly with the customer on the replacement market.

(1) China Guangdong Nuclear Power Company.

(2) CGNPC 55%, AREVA 45%.

(3) Subsidiary of ArcelorMittal.



EDF is the Equipment business unit's largest customer. Internationally, large customers are Chinese conglomerates, US utilities and the Finnish utility TVO for the construction of the Olkiluoto 3 nuclear island. The highly competitive market environment in this sector is prompting customers to demand ever more attractive contracts in terms of warranties, delivery schedules and prices. The preference is for global service proposals covering the supply of replacement components, the replacement operations themselves (see section 6.3.2.3., "Nuclear Services business unit"), and related engineering and licensing support. As the only entity in this market capable of offering all of these supplies and services, the AREVA group has a considerable competitive advantage.

#### > SUPPLIERS

The business unit uses two main categories of suppliers: tube-makers for steam generator tubing, and steel companies for the forgings needed to manufacture heavy components. There are three steam generator tubing manufacturers: Sandvik in Sweden, Valinox Nucléaire in France, and Sumitomo in Japan. Their current capacities are sufficient to meet requirements in the short to mid term, but will rapidly become insufficient in view of the number of new power plant construction projects. Considering the critical nature of these supplies, the business unit is finalizing alliances with new suppliers to secure additional long-term capacity.

There are also very few competing steel-makers capable of meeting the quality standards demanded by the nuclear industry. They are essentially concentrated in Europe, with Terni in Italy and Bohler in Austria, in the United States with Lehigh Heavy Forge, and in Asia, with Doosan in South Korea and JSW in Japan. Of these companies, only JSW is positioned on the market for large forgings, on which the business unit is also present through Creusot Forge, a Sfarsteel group company. Other potential competitors can be found in China (principally CFHI <sup>(1)</sup>), while others are also developing in India.

The lack of capacity resulting from growing demand in the petrochemical industry makes it critical to secure the Equipment business unit's supply chain. Given this situation, the business unit was able to secure new forging capacity and strengthen its position for this commodity by buying the Sfarsteel group in 2006. This acquisition does not preclude new partnerships with other forges in the coming years.

#### 6.3.2.2.7. Research and development

The business unit is focusing its research and development activities in two main areas: 1) improving technologies and processes for ongoing projects, and 2) evaluating and developing reactor equipment solutions for the coming decades.

These activities are oriented towards improving technologies and processes, favoring the use of new materials, promoting digital simulation and modeling, and implementing control systems used in equipment manufacturing and monitoring.

Using heavy components as an example, improvement goals include processes to forge very large components and welding processes. The goal is also to improve the quality of the components and assemblies, reduce manufacturing cycles, and lower costs by using a design-to-cost approach.

This effort will be duplicated in moving components, with priority given to the development of a 60-Hz reactor coolant pump for the US market, a test loop for reactor coolant pump sets operated at full capacity, design, calculation and diagnostic tools, and new hydrodynamic shaft seal technology, for which an agreement was signed with Andritz in March 2008.

This level of effort will be maintained over the next five years to support new power plant construction projects and will be bolstered by additional resources and skills (experts and specialists).

#### 6.3.2.2.8. Sustainable development

In 2008, the Equipment business unit continued its proactive policy of change centered on the three pillars of sustainable development: economic performance, environmental protection and social responsibility. This continuous improvement initiative is monitored using the AREVA Way self-assessment, which is implemented at all sites. Consistent with the business unit's strategy, this diagnostic method helped to set objectives for the business unit as a whole and for each site, and to identify and quantify continuous improvement activities through the use of a performance objectives chart.

Among the results achieved during the year, the Saint-Marcel, JSPM, SOMANU and ADJV sites earned all three certifications for quality, safety and the environment. In the environmental arena, the Equipment business unit significantly reduced its consumption of water, electricity, natural gas and paper, from 15 to 28%, despite a sharp rise in production.

(1) China First Heavy Industries.

In the area of quality, the business unit put a process into place to address deviations from baseline, be it in terms of product quality, customer claims, safety or the environment.

An opinion survey was conducted at the end of the year among all AREVA group employees and will be a source of performance improvement in 2009.

In addition, the annual Business Risk Model diagnosis yielded many solutions for reducing risk; these continuing improvement efforts will continue in 2009.

#### 6.3.2.2.9. Outlook and development goals

The Equipment business unit will continue to expand its production sites in France and internationally. Ongoing capital spending plans at JSPM and Creusot Forge will continue at a sustained pace. In the United States, civil works and key lead item procurement will be launched along with the construction of the heavy component manufacturing plant. The business unit will also continue its dynamic hiring program to acquire the talent needed to sustain strong growth.

The medium term outlook is still favorable due to a full backlog, ensuring significant capacity utilization and a positive growth outlook. Although some orders may be postponed, new reactor construction programs are not threatened.

The principal challenges for 2009 will be the continued implementation of an ambitious capital investment program at Creusot Forge, improvement of operating performance at Saint-Marcel, and significant production increases at JSPM to capitalize on the industrial reorganization plan implemented in 2008. A resizing of production capability will certainly be necessary at ADJV, considering the size of the backlog. For the business unit as a whole, the challenge is first and foremost to deliver the primary components for the Olkiluoto 3 reactor and to continue to manufacture the components needed for the Flamanville 3 reactor, on schedule and with the requisite level of quality.

### 6.3.2.3. Nuclear Services business unit

#### 6.3.2.3.1. Key data

(in millions of euros)	2008	2007
Revenue *	779	791
Workforce at year end	4,593 employees	3,734 employees

\* Contribution to consolidated revenue.

#### 6.3.2.3.2. Businesses

The Nuclear Services business unit offers services enabling utilities to improve the availability and productivity of their power plants and extend their service life while maintaining a high level of safety. These include:

- outage services, which are recurring maintenance operations for which the Nuclear Services business unit integrates, coordinates and executes different servicing and inspection operations to reduce outage times. A scheduled outage must be kept as brief as possible and may require teams of more than 1,000 people, some of whom are employees of the Nuclear Services business unit, while others are subcontractors and still others the customer's subcontractors. In this case, the Nuclear Services business unit's mission may be to coordinate all co-contractor operations and activities;
- primary component services, including repairs, servicing and replacement of heavy components in the nuclear steam supply system;
- non-destructive inspections, which are inspections of safety-related equipment required by regulation. The Nuclear Services business unit is the world leader in reactor vessel and steam generator inspections, with a wide range of inspection services for all types of operating reactors;
- decontamination and chemical cleaning to reduce radiation exposure during repairs and servicing;
- engineering services and upgrades, drawing on the designer/constructor skills and experience of the Plants business unit;
- services for reactor instrumentation and control systems and electrical systems;
- offsite servicing of contaminated components in hot workshops <sup>(1)</sup>;
- some dismantling on equipment from the reactor coolant system, where expertise in component size-reduction, disassembly and decontamination can be provided.

AREVA's Nuclear Services business unit offers the world's largest portfolio of products and services for all reactor types, drawing on its leadership position in the French, German and American nuclear power programs, recognized technical expertise, and a strong international presence.

#### 6.3.2.3.3. Manufacturing and human resources

By definition, the Nuclear Services business unit provides services primarily to customers that operate nuclear power stations. The business unit has all of the resources it needs to develop and certify the processes and tooling it uses to carry out these services.

(1) A hot workshop is a specialized workshop in which contaminated components can be cleaned, maintained and repaired without the constraints of plant outage schedules.

To provide proximity to the customer and continuous personalized service, staff is regionally based, chiefly in the following countries: France (1,640 employees), Germany (960 employees) and the United States (920 employees).

The business unit also has sites in Sweden (AREVA NP Uddcomb subsidiary), Spain (AREVA NP Services Spain subsidiary), Canada (AREVA NP Ltd. subsidiary), China (Shenzhen Nuclear Engineering joint venture) and South Africa (Lesedi Nuclear Services subsidiary). External resources, partnerships and subcontracting are used to supplement the business unit's internal resources, as per the subcontracting policy.

In 2007, the Nuclear Services business unit established Netec, a global technical center for non-destructive examination (NDE) that reinforces AREVA's technology leadership in this field and increases the integration of international NDE development resources to improve the product offering even further. The business unit also has a number of important R&D centers for the development of new products and services.

In addition, the Nuclear Services business unit has hot workshops in Europe and the United States for offsite maintenance and three facilities dedicated to personnel training and education: Cetic in France, co-owned by EDF and AREVA NP, and facilities in Germany and the United States.

#### 6.3.2.3.4. Market and competitive position

##### > MARKET

The potential market for the Nuclear Services business unit consists of PWRs and BWRs and, to a lesser extent, Candu and VVER reactors.

Outages are scheduled for these reactors every 12 to 24 months for servicing and maintenance, or to replace heavy components when required.

Each scheduled outage generates a market of a few million to tens of millions of euros.

AREVA estimates the worldwide nuclear services market at around 4.5 billion euros per year. The market is stable on the whole. Key market drivers are the aging of the world's power plants, the construction of new reactors, the deregulation of the electricity market and price pressures.

The barriers to market entry vary according to the segment. Being an original equipment manufacturer (OEM) is a decisive advantage in the area of engineering services and performance improvement, just as it is for primary component services. Differing regulations can also limit access to certain domestic markets.

##### > COMPETITIVE POSITION

The two major players, AREVA and Toshiba-Westinghouse, are now competing for first place in the nuclear services sector. Following their respective 18% to 20% share of the market come Mitsubishi Heavy Industries of Japan and the alliance of General Electric of the US and Japan's Hitachi, each with about 10% to 12% of the market.

The rest of the market is divided among powerful local companies, such as KPS in the Republic of Korea and AECL in Canada, and a multitude of other specialized companies in every country with nuclear power plants.

The trend is towards consolidation of nuclear services companies and increasingly fierce global competition.

#### 6.3.2.3.5. Operations and highlights

Business was stable in 2008, after a strong year 2007. The market remained strong in our three regions of France, Germany and the United States, where utilities are dedicated to maintaining and improving the performance of their plants. To respond to customers' concerns, the Nuclear Services business unit came up with several innovative solutions in 2008. This effort was rewarded with two major contracts for integrated services, with Eskom in South Africa and British Energy in the United Kingdom. Reflecting this aggressive stance, strong business volumes and the constant effort of our teams to increase productivity, the Nuclear Services business unit achieved a level of operating income consistent with that recorded in 2007.

Business remained strong in France in 2008, although only one steam generator was replaced during the year (compared with two in 2007). Two vessel closure heads were replaced for EDF. The Nuclear Services business unit also performed chemical cleaning of secondary steam generator parts for two EDF units. The integrated maintenance services contract with EDF continued with 12 services performed in 2008. Business was up sharply in the steam generator inspection business, both in France and overseas. Modifications to 900 and 1,300 MWe units during 10-year inspections were performed as planned. The Nuclear Services business unit performed unscheduled specialized maintenance on several EDF reactors to plug tubes in steam generators and to replace guide tube pins, and on one reactor to secure and remove two fuel assemblies that had remained inside the vessel when the vessel was opened.

In Germany, business was down slightly compared with 2007. New contracts were signed with plant operator E.ON for outage services and for inspections of reactor vessels and steam generators. The contract to dismantle the Würgassen reactor vessel was also signed. AREVA was also awarded a sole-source contract to supply non-destructive testing equipment for the Airbus A350 program.

In the United States, the level of business in 2008 was generally consistent with that of 2007, thanks to a couple of steam generator replacements and an increased number of scheduled outages for which the Nuclear Services business unit was asked to contribute. In addition, the Nuclear Services business unit performed a number of maintenance operations on primary pump motors in the hot shop. The business unit was awarded several contracts by plant operators in the United States, including a steam generator replacement contract with Entergy and outage services contracts with Duke Energy, FPL and Constellation.

The Nuclear Services business unit's French, German and American employees participated in more than 115 unit outages around the world in 2008.

The Nuclear Services business unit's local platforms in Spain, South Africa, the People's Republic of China and Sweden are actively contributing to revenue growth. In Sweden, Uddcomb Engineering changed its name to AREVA NP Uddcomb. In South Africa, Lesedi Nuclear Services adopted AREVA's visual identity. These changes strengthen AREVA's image in Sweden and South Africa. In China, the Shenzhen Nuclear Engineering joint venture (SNE) continued to develop business in an environment undergoing considerable change.

Several strategic export contracts were also won in 2008. In the United Kingdom, an innovative multi-year contract based on reactor performance was signed with British Energy for the Sizewell B power plant, against intense international competition. In South Africa, a contract was signed with Eskom to provide operator support for optimization of service outages at the Koeberg 1 and 2 units. In Brazil, a multi-year service and inspection contract was signed with Eletronuclear for the maintenance of the Angra 1 and 2 reactors. In China, CNPEC and LHNP awarded a contract to the Nuclear Services business unit to supply core instrumentation systems for the Chinese-designed 1,000 MWe Hongyanghe 1 and 2 reactors.

#### 6.3.2.3.6. Relations with customers and suppliers

##### > CUSTOMERS

The Nuclear Services business unit's customers are utilities in Europe (France, Germany, Belgium, Great Britain, Spain, Sweden, Switzerland and Slovenia), Asia (China, South Korea, Japan and Taiwan), North and South America (the United States, Canada and Brazil), and South Africa. The business unit routinely provides services in a total of 30 countries. EDF is the leading customer, at about one third of the business unit's activity, while US utilities together represent another third of the business unit's activity.

Deregulation pressures are pushing the market towards global solutions to achieve performance objectives, lower costs and extend power plant service life, all while improving safety levels. These new requirements are leading operators to combine services under integrated maintenance services umbrellas, or under multi-year

“Alliancing” or contracts based on power plant performance, or else contracts that combine component supply, engineering services, modifications and maintenance services, and even fuel supply.

These new business models are good news for integrated service providers with a global reach such as AREVA.

##### > SUPPLIERS

Purchases represent more than 30% of the revenue from services. More than 50% of the business unit's procurement is for services. The services business is a highly seasonal one, dictated by reactor outage schedules and optimization of regional electricity supply. Also, the trend is towards reducing reactor outages by concentrating a maximum number of operations into a minimum amount of time.

The business unit must therefore adapt to extreme variations in workload every year. To achieve this, the business unit has entered into numerous partnership agreements with different suppliers to accommodate exceptionally heavy workloads as well as requests for specific crafts. These suppliers and service providers are certified in terms of nuclear safety, occupational safety, quality and technical ability to ensure compliance with the basic requirements for this type of work. As the nuclear revival takes shape and nuclear services evolve, these agreements are also helping to secure access to external resources, in terms of volume, skills, cost and responsiveness.

The field of purchases is changing not only in terms of volume, but also in terms of the regulatory environment, with the entry into force of new European directives and regulations on accounting relations with suppliers.

#### 6.3.2.3.7. Sustainable development

The business unit's operations do not have a significant direct impact on the environment. Only the hot workshops are subject to specific monitoring due to the radioactive operations performed there. We have set a priority on harmonizing assessment models for these impacts.

The Nuclear Services business unit monitors and limits its employees' radiation exposure during servicing operations in customer facilities. The goal is to adhere to the 20 mSv/year limit set by AREVA.

This year, 12 group employees working at customer sites in the United States, including 4 full-time personnel, received an individual dose exceeding that limit, although not exceeding the local regulatory limit (United States: 50 mSv/year; European Union: 100 mSv over five consecutive years, with a maximum of 50 mSv in any one year). The business unit has taken all of the necessary corrective measures for continuous monitoring to ensure that a recurrence of this exceptional exposure does not occur.

All Nuclear Services business unit facilities have ISO 14001 certification since the end of 2005.

#### 6.3.2.3.8. Outlook and development goals

New types of services will be set to emerge in 2009, including innovative service offers such as asset management and global offers to meet fast changing market expectations. The development of activities related to the design and construction of new reactors by the Plants business unit creates another area for growth.

While developing these innovative offers on a contractual and technical level (including information systems support), the Nuclear Services business unit will continue to strengthen its positions in national and export markets by developing its existing local platforms and through increased proposal activity at the end of 2008. Additional strategic joint ventures, acquisitions and partnerships will be considered in 2009, based on strategic objectives for each country.

The Nuclear Services business unit will also strengthen its technology leadership and ability to innovate over the medium and long term. To achieve this goal, the business unit will capitalize on its R&D centers, particularly the Netec technical center for non-destructive testing. It will also hire specialists in all business segments. All of these actions will be key success factors in a highly competitive market.

#### 6.3.2.4. AREVA TA business unit

##### 6.3.2.4.1. Key data

(in millions of euros)	2008	2007
Revenue *	363	308
Workforce at year end	2,420 employees	2,103 employees

\* Contribution to consolidated revenue.

##### 6.3.2.4.2. Businesses

The AREVA TA business unit offers its employees' expertise to customers in three main segments, described below.

#### > POWER SUPPLY SYSTEMS FOR NAVAL PROPULSION

The core business of the AREVA TA business unit is designing, manufacturing and maintaining nuclear reactors for naval propulsion, services, fuel and related equipment. This business meets stringent safety, reliability and availability requirements.

The market concerned is nuclear powered vessels and related industrial and test facilities. It requires mastery of key methodologies and technologies, such as systems architecture, project management, digital safety technology, safety analysis, thermohydraulics and neutronics, acoustics and vibration, and integrated logistical support. Nuclear reactors designed by AREVA TA have

powered the French Navy's submarines and aircraft carrier during all of the fleet's operating missions for more than 35 years.

AREVA TA also provides propulsion-related services and systems, including reactor control systems, monitoring systems, and acoustic discretion for facilities, systems and components. AREVA TA has unique experience as a designer and facilities operator for the CEA. In addition to its reactor design and related fuel design and fabrication activities, the business unit provides support to the operator of onboard submarines and aircraft carrier reactors in the form of services, maintenance and training. This includes in-service support and operation of qualification, training and test reactors, whose role is to prevent technological and human risks at several levels (validation of onboard reactors before sea duty, full-scale testing of innovations, endurance tests, predictive maintenance, and operator training).

#### > ENGINEERING OF COMPLEX FACILITIES

The AREVA TA business unit offers engineering solutions for the design, construction and start-up of complex industrial and/or research facilities to customers in the defense, nuclear and manufacturing industries.

For example:

##### ■ Major scientific and research facilities

AREVA TA took charge of project management and definition and design studies for the Jules Horowitz experimental reactor (JHR) for the CEA.

A design study contract was awarded to AREVA TA to constitute the safety and regulatory documentation needed for authorization to build the ITER facility.

##### ■ Nuclear fuel cycle facilities

AREVA TA is working with AREVA NC and SGN on the UP1 plant at Marcoule, where it is providing dismantling scenario designs incorporating cost, schedule, dosimetry and waste volume data; preparing safety documentation; and supporting the operator to secure the necessary permits from the French nuclear safety authority.

EDF awarded a turnkey contract to AREVA TA to design and build the solid waste processing system for the Flamanville EPR™ reactor.

##### ■ Industrial facilities

AREVA TA was the lead company in the industrial team that designed and built the final assembly line of the A380 aircraft for Airbus Industrie in Toulouse.

#### > DESIGNING RELIABLE AND AVAILABLE ELECTRONIC SYSTEMS

In the rail transportation market, AREVA TA offers customers the design and fabrication of highly safe onboard and ground equipment and systems ensuring passenger comfort and safety while



offering a high level of availability. AREVA TA has secured its place in this market, which demands performance levels approaching those of the nuclear industry in terms of safety and availability, offering:

- automatic operating systems for guided transport;
- conductor vigilance monitoring systems;
- operating parameter recorders, commonly called “black boxes”, to record operating events;
- control systems to open and close train doors;
- train position identification systems.

In 2008, national defense projects accounted for about 45% of the business unit's revenue, while civilian nuclear power and industrial sectors such as transportation, industrial applications and the environment, represented close to 55%.

#### 6.3.2.4.3. Manufacturing and human resources

The business unit has five main manufacturing and engineering locations in France:

- Saclay: support functions and marketing and project operations;
- Aix-en-Provence: engineering projects;
- Cadarache: focused on in-service reactor support and operations;
- Lyon: development and marketing of acoustic, vibration and condition-based maintenance solutions for industry and municipalities;
- Toulouse: electronic equipment and engineering projects for the aeronautical industry.

It is also located in several other countries, principally the United Kingdom.

#### 6.3.2.4.4. Market and competitive position

AREVA TA works primarily in France in the defense sector, in scientific and research programs, in guided transport and in aerospace. For national security reasons, there are very few international business opportunities in naval nuclear propulsion.

Its engineering activities concerning complex industrial facilities have enabled AREVA TA to develop business in conjunction with other entities of the AREVA group in the United States and the United Kingdom, where it provides expertise and solutions in its core businesses, including mechanics, structural design and safety analysis. Its competitors in these fields are systems and technology engineering firms.

In transportation activities, AREVA TA operates in China. To compete more effectively against systems developers, AREVA TA is offering solutions to equip new rail lines or to upgrade the equipment of existing ones.

#### 6.3.2.4.5. Operations and highlights

The following four projects were among the highlights of the year:

- Detailed design continued for the Barracuda program involving six nuclear attack submarines to be built under the program launched by the French defense procurement agency DGA in 2006. AREVA TA is the prime contractor for the nuclear steam supply system that will be used to propel these submarines.
- Servicing operations on the naval nuclear propulsion reactors of the *Charles De Gaulle* aircraft carrier during the scheduled outage for service and repairs, the first major overhaul of the ship. This work was performed on schedule and in accordance with all applicable safety regulations.
- AREVA TA successfully completed the start-up of four onboard nuclear steam supply systems, practically simultaneously, during submarine and aircraft carrier commissioning or recommissioning operations following servicing.
- The business unit continued work on several engineering projects for complex facilities, including research facilities such as the Jules Horowitz reactor (completion of the design phase and start-up of the implementation phase), the Cabri reactor, and the Magenta and Agate facilities (CEA). In addition, the business unit made an on-time delivery to Eurocopter of a test and calibration bench installation for helicopter rotor blades, to the customer's complete satisfaction.
- In transportation systems, AREVA TA successfully launched the marketing development of its Pegasus™ range of solutions for guided urban and interurban transportation. It also continued work for the Paris metro authority RATP on the MF 2000 and Ouragan projects.
- In acoustic and measurement solutions, the business unit completed delivery of the PILARw® battlefield threat detection system to the British and Polish armed forces.
- In the risk monitoring and management field, 2008 was a momentous year with the acquisition of RM Consultants (now called AREVA Risk Management Consulting Ltd.), which joins AREVA TA subsidiary Axilya, which changed its name to AREVA Risk Management Consulting S.A.S. The AREVA TA business unit also strengthened its development strategy in its core competencies with the acquisitions of Sud Mécanique, a company specialized in micro-mechanics for the nuclear industry, and SMP, which specializes in radio communications. Integration of the engineering operations of Thales Engineering & Consulting supplemented this strategic expansion for the year.



#### 6.3.2.4.6. Relations with customers and suppliers

On the defense market, AREVA TA's main customers are the CEA, French defense procurement agency DGA, and French shipbuilder DCNS. In the markets for nuclear power, transportation and manufacturing, the CEA, EADS and the Paris transit authority, RATP, account for the largest percentage of the business unit's revenue.

#### 6.3.2.4.7. Research and development

The business unit's research and development plan confirmed the previously defined strategic orientation, with special emphasis on continued research on new reactor concepts for naval propulsion. New safety instrumentation and control systems developed over the past few years were deployed in 2008 in a range of products using communication based train control technology (CBTC), marketed under the Pegasus™ brand.

#### 6.3.2.4.8. Sustainable development

The AREVA Way self-assessment initiative was rolled out in all of the business unit's operations. The business unit also carried out the group's second employee opinion survey. These initiatives were used as a springboard for continuous improvement activities through the Magellan plan, which gets employees involved in working towards the AREVA TA business unit's strategic objectives. The business unit's environmental performance improved significantly, with reduced energy and paper consumption at the sites. The business unit continued to roll out its integrated management system in 2008.

#### 6.3.2.4.9. Outlook and development goals

The outlook is for growing revenue in the coming years by bringing engineering solutions and expertise to project authorities and operators of complex facilities. In addition, significant engineering and support services contracts in naval nuclear propulsion give the business unit greater visibility in terms of revenue over the coming years. Safety solutions for guided urban and inter-urban transport also indicate revenue growth.

The AREVA TA business unit's growth strategy continues to focus on supplementing the group's commercial platform as a designer and supplier of advanced power systems and equipment for naval propulsion, and bringing highly safe and reliable solutions to industry, research and transportation.

The business unit will also continue to maintain a strong presence in the engineering of large scientific programs, including the Jules Horowitz reactor, the Megajoule Laser and ITER.

#### 6.3.2.5. Nuclear Measurement business unit

##### 6.3.2.5.1. Key data

<i>(in millions of euros)</i>	2008	2007
Revenue *	167	159
Workforce at year end	1,082 employees	1,053 employees

\* Contribution to consolidated revenue.

##### 6.3.2.5.2. Businesses

The Nuclear Measurement business unit develops and markets safety and security measurement and monitoring solutions. It designs, manufactures and markets equipment and systems to detect and measure radioactivity, monitor nuclear facilities, characterize waste and for radiation protection. It also provides related services. Its products and services meet customer requirements for nuclear safety, occupational safety and monitoring of their production operations. In this respect, the Nuclear Measurement business unit plays an important role in the central issue of sustainable development for the AREVA group and its main customers (including nuclear operators, research laboratories and government services) in the areas of nuclear and occupational safety.

##### 6.3.2.5.3. Manufacturing and human resources

The business unit integrates services with its equipment design, manufacturing and sales through 5 main marketing subsidiaries and some 30 offices on five continents.

In terms of manufacturing, the business unit is currently optimizing its operations worldwide by globalizing and specializing its production facilities in Europe and North America.

The business unit now has eight production sites in the United States, France, Canada, England and Belgium. More than 320 employees work directly in production.

##### 6.3.2.5.4. Market and competitive position

The global niche nuclear measurement market is worth an estimated 900 million euros per year. The Nuclear Measurement business unit, which uses the Canberra brand, is the world leader in this market with a share of around 20%.

In 2008, 48% of its sales came from North America, the world's largest market, 30% came from Europe (excluding France), 12% came from France, 9% from Asia and 1% from the rest of the world.



Its principal competitors are SAIC, Thermo, Synodis (MGP) and Ametek/Ortec, which together hold 40% of the market. The remaining 40% of the market is divided among a hundred minor players. The nuclear measurement market is attracting new competitors, particularly in the Homeland Security market.

#### 6.3.2.5.5. Relations with customers and suppliers

##### > CUSTOMERS

Traditionally, the Nuclear Measurement business unit's market consists of facilities that use its products: nuclear power plants, fuel fabrication and treatment plants, radiation chemistry and environmental laboratories, scientific research laboratories and the medical sector.

In addition to these customers, the business unit serves public and private organizations in charge of radiation monitoring at national borders as well as emergency response teams and the armed forces.

The Nuclear Measurement business unit's approach to marketing and product/solution development is structured around four market segments, each with its own dynamics: Nuclear Power Plants, Laboratories and Fuel Cycle, Security, and Defense and Non-proliferation.

##### > SUPPLIERS

Of the commodities used by the business unit, the only one that is of special interest is germanium, a copper residue that does not exist in the natural state. There are only two or three entities in the world capable of producing the hyper pure germanium crystals used to manufacture gamma-ray semiconductor sensors. As the largest of the three manufacturers, the Nuclear Measurement business unit has a competitive advantage. The other components and materials used by the business unit may be acquired without any particular constraint or risk.

#### 6.3.2.5.6. Operations and highlights

Excluding the effect of currency exchange rates (EUR/USD-GBP-CAD-JPY), sales for the Nuclear Measurement business unit were up 10.5% compared with 2007, confirming the growth objectives set in the strategic plan.

The backlog remains strong, representing close to six months of sales.

New orders and bids remained buoyant in the fourth quarter of 2008, unaffected by the financial crisis.

US government contracts were lackluster due to the economic climate, but this does not call into question growth forecasts for this market.

#### 6.3.2.5.7. Outlook and development goals

The business unit's objective for the coming years is the successful transformation of niche operations into a high-tech enterprise aimed at serving customers around the globe, particularly by consolidating its world leadership in the "Laboratories and Fuel Cycle" market, by taking advantage of the nuclear revival's benefits, and by capturing additional market share in the nuclear power plant and Homeland Security markets.

#### 6.3.2.6. Consulting and Information Systems business unit

##### 6.3.2.6.1. Key data

(in millions of euros)	2008	2007
Revenue *	149	157
Workforce at year end	2,208 employees	2,163 employees

\* Contribution to consolidated revenue.

##### 6.3.2.6.2. Businesses

The Consulting and Information Systems business unit, under the trade names of EURIWARE and PEA Consulting, is active in several fields:

- Consulting, representing about 4% of sales. PEA Consulting focuses on three fields: operating performance, organizational management, and information system governance. Euriware provides assistance to project owners and prime contractors in its areas of specialization;
- Systems Integration, representing about 41% of the business. EURIWARE designs, develops and maintains information management solutions for enterprise systems (ERP) and industrial and technical systems;
- IT outsourcing, representing about 55% of the business unit's revenue. EURIWARE's services include maintenance, hosting, operation, administration and remote management (workstations, servers, software applications, networks and telephone applications).

In addition to the contribution to revenue mentioned above, the business unit provides support to the group in its three business lines: Consulting, Systems Integration and IT Outsourcing.

##### 6.3.2.6.3. Manufacturing and human resources

With approximately 2,200 employees, the Consulting and Information Systems business unit deploys teams primarily in France (95%), Russia and the United States.

In France, personnel are organized into centers of competence specialized by business. Shared centers provide crosscutting experience to different types of projects while meeting high service quality requirements:

- the IT outsourcing production center has data centers and resources to ensure service quality and continuous improvement in IT Outsourcing;
- the software applications management center has software platforms capable of taking over maintenance and ensuring that customer software is in perfect operating condition;
- the third shared center provides computer infrastructure and security services. It provides expertise to the IT Outsourcing and systems integration businesses.

In Russia, EURIWARE operates an expertise center that conducts offshore digital simulation software applications projects, electronic document management, and open source technology projects.

#### 6.3.2.6.4. Market and competitive position

The business unit is well-positioned on the French IT services market. It ranks 19<sup>th</sup> on the market according to *Logiciels et Services Magazine* and 5<sup>th</sup> for IT outsourcing according to Pierre Audoin Consultants.

It is a recognized French player, particularly in evolutionary IT outsourcing, systems integration for industry and supply chain consulting.

The business unit competes with a wide range of industrial software and systems services companies on the French market, including the market leaders.

#### 6.3.2.6.5. Relations with customers and suppliers

##### > CUSTOMERS

The AREVA group is the business unit's leading customer. EURIWARE implements a number of projects for the group, both for its own requirements and to support the group's projects with external customers. EURIWARE manages the group's information systems and maintains the bulk of its software portfolio in operating condition.

Major customers outside the AREVA group operate in energy (the CEA, EDF, GDF-SUEZ, Total), manufacturing (French shipbuilder DCNS, Messier-Bugatti, Renault, etc.), defense (French Defense Ministry) and services (France Télécom and Natixis, among others).

##### > SUPPLIERS

The Consulting and Information Systems business unit's suppliers are mainly software publishers (AREVA, Business Objects, Dassault, EMC Documentum, IBM, Microsoft, Osisoft, PTC, SAP, Siemens and Ventyx) and computer hardware companies (HP, IBM).

The business unit also concludes partnership agreements enabling it to offer high added-value solutions, for instance with software publisher Ferranti (ERP software package for the energy and public utility sector).

The Consulting and Information Systems business unit also uses subcontractors when needed or to supplement its offer.

#### 6.3.2.6.6. Operations and highlights

As in previous years, the consulting and IT services market grew steadily in 2008, by about 5%. The business unit's growth was consistent with that of the market.

The business unit implemented its strategy of growth in the energy sector, both within the AREVA group and with non-group customers, who awarded several major contracts in this sector. For example, the business unit won significant systems integration business from the CEA, the US Department of Energy (DOE), EDF and Total.

In IT outsourcing, 90% of the business unit's contracts were renewed upon expiration, including customers IFP, Ineos, Messier-Bugatti and Natixis, while new outsourcing contracts were won at Cenexi, DCNS, Electrifi, Eurofins, etc.

The consulting activity continued to grow and was awarded significant contracts by ERDF and the GDF-SUEZ group, among others.

In the spring of 2008, the business unit established an organization in the United States to support AREVA in the development of its North American nuclear business.

For the tenth year in a row, the business unit's systems integration, IT outsourcing and operating support businesses received AFAQ ISO 9001:2000 certification with remarkable results: zero non-conformity, zero comment and zero area of concern.

#### 6.3.2.6.7. Outlook and development goals

In the uncertain economic environment, growth is expected to slow in the French software and services market in 2009.

The business unit confirms its strategy of meeting the business needs of the energy sector and supporting the growth of the AREVA group in its three main business lines: Consulting, Systems Integration (business solutions, industrial and technical systems) and IT Outsourcing.

In 2009, the business unit will continue to contribute to the AREVA group's integrated offering. It will strengthen its offer of services that contribute to the group's industrial operating performance and will develop joint service offers with other business units for major customers of the AREVA group.

The business unit will continue to grow by offering services both to the AREVA group and to external customers, thus strengthening and cross-fertilizing its expertise, innovation development and state of the art knowledge, for the benefit of all customers.

The business unit will pursue market development of its services by focusing on its core offers and pooling resources (offshore development, strengthening the service centers, certification of experts and project managers, certification of the integrated management system).

An international development effort to support the AREVA group on its markets was initiated at the end of 2008 and is expected to grow in the energy sector, particularly through a stronger presence in North America.

### 6.3.2.7. Renewable Energies business unit

#### 6.3.2.7.1. Key data

(in millions of euros)	2008	2007
Revenue *	147	35
Workforce at year end	892 employees	195 employees

\* Contribution to consolidated revenue.

#### 6.3.2.7.2. Strategy

AREVA created the Renewable Energies business unit in late 2006 to follow through on its intention of offering a selection of power generation solutions that do not emit greenhouse gases. Nuclear power and renewable energies are two components of a balanced CO<sub>2</sub>-free energy mix. One supplies competitive, centralized base-load power backed by 40 years of proven performance, while the other brings newer forms of energy whose large-scale development will help make them competitive.

The missions of the Renewable Energies business unit are to:

- expand the group's portfolio of CO<sub>2</sub>-free power generation technologies;
- become a significant player in wind energy, bioenergies and hydrogen energy by participating in their industrial development;
- extend AREVA's reach to high-potential geographical areas and decentralized markets; and
- translate AREVA's sustainable development commitments into action.

Our objective is to offer a diversified portfolio of technologies and become a major industrial player in offshore wind power, bioenergy and hydrogen by 2012.

The Kyoto Protocol benefits renewable energies by giving special weight to this solution in the fight against the greenhouse effect. Produced on a large scale and accompanied by financial incentives, they are increasingly competitive. Their competitiveness should also be assessed in relation to changes in fossil fuel prices and their externalities.

In Europe, the European Council set a clear "3 times 20 by 2020" goal:

- 20% renewable energies in final energy consumption;
- 20% gains in energy efficiency; and
- 20% reduction of greenhouse gases (compared with 1990 levels).

This trend is also an undercurrent in other regions, with political and regulatory initiatives multiplying in North America as well as in emerging countries such as China, India and Brazil. This is the setting for AREVA's development of a far-reaching, sustainable growth strategy for renewable energies.

#### 6.3.2.7.3. Wind power

##### > MARKET

Wind power is a 30 billion euro market that is growing by 30% to 35% per year. Europe continues to be the leader, with 60% of the world's installed capacity. Offshore wind represents installed power of 1.5 GW, and the numerous offshore wind farm projects in progress will add another 37 GW of power. The United Kingdom, Germany and Denmark are among Europe's most promising markets. Annual growth is set to reach 3 to 5 GW by 2015.

The global economic crisis sharply curbed market development in the third quarter of 2008. The turbulence will continue for several more months, but does not call into question the mid-term use of wind power, especially offshore wind power, to generate green electricity.

##### > POSITION

After acquiring a 21.1% stake in REpower in September 2005, which was raised to 29.9% over the course of 2006, AREVA launched a takeover bid on the company in February 2007, but was obliged to drop out when the price became too high. In June 2008, faced with the inability to acquire a controlling interest and reap all of the synergies identified, AREVA sold its stake in REpower to Suzlon.

This sale came after the October 2007 acquisition of 51% of the German company Multibrid, a wind turbine designer and manufacturer based in Bremerhaven that specializes in high output offshore turbines (5 MW). Multibrid developed the lightweight M5000 technology incorporating a hybrid drive-train system.

Its technical specifications are suited to all types of offshore foundations, including tripod anchors. The company doubled its workforce in 2008 and quadrupled its production capacity to start commercial development of the M5000.

Multibrid also offers significant marketing and industrial synergies with AREVA's Transmission & Distribution division, a leading supplier of equipment to connect the wind turbines to the grid.

The acquisition made AREVA a party to a joint venture with Prokon Nord, a German wind farm developer. In particular, via Multibrid, it is participating as an exclusive supplier in Borkum West 1, the first German offshore project in the North Sea (30 MW). Multibrid delivered the six M5000 wind turbine foundations in the summer of 2008. Poor weather conditions forced Deutsche Offshore Testfeld und Infrastruktur and Multibrid to postpone installation of the underwater cables, and consequently the laying and anchoring of the foundations, to the spring of 2009.

The economic crisis is currently affecting the development of some new offshore projects due to the significant reduction in available credit to fund these projects. This has led to the postponement of the offshore projects Borkum West 2 (400 MW) and Côte d'Albâtre (105 MW), France's first offshore project.

AREVA continues to look beyond this period of turbulence, and is determined to position itself in the budding offshore wind turbine market. Its goal is to build Multibrid very quickly into a major player with a 15% market share five years from now.

#### 6.3.2.7.4. Bioenergies

##### > MARKET

Bioenergy is used to produce energy from waste of natural origin, whether plant or animal, creating new opportunities to recycle materials that would otherwise be discarded. Bioenergy is CO<sub>2</sub>-neutral in the sense that the CO<sub>2</sub> released during combustion was captured by the plant during its growth. It also prevents methane production during the decomposition of organic materials. According to Eurostat, bioenergy is the leading source of renewable energy in Europe (65% of renewable energy in 2005).

The latest report by the International Energy Agency, "Energy Technology Perspectives: Scenarios and Strategies to 2050" predicts that electricity from biomass will go from 1.3% in 2003 to 2-5% by 2050. Installed biomass generating capacity, currently close to 62 GW, is expected to grow by 6-9% over the next five years.

While biomass uses proven technologies, the market remains fragmented because of the proliferation of players involved and the distance to resources.

In view of the abundance of resources, development is expected to be concentrated mainly in developing countries, where it will support rural development in some areas. Emerging countries constitute key growth zones: India, China, Brazil and the countries of Southeast Asia. There is also strong potential for this energy in the United States.

##### > POSITION

AREVA is one of the industrial forerunners in bioenergy technology development. As a designer and architect-engineer, the group offers turnkey power plant solutions using biomass, biogas, mine gas, and waste heat recovery. AREVA has more than 100 operating bioenergy plants in Europe, Latin America and Asia, for a total of about 2,700 MW of installed electric generating capacity.

The year was marked by strong geographical deployment through external growth in North and South America. In January 2008, the group acquired 70% of the Brazilian company Koblitz, a supplier of integrated solutions for power generation from renewable sources. This was followed in September by the establishment of a joint venture with the utility Duke Energy, under the name ADAGE™, which will develop biomass power plants in the United States.

AREVA Koblitz employs more than 700 people today and has plants in São Paulo and São Jose do Rio Preto, both of which are agricultural areas rich in sugar cane. Its core business is the turnkey supply of services for the construction of biomass power plants fueled with sugar cane and small hydroelectric plants.

With support from the AREVA group, the company significantly increased the volume of orders in backlog in the first half of the year. The most significant among them include an agreement with Brazil's largest private utility, Tractebel Energia S.A., a subsidiary of the GDF-SUEZ group, to design and build a power plant fueled with sugar cane. A second contract was awarded by another subsidiary of the same group to supply electrical and instrumentation & control systems for three hydroelectric plants in Panama.

ADAGE™ is the leading partnership in this field between two major power generators in the United States. The company will promote the development of a fleet of biomass power plants, which will initially generate electricity using wood chips. The agreement foresees the design and construction of a fleet of biomass power plants by AREVA. Under the umbrella of this agreement, AREVA will design and build each unit, which will be operated by Duke Energy Generation Services (DEGS), a division of Duke Energy specializing in renewable energy production.

In the United States, biomass accounts for 6,000 MW of installed generating capacity <sup>(1)</sup>. Based on forecasts from the International Energy Agency (IEA) and other energy experts, there could be twice as much capacity 10 years from now.

(1) [http://www.eia.doe.gov/cneaf/alternate/page/renew\\_energy\\_consump/](http://www.eia.doe.gov/cneaf/alternate/page/renew_energy_consump/)

Legislation passed in more than half of the US states calls for renewable energy sources to contribute 12% or more to total power generation by 2020. This quota, referred to as the Renewable Portfolio Standard (RPS), requires utilities and other power generators to search for new sources of renewable energies. More and more, the generators are seeking to subcontract for this type of power.

AREVA and Duke Energy have adopted an innovative business model. Together, the partners will build standardized 50 MW power plants and provide a contractual guarantee to supply the fuel and another contract for the sale of green electricity. ADAGE™ will thus supply an integrated, end-to-end solution to the biomass industry. Commercial synergies with the Transmission & Distribution division may also be harvested.

In Europe, the Renewable Energies business unit won two major contracts worth a combined total of 30 million euros for the turnkey construction of bioenergy power plants in Germany and Belgium. For one contract, the German utility Evonik New Energies turned to AREVA for the construction of a biogas power plant in Kirchwalsede. For the other contract, Intrinergy, a US renewable energies firm, awarded the turnkey construction of a cogeneration plant in Belgium to the team formed by AREVA and KEM, a Danish supplier specialized in biomass. The plant will generate nearly 4.5 MW of green electricity for the local grid and about 8 MW of steam, which will be reused in the production process of the wood pellet production facility.

In Asia, the US company Astonfield Renewable Resources Private Limited (ARRPL) signed a letter of intent to develop ten biomass projects for total combined power generation of 100 MW.

AREVA is one of the few industrial groups to offer services that help customers get carbon credits. It supplies these services primarily to customers in Asia and Latin America. The group provides a global offer to develop carbon assets throughout the life of the project, from the feasibility study to the acquisition and sale of credits.

The economic and financial crisis has caused some projects to be postponed or even revisited, particularly in Brazil and France.

Despite this short-term situation, the outlook continues to be very promising and the group plans to become a leading player in this sector.

#### 6.3.2.7.5. Fuel cells and hydrogen

##### > MARKET

Intrinsic qualities of efficiency, storage capacity and eco-friendliness make hydrogen and fuel cells a key component of the energy mix of the future.

Large quantities of hydrogen are already produced using fossil fuels for petrochemical applications. Producing hydrogen through water electrolysis using CO<sub>2</sub>-free electricity would reap substantial environmental benefits and lessen the reliance on fossil fuels.

Used as an energy vector in association with a fuel cell, hydrogen energy offers strong growth potential in markets requiring a constant source of electric power and power storage, as well as in transportation. The fuel cell is a clean, quiet, highly efficient way to convert energy, and it can play a decisive role in boosting the autonomy of power systems.

These technologies are already meeting specific needs for applications such as stationary power supply (back-up generators, site electrification), mass transit, freight carriage, and education.

##### > POSITION

AREVA's subsidiary Helion designs, manufactures and markets systems based on electrolyzers and proton exchange membrane fuel cells (PEM), which bring safety, reliability and availability to potential applications. Helion offers stationary generators such as 20-100 KWe back-up generators and is developing systems for distributed power generation connected with intermittent renewable energy sources.

In 2008, AREVA continued to develop key innovative technologies such as the electrolyzer and fuel cell cores and strengthened its systems engineering capabilities. Work to incorporate experience and lessons learned since 2003 led to the successful qualification of an autonomous uninterruptible power generator with net power of 30 kVA.

Helion developed and marketed a kit comprising educational content, a digital simulator and a highly instrumented test bench for graduate-level programs, thereby contributing to education concerning these high-potential technologies. Introduced in 2008, this product is already installed at the national institute of applied sciences (*Institut national des sciences appliquées*, INSA), the national school of electricity and mechanical engineering (*École nationale supérieure d'électricité et de mécanique*, ENSEM), various university technology institutes, and several research centers (CEA, GDF).

Alongside industries and national research organizations in the hydrogen field, AREVA is involved in the Hydrogen and Fuel Cells program of the French national research agency (*Agence nationale pour la recherche*, ANR) and in the Hydrogen Energy Horizon program for experimental development and industrial deployment of fuel cell technologies for stationary applications and of electrolysis for decentralized hydrogen production.



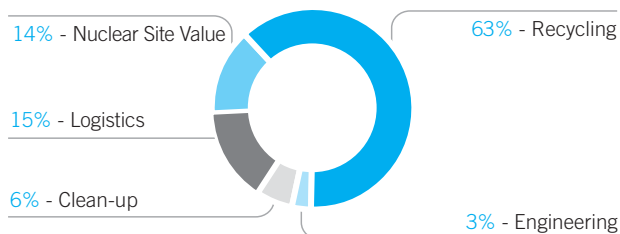
### 6.3.3. Back End division

#### Key data

(in millions of euros)	2008	2007
Revenue *	1,692	1,738
Operating income	261	203
Workforce at year end	10,906 employees	10,638 employees

\* Contribution to consolidated revenue.

#### 2008 revenue by business unit and geographical area



#### Overview

**The Back End division, which represented 13% of AREVA group revenue,** offers solutions for the management of used fuel. It is organized into five business units: Nuclear Site Value, Recycling, Logistics, Clean-up and Engineering.

At the beginning of 2008, the organization into business units evolved to improve the interface between production operations and nuclear site value development activities. Production operations are now centered in the Recycling business unit and nuclear site development activities are centered in the Nuclear Site Value Development business unit.

The Recycling business unit is involved in production to recover reusable uranium and plutonium from used fuel so that it may be recycled in nuclear reactors as MOX or UO<sub>2</sub> fuel (see Glossary). In line with its commitment to sustainable development and environmental protection, AREVA has developed advanced technologies to treat used fuel so as to recycle 96% of the reusable materials, reduce final waste volumes, and package the waste for storage and final disposal. The group's production operations are performed at two sites: the La Hague plant for used fuel treatment, and the MELOX plant for MOX fuel fabrication.

The Nuclear Site Value Development business unit manages the clean-up of equipment and facilities and the dismantling of the AREVA group's sites after production has been discontinued. These operations concern certain facilities in France at La Hague, Marcoule, Cadarache, Annecy and Grenoble.

The Logistics business unit designs and manufactures casks to transport and store nuclear materials. It also provides materials transportation services to the entire group.

The Clean-up business unit provides site support operations in the nuclear field. It also acts as industrial operator of waste disposal sites.

The Engineering business unit designs and builds facilities and installations for the front end and back end of the fuel cycle.

The division also manages major treatment technology transfer programs, particularly for the Rokkasho Mura plant in Japan. Other programs to transfer MOX fuel recycling technology are also in progress with Japan and the United States.

The world's installed light water reactors generate approximately 7,000 metric tons of heavy metal (MTHM) of used fuel each year. This is equal to the amount of fresh fuel loaded in the reactors. The total worldwide inventory of used fuel was around 172,000 MTHM at the end of 2007, 32,000 of which were recycled.

#### Power companies can manage their used fuel in one of two ways:

- In the open cycle, the used fuel is considered to be non-reusable. It is stored in pools or in dry storage systems at sites designated for that purpose. The storage solutions available on the market allow the utility to manage used fuel volumes over several decades. The long-term challenge will be the final disposal of used fuel inventories, often in connection with national nuclear waste disposal programs.

- In the closed cycle, the used fuel is considered to contain a large amount of reusable materials still capable of producing a large amount of energy. In this case, the used fuel is treated to separate the reusable uranium and plutonium from the final waste; the latter represents only about 4% by volume of the used fuel. The recovered uranium and plutonium are recycled into fuel for nuclear power plants in the form of MOX (a mixture of the two materials) or as enriched reprocessed uranium (ERU).

The group is the world leader in both the open and closed fuel cycle markets.

AREVA has a very large technological and industrial advance in recycling, making it the leading player in this field worldwide. The group is organized to design and build new treatment and recycling plants in partnership with other countries.

Recycling helps conserve natural uranium resources and facilitate radioactive waste management by reducing their volume and radio-toxicity substantially. With the nuclear revival gaining momentum and raw materials prices rising, the closed cycle is gaining growing interest among electric power companies.

The group has become a full partner alongside the US Department of Energy in the Global Nuclear Energy Partnership, which is reexamining US doctrine on used fuel management.

The recycling business has excellent visibility due to the duration of the used fuel treatment cycle, which lasts about 10 years, starting with the fuel's discharge from the reactor. The group's long-term relationships with its customers give it a current backlog of nearly 7.7 billion euros of revenue. In addition, the group has entered into long-term partnerships with foreign customers aimed at promoting closed fuel cycle technologies *via* technology transfers, support, and feasibility studies.

The processes developed and implemented by the group in the closed cycle are fully demonstrated and have achieved production maturity. The group intends to promote this option to countries with nuclear power programs and to their nuclear power plant operators, and aims to achieve even better operating performance and cost-effectiveness with its innovative processes.

There are strong barriers to market entry, given the complexity of the closed fuel cycle and the long duration of the decision-making process. In particular, the market requires major development of advanced technologies.

The division's business units spend approximately 4% of their revenue on R&D to maintain their technological leadership and optimize their production facilities.

## Strategy and Outlook

Whereas the Front End division prepares fresh fuel for nuclear power plants, the Back End division's main activity is to recycle fuel that has already been used in the reactors.

AREVA has a major technological advance in the Back End that gives it a particularly large competitive lead in the current environment of nuclear revival. Recycling offers several advantages to utilities:

- nuclear fuel fabrication that does not use new supplies of natural uranium; and
- waste volumes divided by five and radiotoxicities divided by ten.

Recycling thus increases the visibility and stability of the long-term use of nuclear power. This is why several countries seeking to deploy large-scale nuclear power programs are turning to recycling technology, which makes a significant contribution to energy independence. Some of them even want to acquire their own facilities.

Recycling is also conducive to non-proliferation. This is because AREVA can offer global services consisting of recovering used fuel as soon as it is unloaded from a power plant in order to produce MOX fuel.

Recycling also allows nuclear materials inventories to be built up for use in future Generation IV reactors.

The Back End division's goal is to consolidate its world leadership position. Its strategy is six-fold:

- **Strengthen used fuel treatment and recycling operations in France.**  
The group is working to strengthen and extend its backlog with French and foreign utilities.
- **Capitalize on closed cycle technologies in markets worldwide.**  
The group plans to develop back-end technologies by working closely with authorities in countries seeking to develop recycling facilities of their own. This strategy has already produced two major projects:
  - in Japan, an important technology transfer program has been in place with the Back End division's Japanese partners since 1987. The technologies developed in this field have culminated in the construction of a used fuel treatment plant by Japan Nuclear Fuel Limited (JNFL) in Rokkasho Mura, Japan, a sister to the La Hague plant. Its capacity is set at around 200 TWhr/yr, or the equivalent of 800 MTHM/yr. AREVA is also transferring technology for MOX fuel fabrication and proposes to assist JNFL during the design, construction and operation of its future MOX plant;



- in the United States, the AREVA group's recycling technologies form the basis of the US Plutonium Disposition Program, which involves building a MOX fuel fabrication facility in the United States to recycle US defense plutonium for the US Department of Energy (DOE). With regard to treatment, the US administration opted for the open ("once-through") cycle at the end of the 1970s as a response to the risk of proliferation. Following the enactment of the Energy Bill in August 2005, and concurrent with pressures on energy supplies, interest in the long-term development of nuclear power has revived. The DOE's Global Nuclear Energy Partnership (GNEP) launched in February 2006, for example, reopens the recycling option, seen as an opportunity for the United States to increase Yucca Mountain's disposal capacities, recover reusable materials in a controlled manner, and reduce the risk of proliferation. AREVA is participating in this program as part of a team that includes MHI, JNFL, Washington Group, BWXT and Battelle;
- The group also signed a contract with China in 2007 to perform a feasibility study on a recycling plant in China.

■ **Strengthen its leadership position in the used fuel storage market.**

This concerns the Logistics business in the United States in particular, where the focus is on strengthening the group's current positions while preparing for the anticipated revival of used fuel transportation markets. This took the form of new cask development in 2008 for dual-purpose storage and transportation.

■ **Develop products and services related to the transportation of fuel and nuclear materials.**

This is a strategic objective of the Logistics business unit, which must be capable of overseeing and ensuring the safety of all of the group's nuclear materials transportation, both for the front end and the back end of the cycle.

■ **Provide the engineering for the group's new projects.**

During the initial phase of nuclear revival, the group wants to develop its capabilities throughout the nuclear cycle. Supporting these developments is a strategic objective of the Engineering business unit, not only for the group's projects, but also for expanding the synergies with the group's other engineering entities.

■ **Manage the progress of the division's dismantling operations.**

The group has built up clean-up and dismantling expertise related to nuclear sites at the end of the life cycle for more than 20 years.

Backed by this experience, AREVA is now leading projects in France as well as abroad. AREVA has organized to be a major player in this business in light of its strong growth potential.

### 6.3.3.1. Recycling and Nuclear Site Value Development business units

#### 6.3.3.1.1. Key data

<i>(in millions of euros)</i>	2008	2007
Revenue*	1,309	1,363
Workforce at year end	6,013 employees	5,751 employees

\* Contribution to consolidated revenue.

#### 6.3.3.1.2. Businesses

AREVA is the world leader in the used fuel recycling market, with more than 30 years of experience in the back end of the nuclear cycle. The group uses processes to extract new energy resources from used nuclear fuel.

After fuel has been used in the reactor, 96% of its content consists of recyclable materials: 1% is plutonium and 95% is uranium.

Used fuel recycling consists initially of separating these reusable materials from final waste, which is packaged for disposal. Most of the radioactivity in used fuel is contained in this final waste. The waste is packaged in universal waste canisters for safe storage and transportation. The final waste package is also designed for high integrity during disposal in terms of containment and durability.

Following the treatment stage, the reusable materials are recovered for recycling. Some of the uranium is recycled into fuel called reprocessed uranium fuel (RepU); the remainder is stored in stable form, constituting the equivalent of a uranium stockpile. The plutonium is used to fabricate another type of fuel: MOX, a mixture of uranium and plutonium oxides. AREVA is the world's leading producer of MOX.

In line with its commitment to sustainable development and environmental protection, the Nuclear Site Value Development business unit manages the clean-up of equipment and facilities and the dismantling of sites after closure. The goal is to enable reuse of the sites.

#### 6.3.3.1.3. Manufacturing and human resources

##### > RECYCLING

Most of the Recycling business unit's operations are conducted at two plant sites, the La Hague site in northern France and the MELOX site in southern France.

### The La Hague site

The AREVA La Hague site is in charge of the first step in recycling: separating recyclable materials from waste in used fuel from French and foreign power plants and research reactors, and packaging those materials and waste.

The La Hague plant has two production lines, UP2-800 and UP3, which currently have a combined capacity corresponding to the generation of 450 TWh/yr of electricity, *i.e.* 1,700 metric tons of used fuel per year.

More than 3,000 AREVA employees work at the site.

### MELOX SA

The MELOX plant is the world leader in the MOX fuel fabrication market.

AREVA filed a license application in 2004 to increase production to 195 metric tons of heavy metal (MTHM) per year to meet growing demand. The application, part of AREVA's strategy of consolidating all of its MOX fuel fabrication operations at the MELOX plant, was the subject of a public inquiry conducted from April to June 2006. The inquiry culminated in the granting of the license decree on April 26, 2007, authorizing MELOX to step up throughput from 145 to 195 MTHM per year to meet utility customer requirements and expectations regarding nuclear fuel management.

### > NUCLEAR SITE VALUE DEVELOPMENT

The Nuclear Site Value Development business unit is active at three plant sites in France, where it performs clean-up and dismantling operations.

### The La Hague site

Operation of UP2-400, the first plant at the AREVA La Hague site, began in 1966. UP2-400 recycled fuel from natural uranium gas graphite (NUGG) reactors, light water reactors, and research reactors. The UP2-400 recycling facilities were shut down at the end of 2003, after commissioning of the new UP2-800 and UP3 plants. The UP2-400 facilities will be dismantled by 2035 and the waste will be retrieved and packaged for storage.

### The Cadarache site

The AREVA Cadarache MOX fuel fabrication plant ceased commercial production on July 16, 2003. AREVA is now performing two different types of operations there:

- repackaging and removal of reusable materials from previous fabrication operations for recycling, a task that will be completed in June 2008; and

- clean-up and dismantling of facilities prior to their transfer to the CEA.

The site has been conducting clean-up and equipment dismantling since 2003 to prepare for the start of dismantling operations begun in the second half of 2008 and set to continue through 2012.

The operating experience from these operations is being applied to technical modifications to the MELOX plant and will be used to optimize future MOX fuel fabrication plants elsewhere in the world.

### The Marcoule plant

At the Marcoule site, AREVA is cleaning up and dismantling nuclear facilities that have reached the end of their service lives, and operates various industrial units. The rehabilitation operations launched in 1998 are the first of this scale in the world.

The Marcoule plant is the CEA's leading partner for these operations under an industrial partnership agreement valid through 2015 and existing contracts running through the end of 2010.

### 6.3.3.1.4. Market and competitive position

The world market for used fuel recycling is extremely concentrated and highly controlled by stringent technical and regulatory requirements. The market's main features are:

- a concentrated industry with a limited number of suppliers of recycling services;
- a very high level of technological expertise;
- extremely high development costs for substitute technologies;
- capital-intensive operations;
- stringent emissions and environmental impact requirements; and
- a limited number of customers, for whom services are performed under long-term contracts.

The installed capacity of the La Hague plant and of MELOX along with AREVA's vast experience rank the group number one worldwide in recycling. Britain's Sellafield Limited and Russia's State Nuclear Energy Corporation are the next largest producers.

## > WORLDWIDE TREATMENT AND PRODUCTION CAPACITIES IN 2008

### Treatment of used LWR fuel

	Installed capacity (MTIHM/year)**	2008 production (*) (MTIHM/year)	Cumulative production (*) (MTIHM/year)
La Hague (France)	1,700	940	24,540
Sellafield-Thorp (United Kingdom)	900	10	4,010
Chelyabinsk East (Russia)	400	100	4,200
<b>Subtotal for 2008</b>	<b>3,000</b>	<b>1,050</b>	<b>32,750</b>
Rokkasho Mura (Japan)***	800	120	420
<b>Total 2008</b>	<b>3,800</b>	<b>1,170</b>	<b>33,170</b>

\* Treatment of used LWR fuel: rounded figures

\*\* MTIHM/year = metric tons initial heavy metal/year.

\*\*\* Production figures for the Rokkasho Mura plant (91 MT in 2006, 150 MT in 2008) relate to the active testing phase preparatory to commercial start-up.

Sources: AREVA, World Nuclear Association, IAEA, NDA, JNFL.

In MOX fuel fabrication, the AREVA group is now the world's leading producer, with licensed annual production of 195 metric tons of heavy metal.

In 2008, about 130 metric tons of MOX were produced worldwide, including 126 MTHM at the MELOX plant. This corresponds to a

market share for the AREVA group of approximately 95%. As in 2007, the year was characterized for MELOX by continued design and customer diversification, leading to numerous certification phases to plan production for 2009.

## > WORLDWIDE RECYCLING AND PRODUCTION CAPACITIES IN 2008

(in metric tons/yr)	Installed capacity	2007 production	2008 production	Cumulative production
AREVA-MELOX, France <sup>(a)</sup>	195 MTHM	125	126	1,426 <sup>(e)</sup>
Sellafield Limited, United Kingdom <sup>(b)</sup>	120 MTHM	5	5	35
<b>Total in 2008</b>	<b>315 MTHM</b>	<b>130</b>	<b>131</b>	<b>2,470 <sup>(d)</sup></b>
J-MOX (Japan)	130 MTHM <sup>(c)</sup>	-	-	-
<b>Total</b>	<b>445 MTHM</b>	<b>-</b>	<b>-</b>	<b>-</b>

(a) MELOX plant: licensed capacity of 195 MTHM per year since April 2007.

(b) AREVA estimate based on data published by the Nuclear Decommissioning Authority (NDA).

(c) Plant in the design stage.

(d) Total including cumulative production from the AREVA Cadarache plant, shut down in 2003 (345 MTHM), and the Belgonucléaire-Dessel plant, shut down in 2006 (664 MTHM).

(e) Cumulative AREVA production excluding AREVA Cadarache production, shut down in 2003.

### 6.3.3.1.5. Operations and highlights

#### > RECYCLING

##### Operations

In 2008, the AREVA La Hague plant recorded production of 937 MT, better than the objective of 905 MT. A total of 793 canisters of vitrified waste and a record 1,536 containers of compacted waste were also produced.

AREVA confirmed its world leadership position in the MOX market in 2008, with 1,426 MT fabricated since start-up of the MELOX plant, bringing the total number of assemblies delivered to customers to more than 5,000 since 1972.

Under an agreement between AREVA and Sellafield Limited by which AREVA will fabricate MOX fuel on behalf of Sellafield, the La Hague plant repackaged plutonium from Sellafield. The plutonium will be transferred to the MELOX plant for MOX fuel fabrication starting 2009.

On December 26, 2007, France's Nuclear Safety Authority (ASN) authorized equal status for MOX and UO<sub>2</sub> fuel in EDF's nuclear reactor fleet. With the "MOX Parity" program, AREVA supplies EDF with enhanced MOX fuel whose performance has been raised to the level of standard UO<sub>2</sub> fuel. The ASN authorization delivered to EDF enabled the fabrication of the first reload of 12 assemblies at the MELOX plant and their loading in unit 1 of EDF's Tricastin nuclear power plant in April 2008.

MELOX successfully ramped up fabrication of MOX parity fuel in 2008. In 2009, all MOX fuel fabricated by MELOX for EDF will be MOX parity fuel. This was a decisive move for the future of MOX, and the MELOX plant and Fuel business unit were equal to the challenge. The authorization was a critical milestone for EDF, which has worked hard alongside AREVA to secure MOX/UO<sub>2</sub> parity for its reactor fleet.

Also, annual production of MOX fuel for EDF power plants will increase from 100 MT to 120 MT by 2010, following agreements on recycling signed at the end of 2008 between EDF and AREVA.

#### Marketing and sales

In December 2008, AREVA and EDF signed a framework agreement on the recycling of used nuclear fuel over the 2008-2040 period. This agreement defines the principles of the parties' long-term cooperation in used fuel transportation and recycling, with two reciprocal commitments: AREVA will operate the La Hague plant near Cherbourg and the MELOX plant at the Marcoule site through at least 2040; EDF will use these facilities for its needs through that same date. The agreement provides long term visibility to both parties in their relations pertaining to recycling. Under the agreement, EDF will increase the annual quantity of used fuel sent to La Hague for treatment from 850 MT to 1,050 MT starting in 2010 and the annual quantity of MOX fuel purchased from 100 MT to 120 MT.

An important milestone in restarting the Japanese MOX program was reached in 2006 with AREVA's signature of three MOX fuel supply contracts for deliveries over the 2007 to 2020 period. These contracts have been in production since 2007. The 16<sup>th</sup> and last MOX assembly for Kyushu was delivered to the La Hague site on August 26, 2008.

MELOX had fabricated the last MOX assembly for Japanese clients in 2001. The fabrication campaigns for Japanese power companies Shikoku and Chubu began in April and May 2008 respectively. MELOX completed the Shikoku campaign in September 2008. The Chubu campaign will be completed at the beginning of 2009. These MOX assemblies are scheduled for delivery to Japan in the first half of 2009.

In January 2007, after two years of negotiations, AREVA and Japanese power company Kansai signed a long term global partnership agreement related to the supply of various products and services. This agreement strengthens the special relationship built with Kansai over more than 30 years.

In November 2008, as contemplated in the global partnership agreement, AREVA signed a contract for the recycling of all plutonium held for Kansai at La Hague.

As provided in the contract, AREVA MELOX and the fuel vendor designated by Kansai signed two MOX fabrication contracts in

March and November 2008 for 16 and 32 assemblies respectively. These assemblies will be loaded in one of Kansai's reactors at Takahama, in Fukui prefecture.

These contracts coincide with the revival of the used fuel recycling program in Japan and follow contracts signed by AREVA in 2006 for the Japanese utilities Chubu, Kyushu and Shikoku.

#### > TECHNOLOGY SUPPORT

On the international market, AREVA and its partners URS Washington Division and AMEC plc were awarded the contract to manage and operate the Sellafield nuclear site in November 2008. This contract was awarded for an initial period of 5 years, with an option for an additional 12 years. The volume of business generated by the contract is approximately 1.3 billion pounds sterling per year during the initial phase. Some 10 engineers from AREVA La Hague will provide expertise in the areas of production, maintenance and quality. This contract marked the second success for AREVA in the back end of the fuel cycle in the United Kingdom in 2008. In March 2008, AREVA had won the contract to manage and operate the Cumbria low level waste disposal center as a member of the consortium known as UK Nuclear Waste Management Ltd.

Performance of the Vitrification Assistance Programme contract signed in 2005 with Sellafield Limited continued in 2008 with the delivery of vitrification equipment and on-site assistance by AREVA La Hague experts. The contract will end in April 2009.

In Japan, a partnership agreement for the renewal of AREVA's support to JNFL was signed in April 2008 for the Rokkasho Mura treatment plant. The performance guarantees given as part of the technology transfer were verified and validated by JNFL.

In China, as provided in the 2007 partnership agreement between AREVA and China National Nuclear Corporation (CNNC), AREVA performed a feasibility study for the construction of a recycling plant in that country. CNNC and AREVA continue their evaluation of the project.

Under arms control agreements between the United States and Russia, each country agreed to eliminate 34 metric tons of surplus defense plutonium by using it to fuel civilian nuclear reactors.

The United States chose AREVA's plutonium recycling and MOX fabrication technology and skills. Construction of the MOX Fuel Fabrication Facility (MFFF) launched in August 2007 continued in 2008 on schedule and within budget. The Shaw AREVA MOX Services team (SAMOX) is building the facility for the US Department of Energy (DOE).

The four Eurofab MOX lead assemblies completed their second irradiation cycle in Duke Energy's Catawba 1 reactor. AREVA began the post-irradiation examinations on behalf of SAMOX.

## > NUCLEAR SITE VALUE DEVELOPMENT

### The Marcoule plant

In 2008, as the CEA's leading industrial partner, AREVA continued to provide:

- clean-up and dismantling operations as prime contractor, and
- nuclear and non-nuclear industrial facility operations, including waste packaging, effluent treatment, laboratories, water, gas and power supply, etc.

All of these missions were carried out under multi-year contracts for the 2005-2010 period for a total of more than 1 billion euros.

### The Cadarache site

Significant equipment and human resources were deployed at the Cadarache site in 2008. All repackaging and removal operations for reusable materials from former production were completed before June 30, 2008. This deadline had been set by French nuclear safety authority ASN on March 21, 2007. As of that date, all of the materials had been shipped to the AREVA La Hague site for recycling. The treatment and conditioning of these reusable materials called for special capabilities and additional personnel from the MELOX plant.

Once these operations were completed, site operations were limited to clean-up and dismantling, which will continue through the end of 2012. In 2008, the program for initial clean-up and equipment removal was 25% complete.

The AREVA Cadarache site organized a public enquiry over the June 9 to July 9, 2008 period in connection with the licensing process leading to a new "MAD/DEM" decree authorizing the final shut-down and dismantling of the facilities. The public enquiry commission, the local information commission and the ASN issued a favorable recommendation. The publication of a new MAD/DEM decree is expected in early 2009.

### The La Hague site

At La Hague, the public inquiry concerning the license application for final shut-down and dismantling of the receiving, storage, shearing and dissolution facilities of the old UP2-400 plant was held at the end of 2008. At the beginning of 2009, the public enquiry commission will issue its findings and a report on AREVA's application for the shut-down and dismantling of the regulated nuclear facility INB 80 (HAO facilities).

Another public enquiry will be carried out in the coming years for all other facilities of the former UP2-400 plant. An application was filed in October 2008 for the final shut-down and dismantling of these facilities, including INB 33 (UP2-400), INB 38 (STE2), and INB 47 (Elan IIB).

In the meantime, the business unit continues its studies and operations to retrieve and package legacy waste stored at these regulated nuclear facilities.

### 6.3.3.1.6. Research and development

Under the umbrella of the agreement between AREVA and the CEA, and following testing performed in 2008, the cold crucible, a new generation of melter for the vitrification facility, will be installed in a facility of the AREVA La Hague plant. The new melter will broaden the range of vitrification applications to include more waste types. Product is set to begin in 2010.

In addition, construction work to expand storage capacity for French vitrified waste at the AREVA La Hague site will begin in 2009. These storage buildings will be used to store vitrified waste pending operation of the disposal center, slated for around 2025.

### 6.3.3.1.7. Sustainable development

#### > RECYCLING

#### The La Hague site

The trio of quality, health & safety, and environmental certifications was renewed at the AREVA La Hague plant.

To reduce the quantity of domestic waste water released, AREVA La Hague started up a new water treatment plant that uses an activated sludge process. This technology eliminates the need for lagooning and reduces the quantity of waste water released.

AREVA La Hague also reduced CO<sub>2</sub> emissions by 30% by increasing the use of electric boilers.

In 2008, the site launched the Total Productive Maintenance initiative (TPM) for continuous performance improvement of plant resources to support its performance goals. TPM is one of several such activities undertaken by the site. TPM relies on visual management, a performance improvement tool deployed in most of the site's sectors. This initiative will be implemented and expanded over several years.

### MELOX SA

As part of its continuous improvement initiative, MELOX received ISO 9001, ISO 14001 and OHSAS 18001 certification, thus validating the plant's integrated approach for triple certification (health and occupational safety, quality, and the environment).

Going beyond triple certification, MELOX is also strengthening its Total Productive Management initiative (TPM). This initiative promotes management based on continuous performance improvement in several fields, including product quality improvement, flexibility and schedule performance, cost reduction, and profitability improvement. One of MELOX's objectives in strengthening the TPM initiative is to capture the JIPM award by 2012. This award is a guarantee of quality, particularly for Japanese customers.



## > NUCLEAR SITE VALUE DEVELOPMENT

### The Marcoule plant

At the Marcoule site, AREVA is developing the Marcoule 2006/2015 industrial project, which calls for AREVA to continue in its role of leading industrial partner to the CEA at this site and to demonstrate to stakeholders of the nuclear industry that the back end of the cycle is under control on the technical, economic and social levels.

In this regard, the Marcoule site continued its sustainable development initiative in 2008, in particular through:

- the first annual in-house job forum, designed to facilitate internal mobility by informing employees of job openings in the AREVA group over the coming years;
- maintenance of all three certifications following the first oversight audit in February 2008: ISO 9001 for quality, ISO 14001 for the environment, and OHSAS 18001 for occupational safety; and
- continued implementation of an employee suggestions system, after favorable results from its second year of operation, aimed at stimulating individual and collective creativity to introduce new ideas and contribute to sustainable performance.

### The Cadarache plant

The AREVA Cadarache site was audited in 2008 in connection with its application for renewal of its three certifications: ISO 9001, ISO 14001 and OHSAS 18001. This step confirms the site's determination to implement its continuous improvement initiative without interruption.

The AREVA Cadarache site's proactive occupational safety policy has yielded results: no AREVA Cadarache employee has been hurt in a work-related accident with lost time in more than two years and no subcontractor employee working at the site has been involved in any such accident for more than a year.

#### 6.3.3.1.8. Outlook and development goals

With the nuclear revival gaining momentum and the resulting increase in nuclear fuel usage, utilities are reassessing their used fuel management strategies and show growing interest in recycling.

With the Global Nuclear Energy Partnership (GNEP) initiative started in February 2006, the US administration confirmed that nuclear power must play a major role in meeting growing demand for energy around the world. It also constitutes recognition of recycling, which aim to recover the energy content of used fuels and reduce final waste, as a solution for the sustainable development of nuclear power.

Since 2007, the International Nuclear Recycling Alliance (INRA) led by AREVA and Mitsubishi Heavy Industries, Ltd, performed exploratory studies for the DOE that decisively point to the feasibility of a recycling business model in the United States.

Other team members are Japan Nuclear Fuel, Ltd, Washington Group International, BWX Technologies, Inc. and Battelle. A growing number of US utilities have also indicated an interest in recycling.

Also for the DOE, AREVA continues to build the MOX Fuel Fabrication Facility at the Savannah River site in Aiken, South Carolina, in partnership with the Shaw group. This project falls within the framework of agreements signed between the United States and Russia to "demilitarize" 34 metric tons of surplus defense plutonium by recycling them in the form of fuel for civilian use.

As part of its developing nuclear power program, China has included recycling in its used fuel management policy. AREVA conducted exploratory studies related to the recycling of used fuel in China following the signature of bilateral agreements between the French and Chinese governments in November 2007.

In 2009, the Recycling and Nuclear Site Value Development business units are aiming to promote recycling technology abroad by:

- participating in the establishment of appropriate infrastructure in partner countries;
- offering services using its own industrial assets; and
- combining recycling with EPR™ reactor bids.

### 6.3.3.2. Logistics business unit

#### 6.3.3.2.1. Key data

<i>(in millions of euros)</i>	2008	2007
Revenue *	234	218
Workforce at year end	876 employees	874 employees

\* Contribution to consolidated revenue.

#### 6.3.3.2.2. Businesses

The Logistics business unit operates in two main areas:

- design and management of fabrication of casks and specialized equipment to transport and/or store nuclear materials,
- organization of nuclear materials transportation and supply chain management as needed, including that of the related equipment.

The Logistics business unit operates both in the front end and the back end of the nuclear cycle for commercial customers as well as for research reactors and laboratories.

The business unit was also tasked with the supervision of transportation for the AREVA group to ensure that operations are carried out in a safe and secure manner.

#### 6.3.3.2.3. Manufacturing and human resources

Given the international nature of its business, the Logistics business unit has locations in three of the world's major regions:

- in Europe, where the business unit's leading entity, TN International, has expertise in every aspect of logistics, possesses a large fleet of shipping casks, and carries out nuclear materials transportation, in particular through its subsidiaries LMC and Mainco;
- in the United States, where Transnuclear Inc. designs and sells storage and transportation casks to US utilities; and
- in Japan, where its subsidiary Transnuclear Ltd specializes in engineering, transportation management, maintenance and sales of casks at power plant sites.

#### 6.3.3.2.4. Market and competitive position

The business of nuclear materials transportation and of the design of transportation and storage casks for nuclear materials is characterized by:

- the wide variety and large number of materials involved;
- the competitive and global nature of the market;
- the existence of a stringent, ever-changing regulatory framework specific to each transport mode and to each country.

The business unit's revenue for 2008 was divided as follows: 22% in North America, 39% in France, 16% in Asia, 7% in Germany, and 16% in the rest of Europe.

The market in which the Logistics business unit operates centers on the needs of electric utilities that operate nuclear reactors and on those of nuclear industries, such as mining, enrichment or recycling. To a lesser extent, it includes the special needs of nuclear research centers/laboratories and research/test reactors.

Storage capacity requirements and the type and volume of materials transported vary from one country to the next, depending on installed nuclear generating capacity, the availability of fuel cycle facilities, and the back-end option chosen by the utilities.

- In Europe, most nuclear utilities turn to the Logistics business unit to transport their nuclear materials, from natural uranium to final waste. In the back end of the cycle, EDF is the leading shipper of used fuel, which it ships to the AREVA La Hague treatment plant. Italian utilities and some research reactors ship used fuel to La Hague. Political decisions concerning the back end of the fuel cycle (open cycle or postponement of decision) have created a large market for used fuel storage. The Logistics business unit is well positioned in this market, particularly in Belgium, Switzerland and Germany.

- In the United States, utilities do not presently recycle used fuel from their power plants. The US government has agreed to take title to the fuel for final disposal in a repository, which could enter service by 2020. In 2008, the US Department of Energy selected Transnuclear Inc. to develop the canister for used fuel disposal at the Yucca Mountain site.

Pending availability of a disposal solution, the utilities have a growing need for dry storage capacity at their power plant sites. Transnuclear Inc. is a leader in this market. Later, when the final repository becomes available, there will be substantial demand to ship used fuel to that facility.

- In Asia, the group's strongest presence is in Japan, which currently uses plants located in France and Great Britain to treat and recycle its used fuel. The MOX fuel from recycling and waste from used fuel treatment must therefore be shipped from Europe to Japan. To supplement treatment and recycling capacities currently being brought on line in Japan, used fuel storage capacities will be needed after 2010. This creates a market in which the Logistics business unit is aiming for a significant share.

The Logistics business unit is the world leader in both of its businesses and the only commercial entity to operate in every segment of the nuclear cycle on an international level. It has a dozen key competitors in the various segments of the market – transportation, brokerage, transportation systems, casks and equipment, licensing – in the three leading regions of Europe, the United States and Japan.

#### 6.3.3.2.5. Relations with customers and suppliers

##### > CUSTOMERS

The Logistics business unit's customers are nuclear operators seeking solutions for radioactive materials transportation in both the front end and the back end of the fuel cycle, as well as for materials storage and management of their supply chain.

Through its entities, the business unit counts as its customers the majority of the world's utilities, research reactor operators, fuel cycle companies and institutes, and nuclear research centers and laboratories.

##### > SUPPLIERS

The Logistics business unit conducts three types of procurement: cask fabrication, maintenance and transportation services. For cask fabrication, the Logistics business unit selects suppliers in the steel-making, boilermaking and machining industries. Strong and continually rising demand for mechanical construction makes it necessary to monitor worldwide production capacities closely. The equipment is maintained almost exclusively in the AREVA plants at La Hague and Marcoule. The Logistics business unit uses suppliers of all modes of transportation (rail, road, sea, air).



### 6.3.3.2.6. Operations and highlights

In transportation, one of the key events in 2008 was the development of the Logistics business unit's activities in the front end of the cycle. In the back end of the cycle, the business unit made 205 shipments of used fuel from France and Italy to the La Hague site and one return shipment of vitrified waste to Germany. It manufactured the casks and prepared the transportation for shipment by sea of MOX fuel from France to Japan.

The Logistics business unit also launched the design of new casks to meet demand for transportation and storage in the European market.

It also developed its offer of integrated management of the logistical chain. New contracts signed with AREVA group entities strengthened the business unit's position as a key player in securing supplies to the nuclear sites.

In the United States, the business unit strengthened its leadership position in the dry storage systems segment. Among other things, it signed a strategic contract with the US Department of Energy to design the Transport, Aging and Disposal canister (TAD), which will be used for used fuel disposal at the Yucca Mountain site. Transnuclear Inc.'s used fuel loading and transfer services business with US utilities continued to grow. The Logistics business unit is also preparing for future growth in the US transportation market.

In addition, the business unit strengthened its transportation supervision operations for the AREVA group in France and around the globe. New tools to analyze and manage the risk associated with transportation are being deployed. The business unit is now the setting the standard for all group entities in this field.

### 6.3.3.2.7. Outlook and development goals

The Logistics business unit is pursuing three major objectives:

- to support the closed fuel cycle development strategy of AREVA's Back End division;
- to supervise all of the AREVA group's transportation operations; and
- to bolster its world leadership position in transportation and storage for the front end and back end of the nuclear fuel cycle in Europe, North America and Asia.

In Europe, this means strengthening its already solid position in the storage market and expanding its shipping services for the front end of the cycle and for research/test reactors.

In North America, the business unit plans to maintain its leadership position in storage and to capture a significant share of the transportation market.

In Asia, the objectives are to conquer significant market share in storage and to expand to the intercontinental transportation market for the front end.

For the EPR™ reactor market, the business unit is developing new products, including casks and storage racks. Consistent with its industrial policy and to ensure the manufacturing of these products, the business unit will strengthen its relations with preferred suppliers.

### 6.3.3.3. Clean-up business unit

#### 6.3.3.3.1. Key data

<i>(in millions of euros)</i>	2008	2007
Revenue *	104	98
Workforce at year end	2,304 employees	2,376 employees

\* Contribution to consolidated revenue.

#### 6.3.3.3.2. Businesses

The Clean-up business unit provides global services and solutions to nuclear facility operators in the following fields:

- outsourced operation of nuclear waste treatment facilities, particularly for low and medium level waste;
- clean-up and dismantling of shut-down facilities, in association with other AREVA business units;
- management and execution of jobsite logistics and/or support services at nuclear facilities and sites so that contractors can perform their work in compliance with all applicable nuclear safety, industrial safety and radiation protection regulations;
- special maintenance services, mechanical services, nuclear equipment and systems handling, and radioactive clean-up;
- consulting and/or project management services to nuclear operators concerning the selection of proven operations and maintenance solutions and for the design and execution of innovative operations;
- radiation protection and nuclear measurement services; and
- training for operations in a nuclear environment and skills management support to contractors.

The Clean-up business unit operates mostly in France, providing services to EDF and other fuel cycle companies such as AREVA NC, the CEA and Andra.

#### 6.3.3.3.3. Manufacturing and human resources

The majority of the business unit's operations involve workers in France who are deployed to customer sites. It services practically all of the French nuclear sites.

The business unit invests heavily in employee training, with each employing receiving an average of 32 hours of training per year. In addition, a certification program leading to a Certificate of Qualification delivered by the Metallurgical Union has been in place since 2004 for dismantling, maintenance and nuclear

logistics jobs and leads to a Certificate of Qualification delivered by the Metallurgical Union. In 2008, the business unit also focused on expanding safety training and analyzed and reorganized its business lines to adapt employee skills to the changing market.

The Clean-up business unit has expertise in the vast majority of techniques for low and medium level effluent and waste processing, volume reduction and safe packaging. Backed by its experience and its ability to innovate, the business unit is able to offer its customers cost-effective, demonstrated solutions.

The Clean-up business unit has operated the environmentally regulated, AFAQ ISO 14001-certified Triade facility for more than 10 years. There, it maintains machinery and equipment used in controlled areas, recertifies equipment, and processes low level waste for its own account or for its customers. The business unit also makes facilities available to customers so that they may maintain their equipment in a secure environment.

#### 6.3.3.3.4. Market and competitive position

The Clean-up business unit operates almost exclusively in the French market (less than 2% of its sales come from the export market), which represents almost 600 million euros per year.

The Clean-up business unit is the leader in France, with a market share of close to 27%. Its main competitor is the Onet group, followed by the nuclear divisions of the GDF-SUEZ, Spie, Vinci and Bouygues groups.

Stiff competition and strong price pressures have prompted the Clean-up business unit to reconsider its commercial position, and it is now evolving towards global, higher value-added services that capitalize on the experience and skills of its seven companies.

#### 6.3.3.3.5. Operations and highlights

This was the first year of operation of the new regional organization of the Clean-up business unit. This organization was validated by receipt of certification for quality (AFAQ ISO 9001) and health and safety (OHSAS 18001). It is the group's first business unit to be certified for all of its industrial operations as a business unit rather than company by company (the business unit comprises seven different companies).

The business unit was also able to maintain its position as an industrial operator of waste treatment facilities at:

- AREVA's AD1 BDH facility at La Hague, and
- the sodium treatment facility at the Creys-Malville power plant.

The business unit's leadership position was also made secure by contract wins such as:

- the emergency construction of a movable bridge for AREVA NP following events at the Tricastin nuclear power plant;
- the development of the turnkey process to treat homogenous waste at the AREVA NC Marcoule site;
- global site support services at EDF's Chinon and Nogent-sur-Seine sites (scaffoldings/thermal insulation) and at the Belleville site (logistics/radiation protection), although the business unit lost the logistics and radiation protection contract for the Dampierre and Chinon nuclear plants;
- the maintenance of lifting equipment for the CEA Saclay site.

The business unit drew on its know-how to perform services abroad in Sweden (vessel closure head maintenance) and in Italy (removal of used fuel, in cooperation with TNI).

#### 6.3.3.3.6. Relations with customers and suppliers

##### > CUSTOMERS

Most of the Clean-up business unit's customers are nuclear companies: utilities, nuclear fuel cycle companies, and companies that work with nuclear waste, such as Andra, the CEA and EDF. To foster long-term relationships with its customers, the Clean-up business unit continued to carry out a satisfaction survey with 150 French and foreign customers in 2008. The survey provided a wealth of information, with respondents emphasizing the business unit's technical and organizational professionalism and its culture of safety and security.

##### > SUPPLIERS

In line with the AREVA group's master procurement plan, the Clean-up business unit is rolling out its long-term partnership-based subcontracting plan, with activities under way concerning OMS, Ortec and Aris. This outsourcing plan is geared towards optimizing and retaining the existing supplier list so that the Clean-up business unit can offer customers global, integrated services in the industrial operations field.

#### 6.3.3.3.7. Sustainable development

In 2008, the Clean-up business unit received ISO 9001 quality certification and OHSAS 18001 occupational health and safety certification for all four product lines: Industrial Operations, Global Site Support Services, Analysis-Radiation Protection-Measurement, and Specialized Maintenance.

The accident frequency rate was stable at about 7.5, confirming the performance improvement achieved in this field in the past three years.

### 6.3.3.3.8. Outlook and development goals

The business unit has been growing at a rate of more than 5% per year since 2004. This positive trend is linked to new customer requirements, including greater reliance on outsourcing of operations and delegation of more responsibility to the service provider.

In the mid term, the Clean-up business unit will grow by continuing to widen the scope of its offering by offering higher value-added services, increasing its attractiveness to the customer. Underpinning our global offering will be our in-house skills and the development of partnerships for operations where we are less competitive.

### 6.3.3.4. Engineering business unit

#### 6.3.3.4.1. Key data

(in millions of euros)	2008	2007
Revenue*	45	59
Year-end workforce**	1,454 employees	1,393 employees

\* Contribution to consolidated revenue. Sales to the AREVA group represent nearly all of the business unit's revenue.

\*\* In 2007, the workforce includes the employees of AREVA NC Inc's engineering business. Starting in 2008, these operations are included in the Recycling business unit.

#### 6.3.3.4.2. Businesses

The Engineering business unit draws on the synergies between SGN and Mécachimie in:

- nuclear fuel cycle engineering, and
- mechanical systems integration.

The Engineering business unit provides facility design and construction services to worldwide nuclear operators as well as plant modifications and optimization of existing facilities. It also provides operating support in areas such as safety analysis, modeling and equipment maintenance.

The business unit operates primarily in the front end and back end of the nuclear fuel cycle. Its engineering services encompass every stage in the plant life cycle:

- process development;
- design and installation of special equipment;
- project implementation, including project management, procurement, construction, testing and start-up;
- operating support; and
- facility and site dismantling.

The Engineering business unit's almost 50 years of expertise and process development for nuclear fuel cycle facilities translate into unique added value and operating experience for its customers.

Through its operating units in France and the United States, the Engineering business unit is active in every country with a nuclear power program. The Engineering business unit is a partner for commercial nuclear facility operators, directly or indirectly, in France and internationally.

#### 6.3.3.4.3. Manufacturing and human resources

The business unit's personnel provide:

- engineering services, including design, procurement, construction management and testing;
- fabrication and assembly services as a mechanical systems integrator; and
- construction and onsite testing.

The business unit also has a development and testing laboratory in northern France.

In France, the business unit has three regional offices in Saint-Quentin-en-Yvelines, in northwestern France near the La Hague plant, and in southeastern France near the Marcoule and Pierrelatte sites.

In light of its rising workload and project diversification, the business unit is engaged in a proactive, sustained recruitment program aimed at augmenting skills in its core business and rejuvenating the age pyramid. Approximately 220 new employees were hired in 2008 under this recruitment policy. Two thirds of the new employees were beginners or had only one previous professional experience; the others were experienced engineers and experts.

#### 6.3.3.4.4. Market and competitive position

The Engineering business unit is a major player in nuclear fuel cycle engineering at the international level. The highly competitive market is spread out over several geographical areas and divided between the front end of the fuel cycle, involving uranium chemistry and enrichment, the back end of the fuel cycle, involving treatment and recycling, facility decommissioning, and waste management. The business unit is the world leader in engineering for uranium defluorination (front end) and treatment and recycling (back end).

The revival of nuclear power throughout the world has created an upsurge in demand for engineering services as new design and construction projects are launched, particularly in the front end of the cycle, with project management services for the group's mining projects, construction of the Georges-Besse II enrichment plant, new construction in uranium chemistry at the Tricastin and Malvési sites, and construction of a defluorination plant in Russia. The business unit's activities in the back end of the cycle, excluding the group's facilities, primarily involve optimization of existing plants and extension of their service life, as in the case of British Nuclear Group's Waste Vitrification Plant at Sellafield, and international projects in China and the United States for the design, licensing and commissioning of recycling plants.

#### 6.3.3.4.5. Relations with customers and suppliers

##### > CUSTOMERS

The Engineering business unit's main customers in France are:

- AREVA, as an internal customer, and more specifically the group's business units operating in the nuclear fuel cycle. The Engineering business unit provides local services to nuclear operators at the La Hague, Pierrelatte and Marcoule sites and is involved in all capital projects to improve production plant performance or increase plant capacity. It also supports the group's mining projects *via* TSU Projects, a joint subsidiary with Technip established in 2008;
- the CEA and EDF for decommissioning and waste/effluent retrieval and processing, and Andra for waste management/disposal studies.

Internationally, the business unit's main end-customers are:

- the DOE in the United States for MOX fuel and waste management;
- the Nuclear Decommissioning Agency (NDA) in Great Britain; and
- JNFL in Japan for the supply of equipment and start-up assistance for the Rokkasho Mura used fuel treatment plant.

##### > SUPPLIERS

The Engineering business unit seeks out synergies with other AREVA group companies to satisfy the procurement requirements of its customers or for its own account. In France, outside the group, it uses a regularly audited selection panel set up for each specialty. Internationally, it searches for suppliers and partners locally based on project requirements.

#### 6.3.3.4.6. Operations and highlights

The Engineering business unit supports the group's international development, particularly in connection with technology transfer agreements in Europe, Asia and North America.

##### > ASIA

**Japan:** The business unit has been involved since 1987 in the construction, testing and equipment procurement of the Rokkasho Mura plant under JNFL's leadership. At the end of 2008, testing campaigns conducted in 2007 verified that the plant achieves daily throughput capacities for the shearing and dissolution of PWR and BWR fuel. The business unit received certificates of acceptance from its customer JNFL lifting all reservations connected with these services.

**China:** the business unit completed the Preparatory Work studies, *i.e.* feasibility studies for the construction of a nuclear fuel recycling plant in China. The business unit is also participating in ongoing discussions and technical exchanges between the Recycling business unit and Chinese operator CNNC.

##### > EUROPE AND AFRICA

**Russia:** In association with the Chemistry business unit, the Engineering business unit continued to carry out preliminary design, process equipment procurement, installation supervision and testing connected with the construction of a depleted uranium defluorination plant. As of the end of 2007, all equipment had been delivered and assembly and testing supervision had begun.

**United Kingdom:** The Engineering business unit joined with the Recycling business unit to supply vitrification equipment, testing and training for personnel from British Nuclear Group's plant at Sellafield.

**Africa:** Through TSU Projects, a joint subsidiary with Technip, the business unit completed preliminary project studies for development and construction of the Imouraren mining complex in Niger and for the uranium ore processing facilities at the Trekkopje mining project in Namibia.

##### France:

For the AREVA group:

- the Engineering business unit is the prime contractor for construction of the Georges-Besse II uranium centrifuge enrichment plant in Pierrelatte. An important milestone was reached with the delivery of the Centrifugation Assembly Building (CAB) for start-up in the summer of 2008;
- in connection with the Comurhex II project, the business unit is providing design and project management services for the replacement and optimization of the uranium chemistry facilities at Pierrelatte and Malvézi.

Business in facility dismantling at treatment sites also continues, with programs for final shut-down of the UP2-400 plant at La Hague and related waste retrieval operations in association with the Nuclear Site Value Development business unit, and ongoing operations as part of the industrial organization consisting of AREVA NC, AREVA TA and SGN set up to carry out clean-up operations at the UP1 plant at Marcoule for the CEA.

##### > NORTH AND SOUTH AMERICA

**In the United States,** the business unit continues design work for construction of the new US MOX Fuel Fabrication Facility (MFFF), which will treat and recycle defense plutonium. The Engineering business unit is participating with other group entities in the plant construction and testing phase, which began August 1, 2007. In 2008, it also performed "Continuation 1" work to provide additional information to the US Department of Energy (DOE) on a proposed used nuclear fuel recycling plant.

#### 6.3.3.4.7. Outlook and development goals

The Engineering business unit's workload grew by more than 15% from 2007 to 2008. This growth stems chiefly from new construction, but also from life cycle extension and optimization

of the AREVA group's production plants. This level of workload is expected to continue over the short term, paralleling the group's major construction programs. In particular, the Engineering business unit will deploy the necessary resources to provide project management support for the Mining business unit's uranium production capacity development projects in Africa.

At the same time, the Engineering business unit plans to pursue international business in support of AREVA's development and cooperation projects in China, the United States and the United Kingdom.

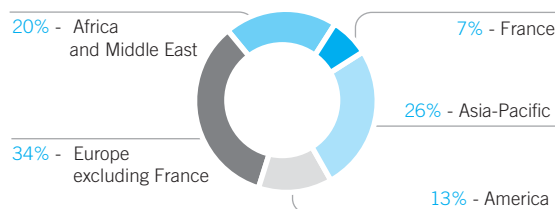
### 6.3.4. Transmission & Distribution division

#### Key data

(in millions of euros)	2008	2007
Revenue <sup>(1)</sup>	5,065	4,327
Operating income	560	397
Workforce at year end	29,966 employees	25,248 employees

(1) Contribution to consolidated revenue.

#### 2008 revenue by business unit<sup>(1)</sup> and geographical area



#### Overview

The Transmission & Distribution division designs and manufactures products and systems to manage power grids and transmit and distribute electricity from the power plant to the end-user. The Transmission & Distribution division installs complete systems and supplies services for every market segment: transmission, distribution and power-intensive industries. The solutions offered by the division are used to operate power grids reliably, consistently and in an environmentally friendly manner. In particular, they are helping to reduce CO<sub>2</sub> emissions while improving energy efficiency and facilitating the dynamic interaction with final users for better management of the electricity market.

The Transmission & Distribution division represented 38% of the AREVA group's revenue in 2008.

It has 29,966 employees in more than 100 countries on 6 continents.

Its international sales network is organized into nine major regions and includes personnel dedicated to key customer accounts.

The division is organized into three business units: Products, Systems and Automation, and one product line: Service.

- The Products business unit designs and manufactures products for electricity transmission and distribution systems. It offers a complete range of high and medium voltage products to route electric power from the power plant to the final user.
- The Systems business unit offers turnkey substation projects and power electronic equipment to the electricity transmission and distribution market.

(1) Sales by the Products, Services and Automation business units via the Systems business unit are recognized by the latter.

- The Automation business unit manufactures and installs solutions for real-time power grid control and operation.
- The Service product line provides customer assistance needed to support AREVA products and systems throughout their life-cycle, including installation, maintenance, repair, training and expertise.

## Strategy and Outlook

AREVA's Transmission & Distribution division is one of the top three global players in the sector. It offers a complete range of high and medium voltage solutions in all regions of the world.

Its customers appreciate its technology and expertise, its skills, the quality of its services and its understanding of global energy issues, bolstered by its affiliation with the AREVA group.

The division's presence in more than 100 countries allows it to expand in fast growing regions, to listen to local markets in order to adapt quickly to local conditions, and to reap opportunities.

The second three-year optimization plan was completed in 2008, marking an important milestone.

The division reached its objective of 5 billion euros in sales two years ahead of schedule.

The division's 2008 capital expenditures to increase production capacity were 10 times greater than 5 years ago. The capital plan aims to strengthen the division's footprint in high-growth countries, particularly India and China, to enhance the competitiveness of the production facilities, and to develop new production capacity.

Recently signed acquisitions and partnership agreements supplement the division's products, services and systems and reinforce its market access: Nokian capacitors in Finland, Passoni & Villa bushings in Italy, Waltec medium voltage transformers in Brazil, Huadian vacuum switches in China, and the RB Watkins service platform in the United States.

- On January 3, 2008, the Finnish company Nokian Capacitors Ltd, which specializes in the design and manufacture of power grid components, particularly capacitors, joined the group. This strategic acquisition strengthens AREVA T&D's position on the ultra high voltage market. The company employs 290 people and represents revenue of 51 million euros.
- On October 1, AREVA T&D acquired Waltec Equipamentos Eletricos Ltda, a Brazilian company specialized in medium voltage switchgear and dry-type transformers. The company employs more than 450 people for revenue of 32.5 million euros. With this acquisition, AREVA expands its industrial footprint in Brazil, one of the foremost emerging markets for transmission and distribution.

In 2009 and for the years to come, the Transmission & Distribution division intends to pursue a strategy of profitable internal and external growth based on productivity gains, continued geographic deployment, increased investment in R&D (Smart Grid, power electronics, etc.) and accelerated differentiation to broaden its product and service offer.

The group's objective is to continue to outperform global market growth.

## Market and competitive position

### Market segmentation

To meet and exceed customer expectations, the Transmission & Distribution division has structured its offering to serve three specific key market segments:

- transmission, which involves transmitting high-voltage electricity from the power plant over long distances at voltages generally ranging from 110 kV to 800 kV. The demand for transmission is almost entirely from integrated power generating companies and power transmission utilities. Some industrial sites that use large quantities of electricity, such as aluminum producers, may be connected directly to the transmission grid;
- distribution, which involves delivering medium voltage power (generally less than 100 kV) to local low voltage power distribution systems;
- industry:
  - oil and gas,
  - mining and metals,
  - rail and airport transport,
  - power generation (wind, hydro, thermal, solar, nuclear).

### Customers

The Transmission & Distribution division serves more than 30,000 customers in 160 countries. The sales force ensures continuity and coordinates customer relations for all products and services in the nine regions.

The division's customers are served by all business units, depending on the customer's specific needs:

- the Product or the Automation business units when the need is focused on equipment or individual components;
- the Systems business unit when turnkey solutions are required.

### Demand drivers

Underlying factors driving demand for grid equipment are organizational in nature and correlated to favorable long-term trends.

**The increase in worldwide electricity consumption:** Population growth, the rise in the standard of living for a growing number



of individuals and the growth in industrial production all drive utilities to produce and deliver increasing quantities of electricity to end users. The power grids must be expanded and strengthened to accommodate these needs. This is particularly true in major developing countries such as India and China.

**Better recognition of tightening environmental constraints:** The need for greater energy efficiency mandates a reduction in line losses and the development of new sources of energy, of distributed production resources, leading to substantial capital investment to upgrade power grids. These developments are a source of opportunity for the sale of products and services using power electronics. They also drive demand for grid management systems that rely more heavily on digital technology.

**The search for more reliable supply:** A large share of the need for investment is to develop interconnection infrastructure to link grids, not at the national level anymore, but at the continental level, and to replace or increase the reliability of existing equipment.

**Changes in the power sector:** The deregulation and development of competitive markets stimulates capital investment in power systems, as long as this investment can be covered by reasonably clear and stable rate regulations.

### Market trend

Despite the economic and financial crisis that struck at the end of the year, 2008 was a record year for AREVA T&D.

Economic stimulus plans in various countries include infrastructure spending that will buttress demand in the transmission segment.

### Market and competitive position

In addition to its leadership position in India, the Transmission & Distribution division bolstered its global leadership positions in several markets:

- Disconnectors: equipment designed to ensure safety by disconnecting part of the grid or certain equipment on demand;
- Gas-insulated switchgear (GIS) (shielded substations);
- Energy management systems (EMS) for the transmission grid;
- Instrument transformers;
- Equipment and solutions to supply electricity to aluminum electrolysis plants;
- Equipment and solutions to transmit direct current at very high voltages (HVDC), excluding Chinese the market.

## 6.3.4.1. Products business unit

### 6.3.4.1.1. Key data

<i>(in millions of euros)</i>	2008	2007
Revenue <sup>(1)</sup>	3,254	2,581
Workforce at year end	17,577 employees	14,450 employees

*(1) Before inter-business unit sales eliminations.*

### 6.3.4.1.2. Businesses

The T&D division's Products business unit designs, manufactures, markets and installs a complete range of high and medium voltage products to transport and distribute electricity from the power plant to the final user.

In general, electricity is generated at medium voltage (12 kV to 36 kV). Its voltage has to be stepped up to 132 kV to 800 kV to minimize energy losses during long-distance transmission. The voltage is then gradually decreased in the distribution networks as it gets closer to the end-user. The business unit's products are installed in every grid point and primarily serve to raise or lower voltage, insulate and connect circuits, and measure current and voltage in real-time.

The business unit supplies equipment for:

- high voltage electricity transmission (52 kV-800 kV): conventional switchgear, shielded substations, instrument transformers and power transformers;
- primary and secondary medium voltage distribution (1 kV-52 kV): compact transformer substations, distribution transformers, disconnectors, circuit breakers, engine starting cells and lightning protection systems.

The Products business unit is organized into eight product lines:

- power transformers;
- distribution transformers;
- circuit breakers, including generator circuit breakers;
- gas-insulated switchgear (GIS);
- instrument transformers including overhead lines and power control relays;
- disconnectors;
- primary distribution; and
- secondary distribution.

### 6.3.4.1.3. Manufacturing and human resources

In 2008, the Products business unit continued its major program to boost capacity and programs related to standardization of product lines, expansion and renewal of its product catalogue, and streamlining and improvement of manufacturing processes.

The eight product lines manufacture at 58 sites around the world, Our purpose was to:

- large manufacturing and assembly sites, located near major electricity transmission and distribution markets in accordance with an overall strategy; and
- smaller sites dedicated to final product adaptation based on local customer requirements.

#### 6.3.4.1.4. Market and competitive position

The Products business unit focuses on three market segments:

- transmission,
- distribution, and
- industry, particularly the oil and gas, mine and metals, power generation, and rail and air transportation industries.

#### 6.3.4.1.5. Relations with customers and suppliers

##### > CUSTOMERS

Please refer to the “Customers” heading in the overview of the T&D division at the beginning of section 6.3.4. “Transmission & Distribution division”.

##### > SUPPLIERS

In 2008, the Procurement department continued to support the business unit's profitable growth by focusing on three strategic performance drivers:

- renegotiating existing contracts to take into account the increasing volumes needed to accommodate production growth at all of manufacturing sites, thereby reducing unit costs;
- securing products and services through careful management of supplier risks and intensifying activities to increase productivity at key suppliers;
- boosting purchases in low-cost countries and opening new purchasing offices in Eastern Europe and Mexico.

#### 6.3.4.1.6. Operations and highlights

##### > PARTNERSHIPS

In line with its international development strategy, the Products business unit entered into several strategic partnerships in China, in addition to its strategic acquisitions of Nokian Capacitors Ltd in Finland and of Waltec in Brazil.

In January, three agreements related to the disconnectors market were signed with Beijing Yuli Lian'ou (High Voltage Electric Equipment Co., Ltd), Guangzhou LeeKeen Group Co., Ltd, and Wuxi Henchi Electrical Apparatus Co., Ltd. These agreements will enable AREVA and its partners to build market share and strengthen their worldwide leadership on the disconnectors market.

In April, an agreement was signed with Jiangsu Jinxin Electric Appliance to manufacture gas-insulated transmission lines (GIL), painting of shielded gas-insulated switchgear (GIS), and

silver-coated contacts for the Shielded Gas Insulated Substations product line.

In May, the Primary Distribution System product line extended its agreement with Huadian, which was initially limited to disconnecting switches, to include all medium voltage switchgear as well as 142-kV gas-insulated panels.

In September, AREVA and Shanghai Electric (SEC) signed a new partnership agreement to supplement the existing joint venture between the two companies. The new joint venture involves the construction of two new transformer plants to meet exponential demand for ultra high voltage in China. Project finalization is subject to approval by the Chinese government, which is expected in mid-2009.

These acquisitions and partnerships supplement the Products business unit's offering and expand its global footprint.

##### > INVESTMENTS

The business unit's industrial projects focused mainly on increasing production capacities in 2008, with some 20 major investment projects. More than half of these investments concerned Asia, particularly India and China, which represent 35% and 15% of all Capex respectively. Some 30% of Capex helped strengthen the main centers of competence for the Gas Insulated Stations product line in France and Switzerland.

The year was also marked by groundbreaking at five new plant sites to support growth on these markets.

##### > KEY CONTRACTS

The Products business unit generated a sharp increase in new orders in 2008 in all business sectors (electric utilities, energy intensive industries, etc.) and in all product lines. The year was marked by rising demand and favorable economic conditions, despite the beginning of the global financial crisis. The business unit was awarded several major contracts by electric utilities during the year, including:

- in **Azerbaijan**, where AREVA won an order for the first 200 kV and 320 kV gas insulated substations;
- in **China**, where the group's policy of long-term industrial partnerships is bearing fruit, such as the more than 25 million euros in orders for 110 kV and 220 kV shielded substations booked by the new Suzhou plant;
- in **Qatar**, where the group won the largest contract ever signed by AREVA T&D for a total of 500 million euros, for which the Products business unit will supply 42 power transformers, 8 autotransformers, 225 bays and 75 gas insulated substations;
- in **Libya**, where AREVA won an order to upgrade the 220 kV electric grid, including the supply of 51 power transformers; and
- in **Uruguay**, where AREVA will supply power transformers for HVDC electricity transmission between Uruguay and Brazil.

The Products business unit also won major orders in the industry and infrastructure market segments, including:

- in power generation, particularly the fast growing renewable energies market:
  - in Egypt, a contract was awarded to supply 300/340 MVA, 500/220 kV power transformers, auxiliary transformers, and generator circuit breakers for the Sidi Krir and El Atf hydro stations;
  - In the United Kingdom, where AREVA was awarded the contract for the largest offshore wind farm in the world at Greater Gabbard, for which the Products business unit will supply medium voltage gas-insulated stations;
  - in France, with a contract awarded by EDF Energies Nouvelles for the design and supply of all of the electric substations for the Narbonne solar power plant, the largest in France to date (7 megawatts);
- in airport and rail transport:
  - in India, where AREVA was awarded a contract valued at 40 million euros for the supply of a 66 kV substation for the new terminal 3 at the Indira Gandhi International Airport in Delhi;
  - in Australia, with a contract for 25-MVA transformers for Queensland Rail;
  - in Spain, with a contract valued at 26.5 million euros to supply power to the Madrid-Valencia high speed rail line;
- in the oil business, with a contract valued at 32 million euros in Algeria to supply a gas-insulated substation as well as power transformers to the largest oil refinery in Africa; and
- in mining and metals, with a contract valued at 70 million euros in Bahrain from the largest aluminum producer in the Middle East, and in India, with a contract awarded by the customer Bhilai for a 132 kV substation equipped with gas-insulated substations.

#### 6.3.4.1.7. Outlook and development goals

The design and structuring of electricity transmission and distribution networks continues to evolve, influenced by demographic and economic growth and by energy policies.

The Products business unit has several growth opportunities:

- megalopolis development throughout the world, especially in Asia, requiring the installation of modular, compact and reliable equipment to carry large quantities of electricity to urban centers;
- increased long distance electricity transmission from generating facilities to areas of demand, particularly in China and India, requiring the use of ultra high voltage equipment;

- the replacement of obsolete equipment in industrialized countries, requiring new equipment featuring the latest innovations; and
- greater focus on environmental concerns, meaning a proliferation of renewable energy sources and measurement of the environmental impacts of the equipment.

In this growing market, the Products business unit's strategic priorities follow four main thrusts:

- Innovation: Investment in R&D continues to grow. In the short term, efforts are directed at enhancing existing products; in the longer term, the focus is on developing new products that meet market demand, such as more compact, higher performance products and "green" products that reduce our CO<sub>2</sub> footprint.
- Production cost reductions: Plant productivity is receiving close attention, with deployment of lean manufacturing processes and the streamlining or renegotiation of procurement contracts. Ten projects were launched in 2008 in the production plants.
- Industrial strategy: New market segments are being targeted and production strengthened in high growth areas *via* acquisitions, partnerships and expanded production capacities.
- Human resources: The Products business unit's strategy for growth is centered on attracting and training new talent – engineers, managers and staff – in response to strong growth and the need for expertise, and developing and retaining all employees.

#### 6.3.4.2. Systems business unit

##### 6.3.4.2.1. Key data

<i>(in millions of euros)</i>	2008	2007
Revenue <sup>(1)</sup>	1,596	1,389
Workforce at year end	3,351 employees	2,597 employees

*(1) Before inter-business unit sales eliminations.*

##### 6.3.4.2.2. Businesses

The Systems business unit designs and manufactures turnkey substation projects and power electronic equipment for the electricity transmission and distribution market.

Drawing on substation engineering expertise and project management know-how, the Systems business unit integrates T&D equipment – transformers, medium and high voltage equipment, protection and monitoring systems, telecommunications and services – and provides solutions tailored to the electric grid and industry of each Transmission & Distribution division customer.

The Systems business unit delivers:

- turnkey medium and high voltage substations;
- power electronics for:
  - equipment for very high voltage direct current (HVDC) transmission,
  - systems to increase existing grid capacity and quality (FACTS: flexible alternating current transmission systems),
  - energy conversion and electrolysis.

To succeed, the Systems business unit draws on technologies and applications expertise, on a keen understanding of the technical and economic challenges facing its customers, and on partnerships with suppliers and certain strategic industries.

#### 6.3.4.2.3. Manufacturing and human resources

The Systems business unit has 44 sites in Europe, North America, Asia, Australia, the Middle East and Africa. Its staff consists of 950 engineers, more than two-thirds of whom provide project management.

The business unit also has a high voltage power electronics testing facility at the Glover Street site in Stafford, United Kingdom, and an energy conversion and electrolysis testing facility in Massy, France. In addition, the business unit operates a Center of Excellence in Tampere, Finland, that specializes in flexible alternating current transmission systems (FACTS) to boost capacity and ensure the quality existing grids.

The dedicated organization established for the offshore wind farm connection market won important contracts in Northern Europe.

#### 6.3.4.2.4. Market and competitive position

The systems market continued to grow by more than 6% in 2008. The leading customers were in the Persian Gulf, the Middle East, Brazil, Southeast Asia and India. In these regions, customers want to buy complete systems to compensate for a lack of indigenous resources.

Demand for turnkey projects is on the rise and expanding rapidly. For some of the business unit's largest customers, this translates into the collaborative development of solutions to boost profitability and reduce the cost of complex projects. The market is dominated by projects that use gas-insulated technologies.

ABB and Siemens remain the business unit's main competitors. There are also regional competitors consisting of local contractors, particularly in the low-tech substation field.

The business unit remains a major player in the supply of direct current to aluminum electrolysis plants.

#### 6.3.4.2.5. Relations with customers and suppliers

##### > CUSTOMERS

Please refer to the "Customers" heading in the overview of the T&D division at the beginning of section 6.3.4. "Transmission & Distribution division".

##### > SUPPLIERS

The procurement of products such as circuit breakers, transformers, disconnectors and grid protection products represents some 70% of the Systems business unit's revenue; 40% of this comes from in-house suppliers. Sourced procurement includes cables, distribution cabinets, metal structures, civil engineering and assembly labor.

#### 6.3.4.2.6. Operations and highlights

A strong marketing push in 2008 delivered a large increase in orders for substations, equipment and solutions for very high voltage direct current stations (HVDC) electricity transmission equipment and solutions, systems to boost the quality and capacity of existing grids with flexible alternating current transmission systems (FACTS), and aluminum electrolysis.

##### > SUBSTATIONS:

Key contracts were won in:

- **Asia:** PLN awarded a 75-million euro contract in Indonesia for 15 conventional and shielded turnkey substations for the Java power grid as well as two 150 kV shielded substations to remove energy from a combined cycle power plant in Jakarta for PLN, teamed with Mitsubishi Heavy Industries (MHI).
- **Middle East:** Dubai yielded substantial business, in particular with two 400 kV shielded substations for T&D customer DEWA, the electricity transmission system operator.
- **Africa:** The division won numerous contracts, particularly in Congo with a project for a 230 kV substation and miscellaneous equipment for ENI of Italy. In connection with an oil lease, in Egypt, several contracts were awarded by the government-owned Egyptian Electricity Transmission Company/Egyptian Electricity Holding Company (EETC/EEHC).
- **Europe and Canada:** 2008 was marked by a strong increase in new orders.

- **Pacific:** Several contracts were signed during the year, including a contract valued at 30 million euros with Transpower for a 220 kV shielded substation in New Zealand.

#### > HIGH VOLTAGE DIRECT CURRENT (HVDC) LINES AND STATIONS

Commercially, several significant orders were booked in HVDC in 2008, including the IFA 2008 direct current power link between France and England and the Melo interconnection in Uruguay.

In Canada, the world's first and only system to de-ice high voltage lines was commissioned in Quebec. The business unit invested heavily in R&D and achieved a number of successes in the development of solutions for ultra high voltage direct current (UHVDC).

#### > FLEXIBLE ALTERNATING CURRENT TRANSMISSION SYSTEMS (FACTS)

In FACTS technology, the business unit acquired Nokian Capacitors, based in Finland, whose expertise and portfolio of solutions helped win a first contract in Canada for static vac compensators (SVC) valued at approximately 20 million euros, demonstrating the successful integration of Nokian in the AREVA group.

#### > ALUMINIUM ELECTROLYSIS

AREVA strengthened its position as a major player in this sector, with a market share of more than 40%.

- **Bahrain:** The business unit was selected by Alba to design, build and commission 10 rectifier-transformer units (37 kA 1200 V each). This equipment will replace existing units. The contract is a confirmation of AREVA's expertise and capabilities for upgrades to existing aluminium plants. At an equivalent footprint, the capacity of this new equipment is 45% higher than the previous units. It will be installed without any impact on ongoing production.

- **Australia:** Hydro Aluminum selected the business unit to make improvements to the direct current substation that supplies power to the Kurri Kurri plant. Improved energy efficiency will help boost the plant's increased production capacity. AREVA's ability to supply innovative systems and technologies and its expertise in upgrading existing facilities without disrupting production were key success factors for this contract.

In addition to these contract wins, several significant milestones were reached in ongoing projects:

- **Argentina:** The Aluar A&B groups were gradually brought on line. They replace equipment originally installed by competitors. This program, completed on schedule, demonstrates once again AREVA's expertise in renovating existing facilities without interfering with ongoing production.
- **Canada:** The transformers and rectifiers needed to build the substation for the Rio Tinto Alcan plant in Jonquière were delivered in November 2008. This next-generation 500 kA plant is the first-of-a-kind for the Rio Tinto Alcan group.
- **Russia:** AREVA T&D Rusal Electro Engineering inaugurated its new rectifier manufacturing plant in Krasnoyarsk in October 2008. The rectifiers are based on AREVA technology. The plant is manufacturing the equipment for Rusal's new plants.

To cover the local market (projects in the range of 0.5-2.0 million euros for industrial customers), the business unit formed dedicated teams in India, Pakistan, Algeria, Brazil and France. A similar approach has been followed in Germany for several years, yielding some 230 million euros in sales.

As part of the business unit's optimization plan, major steps have been taken since 2005 to preserve project margins; these continued in 2008, in particular with:

- greater selectivity in responding to requests for proposals, with preference for AREVA T & D's own project methodology;
- corrective action taken to reduce cost slippage on projects in backlog; and
- the strengthening of the role of procurement.

The Systems business unit draws on its staff's expertise in implementing shared processes integrating key aspects of project management, which are consolidated in the Project Management Handbook (PMH), a reference tool for all T&D project managers.

#### 6.3.4.2.7. Outlook and development goals

The market has been expanding for five years. The economic downturn could have an impact on growth, particularly in the Industry segment. In addition, customers are leaning more and more towards turnkey solutions, particularly in the Persian Gulf and Asia.

Gas-Insulated Substations product line (GIS) is gradually winning customers over for safety reasons, and their cost has dropped considerably as the design and technology have been simplified.

The Systems business unit is also benefiting from renewed capital investment in parts of Europe, including England and Central Europe. In addition, the growing need for interconnection to facilitate energy exchange will continue to favor demand for direct current transmission systems in Europe, India and China.

Development is expected to continue in the Gulf region, India and Southeast Asia in 2009. The demand for electricity and electrification is strong, and the business unit plans to locate more of its operations in these countries to carry out its projects and take advantage of local growth.

In view of its broader offer, rising demand for power electronics solutions should also benefit the business unit in the mid term.

The Systems business unit's development priorities for the coming years follow four major lines of action:

- focus on training and building the skills of project managers and electrical engineers;
- increase the business unit's responsiveness and meet customer needs by deploying a regional organization with regional centers of competence supporting flexible local work centers, paying particular attention to Gulf countries, Algeria and Vietnam;
- continue our expansion in China, after the recent order for the Sino-Russian direct current project;
- increase our development of direct current systems and compensators, bolstered by the acquisition of Nokian Capacitors.



### 6.3.4.3. Automation business unit

#### 6.3.4.3.1. Key data

(in millions of euros)	2008	2007
Revenue <sup>(1)</sup>	612	570
Workforce at year end	3,901 employees	3,603 employees

(1) Before inter-business unit sales eliminations.

#### 6.3.4.3.2. Businesses

The Automation business unit's two global product lines provide solutions for real-time digital automation of transmission and distribution systems:

- substation automation solutions (SAS) combining:
  - automated digital systems for substations,
  - protection equipment (to detect T&D equipment failures and send protection commands),
  - equipment to measure the electrical signal or transmit information, and
  - related support services to maintain infrastructure in operating condition, renovate automation systems, and provide specialized operator training;
- network management solution (NMS) that:
  - operate transmission and distribution systems remotely,
  - offer efficient energy market management (SCADA software), and
  - related support services to maintain digital infrastructure in operating condition and provide special training to its operators.

The Automation business unit's offer is built around onboard electronic technologies and real-time information systems. These technologies are implemented through four major business lines:

- development of software applications dedicated to electrical flow management;
- design and fabrication of onboard automation modules;
- real-time information systems integration; and
- related support services.

#### 6.3.4.3.3. Manufacturing and human resources

The Automation business unit operates 3 centers of excellence charged with research and development, including one in the United States and 2 in Europe. It also has 6 automation product assembly centers, including a joint venture with a Chinese partner, and 18 engineering centers to integrate and manage automation and information system projects, including a back-office center in India.

The Automation business unit has approximately 4,000 employees, almost 70% of whom are engineers and managers. More than 80% of its employees are based outside France.

#### 6.3.4.3.4. Market and competitive position

##### > SUBSTATION CONTROL AND PROTECTION EQUIPMENT

The growth of the automation and T&D grid and equipment information systems is the result of capital investment decisions by transmission and distribution system operators seeking to expand their systems in developing countries or to replace aging infrastructure in industrialized countries.

##### > GRID AND MARKET MANAGEMENT SOLUTIONS

Operator investments are directly related to the growth of energy market deregulation, which requires the deployment of real-time solutions to balance supply and demand and to ensure the safety of transmission and distribution systems.

The business unit's main competitors are ABB and Siemens. These two competitors, plus AREVA T&D, control about 40% of the world market. The Automation business unit also competes with companies that are more specialized in certain segments, such as Schweitzer for protection equipment in the United States, Telvent for power station automation systems, and Schneider for electric power quality measurements.

There are also local and regional competitors, such as Nari in China or General Electric in the United States.

#### 6.3.4.3.5. Relations with customers and suppliers

##### > CUSTOMERS

The majority of end-users of automation products, systems and services are utilities that manage the world's leading power supply systems. The business unit serves these users directly as well as through integrators and resellers. A total of 80% of the Automation business unit's revenue came from 150 customers around the world.

##### > SUPPLIERS

The Automation business unit continues to pursue a strategy of increasing its volume of procurement in Asia (India, China), Eastern Europe (Romania, Poland) and North Africa (Tunisia).

#### 6.3.4.3.6. Operations and highlights

Business in substation automation solutions climbed sharply in 2008. The business unit continued to build up its engineering centers in India, the United Arab Emirates (Dubai), Russia (Moscow) and Algeria to give major customers a stronger local presence.



The business unit won several major contracts in 2008:

- power grid management and energy market management systems: Qatar, RTE Wind Farms, CASC-CWE (the European deregulation platform), the United States, China, Denmark and Scandinavia and France;
- substation automation: France, the United States and China;
- energy optimization systems for power generators: the United States and Switzerland.

In 2008, the business unit deployed energy management solutions in the industry segment (power generation and petrochemicals) including the launches of:

- PACiS version 4.5 for the management of substation automation systems;
- e-Terrasource for automated grid simulation; and
- e-Terravision™ 2.0, a complete solution for grid stability monitoring and management.

In the area of manufacturing, sourcing of electronic board manufacturing continued, extended to a wider range of components. The lean manufacturing program widely instituted in 2007 was instrumental in meeting increased demand.

#### 6.3.4.3.7. Outlook and development goals

The interconnection of electricity markets continues to represent an opportunity for the Automation business unit by multiplying the number of information systems and focusing major power companies' attention on system automation.

The interest in distribution system revamping through demand monitoring represents an additional opportunity. In addition, growing data integration linking substations, control systems and energy trading rooms is a new growth engine.

These advances are expected mainly in Europe, and particularly in Eastern Europe. The Asian markets should continue to grow steadily, particularly that of India. In the Middle East, capital investment in the construction of new substations and for the rising number of grid interconnections should continue.

The Automation business unit's short term objectives are:

- deployment of innovative solutions for optimum data integration among the different parts of the power system;
- enhanced onboard electronic solutions for network measurement, control and protection;
- continued geographic deployment for customer support, particularly in Russia, the Middle East and North America;
- continued expansion of solutions to the power generation and oil and gas markets; and

- continued cost reductions through ongoing performance improvement plans.

Longer term, the business unit's growth will come from its ability to capture opportunities linked to the renovation of grid operating systems and markets in Europe while pursuing expansion in China, Russia, the Middle East and the United States.

#### 6.3.4.4. Service product line

##### 6.3.4.4.1. Key data

<i>(in millions of euros)</i>	2008	2007
Revenue <sup>(1)</sup>	385	441
Workforce at year end	1,870 employees	1,787 employees

*(1) Before inter-business unit sales eliminations.*

##### 6.3.4.4.2. Businesses

The Service product line provides services to customers to support the Transmission & Distribution division's products and systems throughout their lifecycle. In addition to traditional maintenance, repair, training and equipment/substation revamping services, the product line offers more global solutions for long-term facility maintenance.

Its local presence, knowledge of existing facilities and technical expertise as a product manufacturer are key success factors in this business. The aging of transmission and distribution equipment placed in service several decades ago constitutes a potentially large source of revenue for which the product line is ideally positioned.

##### 6.3.4.4.3. Manufacturing and human resources

With operations in more than 20 countries, the Service product line operates 37 plant sites strategically located near customers: 25 sites in Europe, including 2 major sites in England, 8 in France and 4 in Germany; 7 sites in Asia-Pacific and the Middle East; and 5 sites in North America.

A series of broad-based programs to capitalize on and transfer knowledge ensure that product line personnel maintain their technical expertise in the products and systems of the Transmission & Distribution division.

The Service product line has more than 1,800 employees worldwide, 60% of whom are in Western Europe, where the client base is largest. Engineers and technicians make up 65% of the workforce, with specialized craft personnel working directly on various contracts making up the remaining 35%.

#### 6.3.4.4.4. Market and competitive position

In an ever more competitive environment, the quality and continuity of electricity supply, and thus the maintenance of power system facilities, is a major concern for customers of the Transmission & Distribution division. The market is characterized by constant growth tied to the growth of the installed base coupled with the aging of that base, resulting in higher maintenance requirements.

The product line's main competitive advantages are excellent expertise as a product manufacturer, synergies with the divisions' three other business units (Products, Systems and Automation), and sharing proven marketing concepts with all units around the globe.

#### 6.3.4.4.5. Relations with customers and suppliers

##### > CUSTOMERS

The Service product line's customers are the same as those of the Transmission & Distribution division's other business units.

##### > SUPPLIERS

In 2008, a global procurement organization was set up for the product line and procurement specialists were hired. This organization has generated cost savings of 2.2 million euros in 2008. Sourced production in the amount of 82 million euros represents 32% of the business unit's sales.

#### 6.3.4.4.6. Operations and highlights

Key contracts won in 2008 include:

- a contract valued at 5 million euros to renovate transformers for Eurotunnel UK;
- a contract valued at 2 million euros to renovate transformers for Australian customer Delta; and

- a 2-million euro order from Adma Opco to upgrade medium voltage circuit breakers in the United Arab Emirates.

While electric utilities represent the majority of all maintenance contracts, the largest contracts were awarded by industrial customers.

#### 6.3.4.4.7. Outlook and development goals

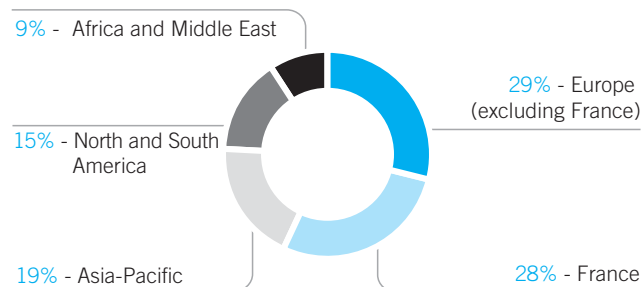
Market development is fueled by the need to renovate the aging installed based and growing interest in service solutions integrating the entire product lifecycle as well as in consulting services to optimize equipment performance.

The Service product line's development priorities for the coming years follow six main lines of action:

- capitalize on the maintenance potential of the installed base (whose replacement value is estimated at 21 billion euros), with a particular focus on fast growing regions such as India, Brazil and the Gulf countries;
- develop the regional presence to respond to our customers' requirements more effectively, with new plants and/or acquisitions;
- promote long-term maintenance contracts with a view to developing asset management partnerships with customers;
- develop tailor-made offers for industrial customers, where T&D equipment maintenance and the interruption of production can be very costly, presenting opportunities for the Service product line;
- increase spare parts sales by setting up a logistics organization and streamlining the global supply chain; and
- support the product lines with an "installation and start-up" service combined with maintenance contracts by deploying resources locally in high-growth markets such as China and India.

## 6.4. AREVA Customers and Suppliers

### 6.4.1. Customers



Source: AREVA.

The majority of AREVA's customers are large electric utilities, public entities such as publicly-owned electric power supply systems or agencies in charge of the back end of the nuclear fuel cycle, and major industries.

Geographically, the majority of its customers are located in Europe, the United States and Asia (particularly Japan and China). The group is also active in developing markets, such as India, Brazil and particularly the Middle East (T&D division).

The group has a key customer, EDF, which represents about 20% of its consolidated revenue. The group's 10 largest customers, including EDF, represent some 35% of its consolidated revenue in 2008.

Organizationally, the business units have their own sales teams and are responsible for their own commercial commitments. The sales teams are extremely qualified in their respective businesses and ensure rapid responses to changes in their markets.

To ensure the efficiency and consistency of the group's marketing activities, the International Development department is responsible for recommending and coordinating the implementation of a commercial strategy to AREVA's corporate management. This department is supported by an international sales network, the AREVA group marketing staff, business development activities, control processes, commercial proposals, and key account managers. The key account managers are tasked with fostering long-term relationships with the group's main customers as part of a "customer action plan" approved by corporate management, which covers all of the group's marketing and sales activities. Each key account manager heads up a cross-cutting team consisting of the main customer contacts within the group's business units.

Global offerings involving several of the group's business units are provided by project teams working under the supervision of the marketing and sales departments of the subsidiaries and the International Development department.

#### Nuclear Power

The number of customers in the nuclear businesses is small, with the group's ten largest customers representing about 55% of AREVA's revenue from nuclear operations. The scope of the transactions is usually large: contracts can amount to several hundred million euros. In addition to EDF, the main customers are major utilities such as Duke Power in the United States, E.ON in Europe and Kansai in Japan. Customers are diversified geographically, with the European customer base representing approximately two thirds of the nuclear business.

AREVA generally has firm commitments on its long-term contracts in the nuclear cycle with limited flexibility on quantities and with firm and/or escalated prices pegged to indices that may be general or specific to the nuclear industry. This is true for sales of uranium, enrichment services and treatment/recycling services provided to major utilities.

Due to its integrated position in every aspect of the nuclear business, AREVA is able to enter into very large long-term contracts covering reactors as well as front end products and services, such as the nearly 8-billion euro contract with the Chinese utility CGNPC.

In line with market practices, various warranties may be given to customers in areas such as performance, delivery schedules, liability for non-performance, etc. The risks associated with these warranties are described in sections 9.4.8., "Off balance sheet commitments", and 4.3., "Risk factors".

#### Transmission & Distribution

The customer base for the businesses of the T&D division is very broad – T&D serves more than 30,000 customers – while the size of the contracts can go up to several hundred million euros.

Marketing and sales for the Transmission & Distribution division are centralized through an international sales organization (ISO) in a hundred countries, ensuring the continuity and coordination of commercial relations across the division's entire offering. The sales force is organized regionally and has more than a thousand employees. It acts in coordination with the group's International & Marketing department.

In addition, the product lines of the Transmission & Distribution business units have their own sales support forces, which coordinate with the ISO. A program was adopted in 2004 to coordinate key account management, enabling the division to develop preferred, long-term relationships with world-class customers that are leaders in their markets.

The division's main customers are:

- integrated electric utilities, such as PLN in Indonesia or Kahrama in Qatar;

- transmission companies set up in the wake of deregulation, such as NG in the United Kingdom; and
- large companies that are major consumers of electricity, such as Alcan and Rusal.

## 6.4.2. Suppliers

External purchases reached some 7 billion euros in 2008, including 1.2 billion euros for non-production purchases (computing and telecoms, intellectual services, general services). Production purchases are divided among the following categories:

- civil engineering and second work;
- raw materials and semi-finished products;
- forging, boiler making and piping;
- equipment, components and mechanical devices;
- electricity, electronics and instrumentation;
- logistics, handling and storage; and
- production services.

Excluding the supply of nuclear materials and the contract for electric power supply to the enrichment plants from EDF, the top 10 suppliers represent approximately 8% of the group's consolidated purchasing volume in 2008.

The group's Senior Vice President of Purchasing is a member of AREVA's Executive Committee. The Purchasing Vice Presidents of the first-tier subsidiaries report to him functionally and are

members of the Executive Committees of their subsidiaries. The Non-production Purchasing department coordinates and globalizes purchasing worldwide for all AREVA subsidiaries *via* framework agreements. The Production Purchasing department created in 2007 is globalizing strategic purchases for the nuclear divisions, especially for major projects.

At the end of 2008, the Purchasing department, working with the Finance department, implemented a process for assessing all supplier risks on all of its strategic markets. Using the business risk model (BRM) methodology, the assessment includes quarterly surveys among all purchasing organizations, supplemented by systematic monitoring of critical suppliers carried out by specialized service providers.

The group signed a long-term agreement with Japan Steel Works, Ltd. (JSW) in 2008 and acquired a minority interest in the share capital of that supplier. This agreement secures the supply of very large forgings used by AREVA to manufacture key components for the EPR™ reactor, such as the reactor vessel, the steam generators and the pressurizer.

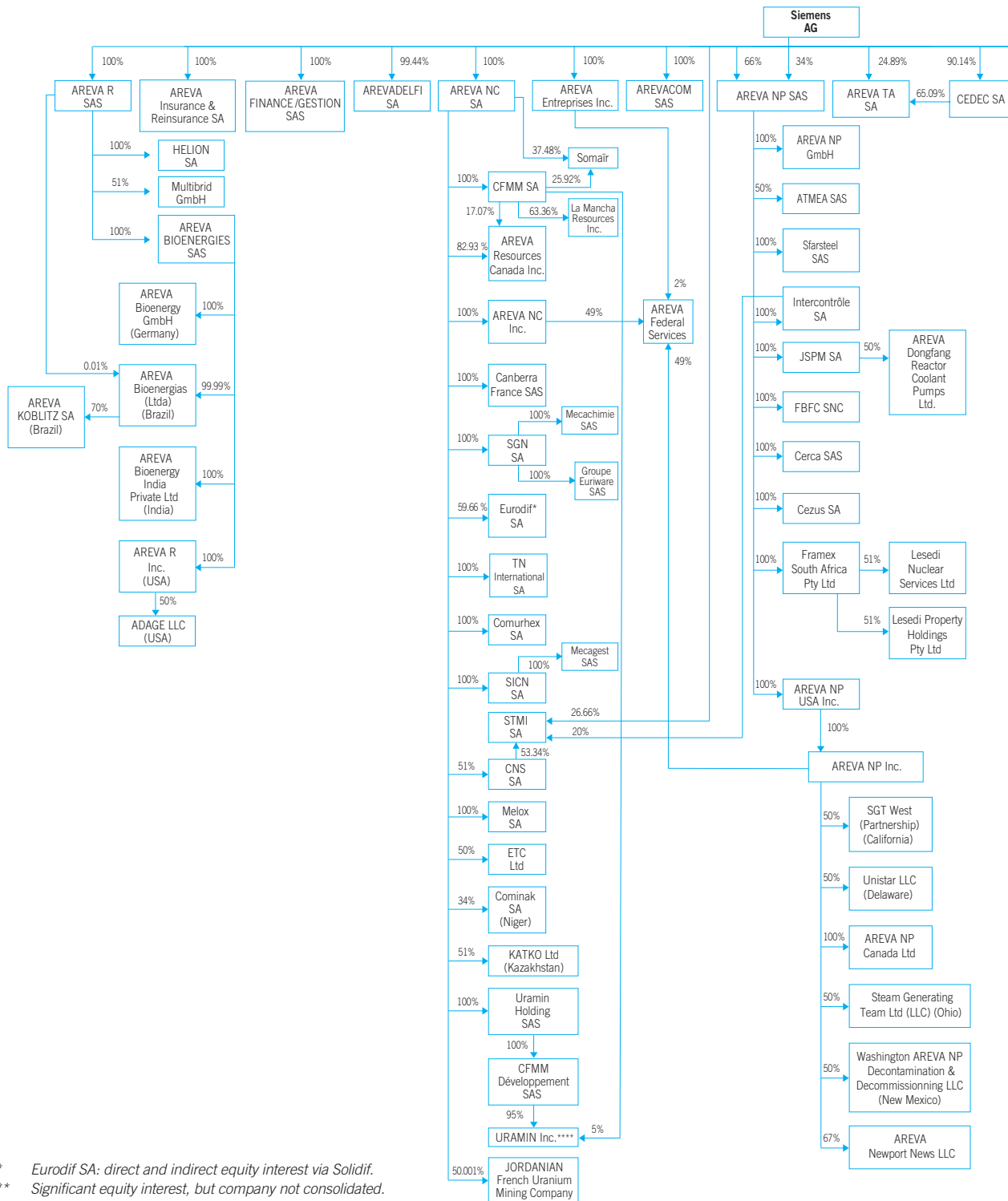
## 6.4.3. Status of issuer's dependency or inter-dependency

See section 4.3.4., "Contractual and commercial risks".

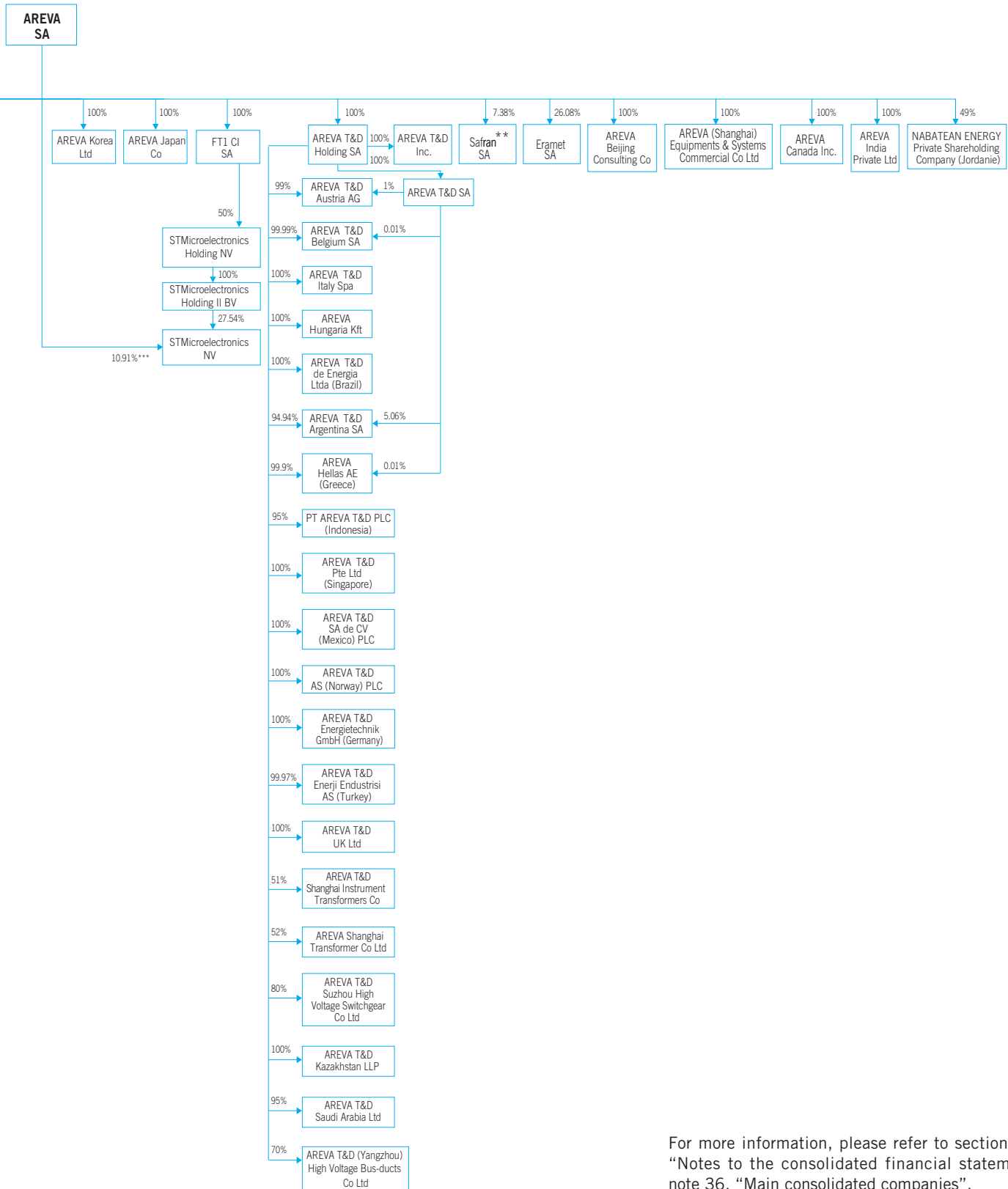
For EDF, see also sections 6.4.1., "Customers", and 6.4.2., "Suppliers".

### Organization chart of the AREVA group

Simplified organization chart of the AREVA group as of December 31, 2008:



\* Eurodif SA: direct and indirect equity interest via Solidif.  
 \*\* Significant equity interest, but company not consolidated.  
 \*\*\* Percent of indirect interest.  
 \*\*\*\* Commercial name: AREVA Resources Southern Africa.



For more information, please refer to section 20.2, "Notes to the consolidated financial statements", note 36, "Main consolidated companies".



- 8.1. Major existing or planned property, plant and equipment ..... 156
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## 8.1. Major existing or planned property, plant and equipment

Pursuant to appendix I, point 8 of European Commission Regulation no. 809/2004 of April 29, 2004, information is provided hereunder on the group's property, plant and equipment.

The group uses a certain number of premises and plant sites in connection with its operations, of which it is either owner or lessor.

The group's principal worldwide plant sites are listed below. The primary criterion for listing sites is the size of the operation conducted there. The principal office sites are shown on the map below.

Regulations applicable to the group's nuclear operations likely to have an impact on the use of its sites are described in section 4.2., "Managing risk related to the group's industrial operations".

The group operates at some 60 principle plant sites. These sites are distributed geographically as follows:

- 31 in France;
- 11 in Europe (excluding France);
- 8 in North and South America;
- 7 in Asia; and
- 3 in Africa and the Middle East.

Several different operations are conducted at some of these sites.

### 8.1.1. Offices



### 8.1.2. Corporate

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area
Tour AREVA – La Défense (92) - France	Offices	Lease	No	78,538 m <sup>2</sup>
33, rue La Fayette – Paris (75) - France	Offices Registered office	Lease	No	27,419 m <sup>2</sup>
1-5, rue du Débarcadère – Colombes (92) - France	Offices	Lease	No	26,910 m <sup>2</sup>

### 8.1.3. Front End division

In all, 16 industrial sites have been identified as principal sites and are listed below.

Of the 16 sites listed, 8 are located in France and 8 are abroad in 6 different countries.

#### 8.1.3.1. Mining business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate (mortgage)	Surface area	Products manufactured
<b>Arlit</b> (Niger)	Offices and production and storage facilities	Long-term concession	No	721,000 m <sup>2</sup>	Uranium concentrates
<b>Akokan</b> (Niger)	Offices and production and storage facilities	Long-term concession	No	499,000 m <sup>2</sup>	Uranium concentrates
<b>McClean</b> (Canada)	Mill and base camp	JV / 70%	No	42,140 m <sup>2</sup>	Uranium concentrates
<b>Muyunkum</b> (Kazakhstan)	Offices and production and storage facilities	Full ownership	No	25,750 m <sup>2</sup>	Eluates
<b>Torkuduk</b> (Kazakhstan)	Offices and production and storage facilities	Full ownership	No	36,975 m <sup>2</sup>	Eluates and uranium concentrates

#### 8.1.3.2. Chemistry business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
<b>Pierrelatte</b> (France) (nuclear regulated, security regulated, environmentally regulated facility)	Plant and outlying areas	Full ownership	No	Land: 300.69 ha	RepU denitration (TU5) Defluorination Denitration (TU2) and depleted UO <sub>2</sub> UF <sub>6</sub> Storage
<b>Miramas</b> (France) (environmentally regulated facility)	Plant	Full ownership	No	Land: 37 ha Buildings: 15,000 m <sup>2</sup>	Lithium
<b>Malvési</b> (France) (environmentally regulated facility)	Plant	Full ownership	No	Land: 59.43 ha	UF <sub>4</sub>

## 8.1.3.3. Enrichment business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
<b>Pierrelatte</b> <b>Saint-Paul-Trois-Châteaux</b> <b>Bollène</b> (France) (regulated nuclear facility)	Plant	Full ownership of land	No	Land: 300.69 ha	Enrichment services Effluent treatment Equipment maintenance
<b>Pierrelatte</b> <b>Saint-Paul-Trois-Châteaux</b> <b>Bollène</b> (France) (regulated nuclear facility)	Plant under construction	Full ownership	No	Land: 40.30 ha	Enrichment services (in future)

## 8.1.3.4. Fuel business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
<b>Romans-sur-Isère</b> (France) (regulated nuclear facility)	Plant	Full ownership	No	Land: 320,648 m <sup>2</sup> Buildings: 28,366 m <sup>2</sup>	Fuel assemblies for PWRs and various components Research reactor fuel and nuclear instrumentation
<b>Paimbœuf</b> (France) (environmentally regulated facility)	Plant	Full ownership	No	Land: 64,366 m <sup>2</sup> Buildings: 17,201 m <sup>2</sup>	Zirconium tubes for fuel assemblies
<b>Jarrie</b> (France) (environmentally regulated facility)	Plant	Lease	No	Land: 97,088 m <sup>2</sup> Buildings: 32,502 m <sup>2</sup>	Zirconium sponge
<b>Rugles</b> (France) (environmentally regulated facility)	Plant	Full ownership	No	Land: 73,491 m <sup>2</sup> Buildings: 14,638 m <sup>2</sup>	Flat products in zirconium
<b>Ugine</b> (France) (environmentally regulated facility)	Plant	Full ownership	No	Land: 56,764 m <sup>2</sup> Buildings: 25,385 m <sup>2</sup>	Intermediate products in zirconium and titanium Plug rods
<b>Dessel</b> (Belgium) (nuclear facility)	Plant	Full ownership	No	Land: 96,300 m <sup>2</sup> Buildings: 15,600 m <sup>2</sup>	PWR fuel assemblies (UO <sub>2</sub> and MOX)
<b>Richland</b> (Washington, United States) (nuclear facility)	Plant	Full ownership	No	Land: 1,344,204 m <sup>2</sup> Buildings: 36,790 m <sup>2</sup>	Powder and pellet production (UO <sub>2</sub> , Gad & BLEU), assemblies and various components
<b>Lingen</b> (Germany) (nuclear facility)	Plant	Full ownership	No	Land: 493,301 m <sup>2</sup> Buildings: 17,600 m <sup>2</sup>	PWR and BWR fuel assemblies

### 8.1.4. Reactors and Services division

In all, 20 industrial sites have been identified as principal sites and are listed below.

Of the 20 sites listed, 9 are located in France and 11 are abroad in 7 different countries.

#### 8.1.4.1. Equipment business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
<b>Saint Marcel</b> (France) (environmentally regulated facility)	Plant	Full ownership	No	Buildings: 52,600 m <sup>2</sup> 40,000 m <sup>2</sup> (facilities) + 12,600 m <sup>2</sup> (offices) + Land: 19 ha	Heavy components (reactor vessel, vessel head, steam generator, pressurizer)
<b>Jeumont</b> (France) (environmentally regulated facility)	Plant	Full ownership	No	Buildings: 30,000 m <sup>2</sup> (developed) + Land: 5 ha	Reactor coolant pump sets, control rod drive mechanisms
<b>Maubeuge</b> (France) (regulated nuclear facility)	Plant	Full ownership	No	Buildings: 7,100 m <sup>2</sup> facilities + 700 m <sup>2</sup> offices Land: 4.5 ha	Services related to contaminated component maintenance: reactor coolant pumps
<b>Le Creusot</b> (France) (environmentally regulated facility)	Plant	Full ownership / Lease	No	Land: 6.4 ha Buildings: 42,500 m <sup>2</sup>	Large forgings for the nuclear and petrochemical industries Machining of large parts
<b>Montchanin</b> (France) (environmentally regulated facility)	Plant	Full ownership/Lease	No	Land: 6.5 ha Buildings: 29,600 m <sup>2</sup>	Mechanized welding boilermaking
<b>Montchanin</b> (France) (environmentally regulated facility)	Plant	Lease	No	Land: 2.7 ha Buildings: 8,220 m <sup>2</sup>	Machining of mechanical parts
<b>Deyang</b> (Sichuan, China)	Plant	Co-ownership by 50/50 JSPM / Dongfang Electric Machinery joint venture	No	37,400 m <sup>2</sup> (facilities) + 1,800 m <sup>2</sup> (offices) Land: 4.6 ha	Reactor coolant pump sets

#### 8.1.4.2. Nuclear Services business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area (developed)	Products manufactured
<b>Chalon-sur-Saône</b> (France) (environmentally regulated facility)	Offices, Cedem development center, Cemo hot facility Cetic training center (50/50 with EDF)	Full ownership	Information not available	Buildings: 55,400 m <sup>2</sup> (hot facility: 400 m <sup>2</sup> ; CETIC: 5,323 m <sup>2</sup> ) Land: 222,801 m <sup>2</sup>	Robotics / tooling / decontamination / storage of tooling (contaminated / decontaminated)
<b>Lynchburg</b> (Tennessee, United States) (nuclear facility)	Offices, hot facilities Training Center	Full ownership	No	Buildings: 34,118 m <sup>2</sup>	Decontamination Hot maintenance facility
<b>Erlangen</b> (Germany)	Offices, facilities	Lease	Information not available	Buildings: 43,000 m <sup>2</sup>	Robotics / tooling

## 8.1.4.3. AREVA TA business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
<b>Cadarache</b> (France)	Production plant / Offices	CEA host site	No	Land: 14.5 ha Buildings: 53,726 m <sup>2</sup>	Nuclear fuel

## 8.1.4.4. Nuclear Measurement business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
<b>Meriden CT</b> (Connecticut, United States)	Production and services site	Full ownership	No	16,200 m <sup>2</sup>	Standard Products / Systems
<b>Albuquerque</b> (New Mexico, United States)	Production and services site	Lease	n/a	2,120 m <sup>2</sup>	Standard products
<b>Loches</b> (France) (environmentally regulated facility)	Production and services site	Full ownership	No	4,800 m <sup>2</sup>	Standard products
<b>Olen</b> (Belgium)	Production and services site	Full ownership	No	1,500 m <sup>2</sup>	Standard detectors
<b>Lingolsheim</b> (France) (environmentally regulated facility)	Production and services site	Lease	n/a	2,053 m <sup>2</sup>	Specialty detectors
<b>TN, Oak Ridge</b> (Tennessee, United States)	Production and services site	Full ownership	No	3,160 m <sup>2</sup>	Crystal growth
<b>Concord</b> (Ontario, Canada)	Production and services site	Lease	No	2,746 m <sup>2</sup>	Standard products
<b>Harwell</b> (United Kingdom)	Production and services site	Lease	n/a	1,880 m <sup>2</sup>	Standard Products / Systems

## 8.1.4.5. Renewable Energies business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
<b>Recife</b> (Brazil)	Offices, Plant	Full ownership	n/a	Constructed surface area: 7,042 m <sup>2</sup> Land: 7,624 m <sup>2</sup>	Turnkey power plant construction and manufacturing of electrical panels
<b>Bremerhaven</b> (Germany)	Offices, Plant	Lease	n/a	Constructed surface area: 6,917 m <sup>2</sup> Land: 18,678 m <sup>2</sup>	5 MW wind turbines
<b>Aix-en-Provence</b> (France)	Offices, Plant	Lease	n/a	Constructed surface area: 835 m <sup>2</sup> Land: 2,212 m <sup>2</sup>	Fuel cells



### 8.1.5. Back End division

In all, 9 industrial sites have been identified as principal sites and are listed below.

All of the 9 sites listed are located in France.

#### 8.1.5.1. Recycling business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
<b>La Hague</b> (France) (regulated nuclear facility)	Plant site Outlying areas and land holdings	Full ownership Full ownership Not fully owned	No No	Plant land: 240 ha Land excluding site: 119.2 ha 26.4 ha	Used fuel treatment
<b>MELOX Marcoule</b> (France) (regulated nuclear facility)	Plants and offices	Full ownership	No	Land: approx. 5 ha	MOX fuel fabrication + packaging of scrap and waste Mechanical facility (fabrication of parts for MELOX) Transportation logistics
<b>Cadarache</b> (France) (regulated nuclear facility)	Plant and offices	Lease	No	22,240 m <sup>2</sup>	MOX fuel production shut down in July 2003 (Eurofab production in 2004) Site undergoing dismantling

#### 8.1.5.2. Logistics business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
<b>Valognes</b> (France)	Rail/road terminal	Full ownership	No	7 ha	n/a
<b>Tourlaville</b> (France)	Warehouse	Full ownership	No	9,800 m <sup>2</sup>	n/a
<b>Pont-Saint-Esprit</b> (France)	Warehouse	Full ownership	No	2,000 m <sup>2</sup>	n/a

#### 8.1.5.3. Clean-up business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
<b>Bollène</b> (France) (environmentally regulated facility)	Plant	Lease	No	9,644 m <sup>2</sup>	Machine maintenance, waste processing, equipment recertification

## 8.1. Major existing or planned property, plant and equipment

## 8.1.5.4. Engineering business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
<b>Beaumont Hague</b> (France)	Testing and integration facility	Full ownership	No	4,860 m <sup>2</sup>	Applied R&D, equipment assembly and testing before installation at customer sites

## 8.1.6. Transmission &amp; Distribution division

Transmission and Distribution operations are carried out at some 65 industrial sites in 36 countries.

In all, 13 industrial sites have been identified as principal sites and are listed below.

Of the 13 sites listed, 3 are located in France and 10 are abroad in 6 different countries.

## 8.1.6.1. Products business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
<b>Aix-les-Bains</b> (France)	Plant	Ownership	No	40,000 m <sup>2</sup>	HV products
<b>Mâcon</b> (France)	Plant	Ownership	No	41,500 m <sup>2</sup>	MV circuit breakers
<b>Villeurbanne</b> (France)	Plant	Ownership	No	56,000 m <sup>2</sup>	HV products
<b>Kassel</b> (Germany)	Plant	Ownership	No	36,800 m <sup>2</sup>	HV products
<b>Mönchengladbach</b> (Germany)	Plant	Ownership	No	13,600 m <sup>2</sup>	Power and distribution transformers
<b>Regensburg</b> (Germany)	Plant	Ownership	No	28,100 m <sup>2</sup>	MV circuit breakers
<b>Stafford</b> (United Kingdom)	Plant	Ownership	No	20,000 m <sup>2</sup>	Power transformers
<b>Suzhou</b> (China)	Plant	Ownership	No	32,800 m <sup>2</sup>	MV and HV products
<b>Naini</b> (India)	Plant	Ownership	No	32,200 m <sup>2</sup>	Power and distribution transformers
<b>Gebze</b> (Turkey)	Plant	Ownership	No	46,600 m <sup>2</sup>	Power and distribution transformers

## 8.1.6.2. Systems business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
<b>Stafford</b> (United Kingdom)	High voltage testing platform for power electronics	Lease	No	3,000 m <sup>2</sup>	n/a

### 8.1.6.3. Services product line

Location	Type of asset (plant, warehouse, office building, etc.)	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
<b>Stafford</b> (United Kingdom)	Warehouse and offices	Lease	No	3,000 m <sup>2</sup>	n/a
<b>Warrington</b> (United Kingdom)	Warehouse and offices	Lease	No	2,000 m <sup>2</sup>	n/a
<b>Villeurbanne</b> (France)	Workshop, warehouse and offices	Ownership	No	5,200 m <sup>2</sup>	Renovation of circuit breaker parts
<b>Regensburg</b> (Germany)	Workshop, warehouse and offices	Ownership	No	1,297 m <sup>2</sup>	Circuit breaker repair and rehabilitation
<b>Mâcon</b> (France)	Plant	Ownership	No	2,306 m <sup>2</sup>	Medium voltage cells
<b>Linz</b> (Austria)	Warehouse and offices	Ownership	No	2,765 m <sup>2</sup>	Circuit breaker and substation equipment

### 8.1.6.4. Automation business unit

Location	Type of asset	Lease/Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
<b>Pallavaram</b> (India)	Plant	Lease	No	22,000 m <sup>2</sup>	MiCOM relays
<b>Shanghai</b> (China)	Plant (50% offices / 50% production)	Lease	No	4,000 m <sup>2</sup>	MiCOM relays
<b>Stafford</b> (United Kingdom)	Plant (80% offices / 20% production)	Lease	No	10,200 m <sup>2</sup>	MiCOM relays

## 8.1.7. Scheduled investments

Please refer to section 5.2., “Investments”, and to the appropriate sections in chapter 6, “Business overview”, for more detailed information on scheduled investments by division.

## 8.2. Environmental issues that may affect the issuer's use of property, plant and equipment

Please refer to section 4.2, “Managing risk related to the group's industrial operations”.

## Analysis of and comments on the group's financial position and performance

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### 9.1. Overview

The following comments are based on financial information for fiscal years 2008 and 2007 and must be read in conjunction with AREVA's consolidated financial statements for the years ended December 31, 2008 and December 31, 2007. These comments

were drafted based on the group's consolidated financial statements, prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union on December 31, 2008.

#### 9.1.1. Business trends

The AREVA group is a global leader in solutions for carbon-free power generation and electricity transmission and distribution. It is ranked first worldwide in nuclear power generation solutions and third worldwide for the supply of equipment and services for electricity transmission and distribution. It is the only group to be active in every stage of the nuclear cycle. The group's customers include some of the world's largest utilities, with which AREVA does a large share of its business under medium and long term contracts. As of year-end 2008, the group employs 75,414 people and has industrial operations in 43 countries.

The group reported 2008 revenue of 13.16 billion euros, up from 11.923 billion euros in 2007, representing a 10.4% growth in terms of reported data. Like-for-like growth was 9.8% (at constant consolidation scope and foreign exchange rates). Nuclear operations accounted for 62% of revenue in 2008, with 26% coming from the Front End division, 23% from the Reactors and Services division, and 13% from the Back End division. The Transmission & Distribution division represented 38% of revenue in 2008.

The group is present in every region offering attractive growth prospects, for the development of nuclear power as well as electricity

transmission and distribution. In 2008, 54.7% of the group's revenue came from outside the euro zone, with 11.4% coming from North America, where the group is present in every aspect of the energy business. Group contracts, particularly in the nuclear sector, produced a large backlog totaling more than 48 billion euros at the end of 2008. Of this backlog, 88% came from the nuclear businesses, with contracts averaging about four years. The magnitude of the backlog demonstrates the repeat nature of business and the visibility the group enjoys across these businesses.

Excluding the additional provision of 749 million euros recognized in 2008 on the OL3 contract in Finland, operating income totaled 1.166 billion euros in 2008, giving operating margin of 8.9%, unchanged from the operating income of the previous year, adjusted for the OL3 provision (1.043 billion euros, *i.e.* 8.8%). After recognition of that provision, consolidated operating income comes to 417 million euros for 2008, for a margin rate of 3.2%, compared with 751 million in 2007.

Net income attributable to equity holders of the parent is 589 million euros in 2008, compared with 743 million euros in 2007.

Pre-tax free operating cash flow generated by the group in 2008 was - 921 million euros, compared with - 1.985 billion euros in 2007. Several factors explain this change:

- a decrease in the amount of acquisitions of companies, net of disposals, which came to +127 million euros in 2008 (primarily due to the contribution to cash when GDF-SUEZ acquired a stake in Georges Besse II), compared with -1.818 billion euros in 2007, the year of the UraMin Inc. acquisition;
- an increase in gross Capex, excluding acquisitions of companies, which went from -1.11 billion euros in 2007 to -1.623 billion euros in 2008;
- the change in operating working capital requirement, which was practically stable at -451 million euros, despite the reconstitution of uranium and SWU inventories in the Front End division and the increase in working capital requirement in the Transmission & Distribution division, in line with business growth;
- a drop in EBITDA, which went from 1.335 billion euros in 2007 to 1.181 billion euros in 2008, primarily due to expenses linked to the OL3 contract.

Net Capex in nuclear came to 1.116 billion euros in 2008, down more than 1.4 billion euros from the exceptional level of 2007, attributable mainly to the acquisition of UraMin Inc.

Net Capex in the Transmission & Distribution division went from 193 million euros in 2007 to 324 million euros in 2008. This increase reflects further capacity expansion in geographical areas such as India and China, but also in product lines offering high growth potential, such as high voltage and HVDC.

On January 27, 2009, during its shareholders' meeting, Siemens announced its intention of exercising the put option for its 34% stake in AREVA NP.

Due to the negotiations to come with Siemens, AREVA has decided to keep the value of the put option in borrowings at the amount of its valuation as of December 31, 2007, *i.e.* 2.049 billion euros.

Based on that valuation, the group's net debt comes to 5.499 billion euros, compared with 4.003 billion euros at the end of 2007.

Before recognition of this put option, net debt comes to 3.45 billion euros, compared with 1.954 billion in 2007. The increase is primarily due to the change in free operating cash flow described above.

These amounts should be compared with equity of 7.292 billion as of December 31, 2008, compared with 7.464 billion as of year-end 2007. The drop is attributable mainly to the effect of the market valuation of the group's financial assets.

## 9.1.2. Key characteristics of AREVA's business model

AREVA's business model is characterized by the specific features of the different business units making up each stage of the nuclear cycle as well as those relating to the electricity transmission and distribution business.

The group's nuclear operations are carried out by three divisions: Front End, Reactors and Services, and Back End. The electricity transmission and distribution businesses are consolidated in the Transmission & Distribution division. Each of the four divisions consists of several business units.

The Front End division operates under long-term contracts equivalent to an average backlog of more than 5 years and sometimes more than 15 years in the case of the Mining and Enrichment business units. These contracts contain standard price escalation clauses. Consequently, rising natural uranium prices for long term contracts observed over the past 5 years have gradually had a positive impact on average contract sales prices.

The Front End division's businesses have substantial capital requirements due to heavy investments, but these support operations over very long periods of time. Investments in uranium exploration and development and in production plant replacement or upgrades are scheduled for the 2008-2015 period.

The Reactors and Services division typically has installed base business (services and engineering) carried out under long-term or regularly renewed contracts, representing 80% of the division's total business. In these businesses, the division conducts a significant share of its operations in North America and as such is sensitive to fluctuations in the euro / US dollar exchange rate.

The division has attractive prospects with regard to non-recurring business, linked in particular to nuclear power plant upgrades and construction, with independent organizations such as the International Atomic Energy Agency (IAEA) and the World Nuclear Association (WNA) forecasting increases in installed capacity by 2030. The group gives warranties in significant amounts due to the types of products and services sold by the main business units of the Reactors and Services division.

The Back End division operates under long-term contracts with a limited number of customers. The Back End division had negative working capital requirements (WCR), and thus a level of capital employed similar to that of a services business, due to customer advances received under old contracts to fund capital expenditures. The use of these customer advances impacts operating cash flows (in particular via changes in working capital requirements) as and when the corresponding revenue is recognized.

In the Transmission & Distribution division, average contract terms range from a few months to 18 months, and the markets are more cyclical. Its business model is that of a manufacturing business

with global geographic exposure and growth areas in developing countries (China, India, South America and Middle East).

### 9.1.3. Highlights of the period

Information provided in this section concerns the AREVA group as a whole. Highlights concerning specific operations are presented in the review of the business divisions in section 9.2.7 "Review by division".

#### Concerning business strategy and capital expenditures

- FT1CI, the company that holds AREVA's indirect equity interest in STMicroelectronics (STM), and Finmeccanica concluded an agreement by which FT1CI is to acquire, on behalf of the CEA, part of Finmeccanica's indirect equity interest in STM (*i.e.* 2.86% of STM's share capital) to equalize the indirect equity interests held in STM by FT1CI on the one hand, and by Finmeccanica and Cassa Depositi et Prestiti on the other.
- On May 29, 2008, AREVA and SORAME/CEIR signed an amendment to the shareholders' agreement of June 17, 1999 relating to ERAMET, by which they extend the agreement in six-month increments, unless either party terminates it. At the end of 2008, SORAME/CEIR and AREVA informed each other that they did not intend to terminate the shareholders' agreement, which was thus tacitly renewed as from January 1, 2009.
- AREVA and the Jordan Atomic Energy Commission (JAEC) signed an agreement for joint exploration of uranium resources in the very promising region of Central Jordan.
- SGN, a subsidiary of AREVA, and Technip created a joint venture called TSU Projects to bolster engineering teams specialized in the management of major mining projects. In particular, the group plans to step up the Imouraren project in Niger and the Trekkopje project in Namibia.
- AREVA, Mitsubishi Heavy Industries (MHI), Mitsubishi Material Corporation (MMC) and Mitsubishi Corporation (MC) signed a quadripartite agreement to establish a joint company specialized in nuclear fuel. The company will be established in the first half of 2009. The share capital will be distributed as follows: MHI 35%, MMC 30%, AREVA 30% and MC 5%.
- the International Atomic Energy Agency (IAEA) has completed its review of the safety options of the ATMEA1 reactor developed by ATMEA, a joint venture between AREVA and Mitsubishi Heavy Industries (MHI). In its report, the IAEA concludes that ATMEA1 meets IAEA's Fundamental Safety Principles and key safety criteria.
- AREVA and E.ON signed a global cooperation agreement on nuclear power generation by which the two groups are also joining forces to continue the development of the KERENA™ reactor (formerly the SWR 1000, a boiling water reactor), and contemplate a long-term cooperation on maintenance and related services for existing and future E.ON reactors. E.ON also announced the establishment of a joint company with RWE for the construction of new nuclear plants in the United Kingdom.
- In preparation for the construction of EPR™ reactors in the United Kingdom, AREVA has entered into industrial partnerships with Balfour-Beatty and Rolls-Royce.
- The French government announced its determination to build at least one additional EPR™ reactor in France. The French President confirmed this decision on January 29, 2009.
- AREVA acquired 70% of Koblitiz, a Brazilian supplier of integrated solutions for power generation and cogeneration from bagasse and small hydro dams.
- AREVA and Japan Steel Works (JSW) signed an agreement securing AREVA's supply chain for large forgings through 2016 and beyond. Large forgings are vital to nuclear equipment supply. The group also announced the purchase of a 1.3% equity interest in JSW, in agreement with JSW's management.
- AREVA and Northrop Grumman Shipbuilding announced the establishment of a joint venture to build and operate a heavy component manufacturing plant in the United States.
- AREVA strengthened its presence in the United Kingdom with the acquisition of the British firm RM Consultants, which specializes in risk management and nuclear safety.

- AREVA sold its 29.95% interest in the wind turbine manufacturer REpower to Suzlon. The value creation from this transaction was more than 350 million euros.
- AREVA and Duke Energy announced the establishment of a joint company called ADAGE™, which will develop biomass power plants in the United States. AREVA will design and build the plants, which will be operated by Duke.
- AREVA and GDF-SUEZ sealed an agreement by which GDF-SUEZ acquires a 5% share in the company in charge of the Georges Besse II enrichment plant project.
- AREVA acquired Waltec, a Brazilian company specialized in medium voltage switchgear and dry-type transformers. With this transaction, AREVA expands its industrial footprint in Brazil, one of the main emerging markets in transmission and distribution.
- AREVA acquired the Finnish company Nokian Capacitors Ltd, a supplier of power grid components, particularly capacitors, to strengthen its position on the booming ultra high voltage market.
- AREVA signed a new partnership agreement with Shanghai Electric (SEC), one of China's largest manufacturers of mechanical and electrical equipment, to build two new transformer manufacturing plants in China. Production will begin at both plants in 2009. To become a major player on the Chinese market, AREVA will also build an R&D center in Shanghai, to open in 2009.

### In the commercial arena

- In the first half of the year, the British government officially announced the restart of the nuclear power program in the United Kingdom following a democratic consultation process launched two years ago. Certification of AREVA's EPR™ reactor was upheld by all of the utilities competing to participate in the construction of a new fleet of the latest generation of reactors.
- AREVA, Total and GDF-SUEZ teamed up to propose a nuclear plant to authorities of the United Arab Emirates.
- In Japan, AREVA concluded several contracts for a combined value of 2 billion euros to provide services in the front end of the nuclear fuel cycle, including natural uranium supply and conversion and enrichment services.
- In India, AREVA signed the first contract to supply foreign-origin uranium since the reopening of nuclear trade between

the country and the rest of the world in September. Under the agreement signed with India's Department of Atomic Energy, AREVA agreed to supply uranium to electric utility Nuclear Power Corporation of India Ltd (NPCIL).

- AREVA took note of the decision of the interim government of South Africa to postpone the call for tender related to the construction of EPR™ reactors.
- In the United States, the US Department of Energy (DOE) awarded several major contracts to AREVA and its partners:
  - for the treatment and disposal of liquid radioactive waste at the Savannah River site;
  - for the management of the future spent nuclear fuel repository at the Yucca Mountain site in Nevada;
  - for the management of the program to clean up and dismantle underground storage tanks for chemical and radioactive waste at the Hanford site in Washington State;
  - for the construction of a MOX fuel fabrication facility at the Savannah River site;
  - to extend the existing contract concerning the Global Nuclear Energy Partnership (GNEP).
- In France, AREVA and EDF signed an umbrella agreement on used nuclear fuel recycling for the 2008-2040 period. This agreement defines the principles of a long-term cooperation in used fuel transportation and recycling, in particular prices and volumes for the 2008-2012 period and the main contractual terms for the post-2012 period.
- The two groups also signed a long-term contract related to the supply of uranium enrichment services. The contract, valued at a total of more than five billion euros, is the largest ever signed by AREVA in the enrichment business.

### In the industrial arena

- In accordance with the Georges Besse II project schedule, in February AREVA handed the keys over to the Enrichment Technology Company (ETC) for the centrifuge assembly building of the uranium centrifuge enrichment plant located at Tricastin.
- AREVA announced that the State of Idaho had been selected for the construction of its future uranium enrichment plant in the United States, Eagle Rock.



## 9.2. Key data

All amounts are expressed in millions of euros unless otherwise indicated. Due to rounding adjustments, some totals may not be strictly accurate.

### 9.2.1. Summary data

<i>(in millions of euros, except workforce)</i>	2008	2007	2008/2007 change
<b>Income statement</b>			
Reported revenue	13,160	11,923	+10.4%
Gross margin	2,286	2,762	-17.2%
<i>Percentage of reported revenue</i>	17.4%	23.2%	-
EBITDA <sup>(1)</sup>	1,181	1,335	-11.5%
<i>Percentage of reported revenue</i>	9.0%	11.2%	-
Operating income	417	751	-44.5%
<i>Percentage of reported revenue</i>	3.2%	6.3%	-
Net financial income	(29)	64	-145.3%
Share in net income of associates	156	148	+5.4%
Net income attributable to equity holders of the parent	589	743	-20.7%
<i>Percentage of reported revenue</i>	4.5%	6.2%	-
<b>Cash flow data <sup>(2)</sup></b>			
Net cash from operating activities	81	722	-88.8%
Net cash used in investing activities	(1,259)	(2,796)	-55.0%
Net cash from financing activities	1,516	1,522	-0.4%
• including dividends paid	(326)	(345)	-5.5%
Net cash flow from discontinued operations	0	0	-
Increase (decrease) in net cash	357	(381)	-
<b>Miscellaneous</b>			
Backlog	48,246	39,834	+21.1%
Net cash (debt)	(5,499)	(4,003)	-37.4%
Equity attributable to equity holders of the parent	6,547	6,994	-6.0%
Capital employed <sup>(3)</sup>	9,036	5,826	+55.1%
Workforce at year end	75,414	65,583	+15.0%

(1) EBITDA excluding impact of cash flow relating to end-of-life-cycle operations, presented separately from operating cash flow.

(2) The components of cash flow are defined in section 9.3., "Cash flow".

(3) Capital employed is defined in section 9.4.9., "Capital employed and ROACE".

## 9.2.2. Summary data by division

### 2008

<i>(in millions of euros, except workforce)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate & other eliminations	Total
<b>Contribution to consolidated revenue <sup>(1)</sup></b>	<b>3,363</b>	<b>3,037</b>	<b>1,692</b>	<b>5,065</b>	<b>3</b>	<b>13,160</b>
Operating income	453	(687)	261	560	(170)	417
<i>Percentage of contribution to consolidated revenue</i>	<i>13.5%</i>	<i>-22.6%</i>	<i>15.4%</i>	<i>11.1%</i>	<i>-</i>	<i>3.2%</i>
<b>Cash flow data <sup>(3)</sup></b>						
EBITDA <sup>(2)</sup>	780	(349)	320	587	(158)	1,181
<i>Percentage of contribution to consolidated revenue</i>	<i>23.2%</i>	<i>-11.5%</i>	<i>18.9%</i>	<i>11.6%</i>	<i>-</i>	<i>9.0%</i>
Change in operating WCR	(533)	124	190	(276)	44	(451)
Net Capex	(664)	(365)	(88)	(324)	(13)	(1,454)
Free operating cash flow before tax	(609)	(591)	422	(20)	(124)	(921)
<b>Miscellaneous</b>						
PP&E and intangible assets (including goodwill)	5,595	1,436	1,947	1,308	2,520	12,806
Capital employed <sup>(4)</sup>	6,091	159	(905)	1,356	2,336	9,036
Workforce at year end	14,240	19,477	10,906	29,966	825	75,414

### 2007

<i>(in millions of euros, except workforce)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate & other eliminations	Total
<b>Contribution to consolidated revenue <sup>(1)</sup></b>	<b>3,140</b>	<b>2,717</b>	<b>1,738</b>	<b>4,327</b>	<b>1</b>	<b>11,923</b>
Operating income	496	(179)	203	397	(166)	751
<i>Percentage of contribution to consolidated revenue</i>	<i>15.8%</i>	<i>-6.6%</i>	<i>11.7%</i>	<i>9.2%</i>	<i>-</i>	<i>6.3%</i>
<b>Cash flow data <sup>(3)</sup></b>						
EBITDA <sup>(2)</sup>	731	(125)	440	426	(137)	1,335
<i>Percentage of contribution to consolidated revenue</i>	<i>23.3%</i>	<i>-4.6%</i>	<i>25.3%</i>	<i>9.8%</i>	<i>-</i>	<i>11.2%</i>
Change in operating WCR	(140)	(81)	(186)	(5)	(20)	(432)
Net Capex	(2,260)	(322)	(81)	(193)	(33)	(2,889)
Free operating cash flow before tax	(1,673)	(528)	172	233	(190)	(1,985)
<b>Miscellaneous</b>						
PP&E and intangible assets (including goodwill)	4,894	1,141	1,897	1,053	2,325	11,310
Capital employed <sup>(4)</sup>	5,135	178	(644)	816	345	5,826
Workforce at year end	12,577	16,500	10,638	25,248	620	65,583

(1) The contribution to the group's consolidated revenue is equal to gross revenue net of inter-company sales.

(2) EBITDA excluding impact of cash flow relating to end-of-life-cycle operations, presented separately from operating cash flow.

(3) The components of cash flow are defined in section 9.3., "Cash flow".

(4) Capital employed is defined in section 9.4.9., "Capital employed and ROACE".

**Revenue by region and business division**

<i>(in millions of euros)</i>	<b>2008</b>	2007	<b>2008 / 2007 change</b>
<b>France</b>	<b>3,645</b>	<b>3,313</b>	<b>+10.0%</b>
Front End division	1,159	1,018	+13.9%
Reactors and Services division	1,135	946	+20.1%
Back End division	977	1,000	-2.3%
Transmission & Distribution division	371	348	+6.6%
Corporate and other operations	3	1	-
<b>Europe (excluding France)</b>	<b>3,854</b>	<b>3,407</b>	<b>+13.1%</b>
Front End division	921	779	+18.2%
Reactors and Services division	849	814	+4.3%
Back End division	362	341	+6.2%
Transmission & Distribution division	1,721	1,473	+16.8%
Corporate and other operations	0	0	-
<b>North and South America</b>	<b>1,934</b>	<b>1,972</b>	<b>-1.9%</b>
Front End division	475	678	-29.9%
Reactors and Services division	696	638	+9.1%
Back End division	114	86	+32.6%
Transmission & Distribution division	648	570	+13.7%
Corporate and other operations	0	0	-
<b>Asia-Pacific</b>	<b>2,564</b>	<b>2,231</b>	<b>+15.0%</b>
Front End division	731	631	+15.8%
Reactors and Services division	299	238	+25.6%
Back End division	237	310	-23.5%
Transmission & Distribution division	1,297	1,052	+23.3%
Corporate and other operations	0	0	-
<b>Africa and Middle East</b>	<b>1,163</b>	<b>1,000</b>	<b>+16.3%</b>
Front End division	77	34	+126.5%
Reactors and Services division	58	81	-28.4%
Back End division	1	1	0.0%
Transmission & Distribution division	1,027	884	+16.2%
Corporate and other operations	0	0	-
<b>Other countries</b>	<b>0</b>	<b>0</b>	<b>-</b>
<b>Total</b>	<b>13,160</b>	<b>11,923</b>	<b>+10.4%</b>

The breakdown of the group's workforce by geographical area is given in Appendix 3, "Human Resources report".

### 9.2.3. Definitions of financial indicators

**Backlog:** The backlog is valued based on economic conditions at the end of the period. It includes firm orders and excludes unconfirmed options. Orders in hedged foreign currencies are valued at the rate hedged. Non-hedged orders are valued at the rate in effect on the last day of the period. The backlog reported for long-term contracts recorded under the percentage of completion method and partially performed as of the reporting date is equal to the difference between (a) the projected revenue from the contract at completion and (b) the revenue already recognized for this particular contract. Accordingly, the backlog takes into account escalation and price revision assumptions used by the group to determine the projected revenue at completion.

**Earnings before interest, taxes, depreciation and amortization (EBITDA):** EBITDA is equal to operating income plus net amortization, depreciation and operating provisions (except for provisions for impairment of working capital items). EBITDA is adjusted so as to exclude the cost of end-of-life-cycle operations for nuclear facilities (dismantling, retrieval and packaging of waste) for the period, as well as the full and final payments made or to be made to third parties for facility dismantling. It should be noted that the cash flows linked to end-of-life-cycle operations are presented separately.

**Cash flows from end-of-life-cycle operations:** this indicator encompasses all of the cash flows linked to end-of-life-cycle operations and to assets earmarked to cover those operations. It is equal to the sum of the following items:

- income from the portfolio of earmarked assets;
- cash from the sale of earmarked assets;
- minus acquisitions of earmarked assets;
- minus cash spent during the year on end-of-life-cycle operations;
- full and final payments received for facility dismantling;
- minus full and final payments made for facility dismantling.

**Free operating cash flow:** this represents the cash flow generated by operating activities before income tax. It is equal to the sum of the following items:

- EBITDA, excluding end-of-life-cycle operations;
- plus losses or minus gains included in operating income on sales of property, plant and equipment (PP&E) and intangible assets;

- plus the decrease or minus the increase in operating working capital requirement between the beginning and the end of the period (excluding reclassifications, currency translation adjustments and changes in consolidation scope);
- minus acquisitions of PP&E and intangible assets, net of changes in accounts payable related to fixed assets;
- plus sales of PP&E and intangible assets included in operating income, net of changes in receivables on the sale of fixed assets;
- plus prepayments received from customers during the period on non-current assets;
- plus acquisitions (or disposals) of consolidated companies (excluding equity associates).

**Operating working capital requirement (OWCR):** OWCR represents all of the current assets and liabilities related directly to operations and includes:

- inventories and work-in-process;
- trade accounts receivable and related accounts;
- non interest-bearing advances;
- other accounts receivable, accrued income and prepaid expenses;
- less Trade accounts payable and related accounts, trade advances and prepayments received (excluding interest-bearing advances), other operating liabilities, accrued expenses, and deferred income.
- Note: OWCR does not include non-operating receivables and payables such as income tax liabilities, amounts receivable on the sale of non-current assets, and liabilities in respect of the purchase of non-current assets.

**Net debt:** this heading includes short- and long-term borrowings, including interest-bearing advances received from customers and put options by minority shareholders, less cash balances, non-trade current accounts, marketable securities and other current financial assets. Shares classified as "available-for-sale securities" are now excluded from the calculation of the net debt or cash position.

## 9.2.4. Comparability of financial statements

### 9.2.4.1. Comparable accounting data

#### General principles

In addition to the discussion and analysis of results reported in the consolidated financial statements, the group also presents revenue information on a comparable basis over consecutive periods, excluding the impact of changes in:

- consolidation scope;
- exchange rates; and
- accounting standards and methods.

The group provides this additional information to assess changes in the organic growth of its operations. However, this information does not constitute a method of assessing operations per IAS/IFRS. Excluding exceptions (e.g. material inability to reconstitute figures), changes in comparable revenue figures are calculated as follows: the consolidation scope, exchange rates and accounting methods and standards of the prior year are adjusted to reflect the consolidation scope, exchange rates and accounting methods and standards of the current year.

For example:

- to compare 2008 and 2007 sales, the group calculates what 2007 sales of the different businesses would have been when average exchange rates for 2008 are applied;
- the resulting revenue is then adjusted for the consolidation effect. The group calculates what 2007 revenue of the different businesses would have been based on the applicable consolidation scope at fiscal year-end 2008.

#### Estimated impact of changes in consolidation scope, exchange rate and accounting methods and standards on revenue for fiscal years 2008 and 2007

The table below presents the estimated impact of changes in exchange rate, the group's consolidation scope, and valuation methods for 2008 compared with 2007.

The main impacts are discussed in section 9.2.4.2, "Factors potentially impacting the comparability of the financial statements".

#### Comparison of the year ended December 31, 2008 with the year ended December 31, 2007

<i>(in millions of euros)</i>	2007 reported sales revenue	Exchange rate impact	Consolidation scope impact	Changes in valuation method	Adjusted 2007 sales	2008 reported sales revenue
Front End division	3,140	(53)	46	4	3,136	3,363
Reactors and Services division	2,717	(47)	19	49	2,739	3,037
Back End division	1,738	(4)	0	0	1,735	1,692
<b>Nuclear</b>	<b>7,595</b>	<b>(103)</b>	<b>65</b>	<b>53</b>	<b>7,610</b>	<b>8,092</b>
<b>Transmission &amp; Distribution division</b>	<b>4,327</b>	<b>(121)</b>	<b>169</b>	<b>0</b>	<b>4,375</b>	<b>5,065</b>
Corporate and other operations	1	0	0	0	1	3
<b>Group total</b>	<b>11,923</b>	<b>(224)</b>	<b>233</b>	<b>53</b>	<b>11,986</b>	<b>13,160</b>

### 9.2.4.2. Factors potentially impacting the comparability of the financial statements

#### Changes in the consolidation scope

The group's consolidated financial statements for the years ended December 31, 2008 and December 31, 2007 were materially impacted by the acquisitions and divestments described below.

In particular, +233 million euros of the +1.237 billion euro change in reported revenue from 2007 to 2008 came from changes in consolidation scope.

The main changes in consolidation scope with an impact on revenue in 2007 and 2008 are as follows:

#### > FRONT END DIVISION

##### 2008

Some operations in the Plants business unit were transferred to the Fuel business unit. The impact on revenue was 50 million euros.

##### 2007

On July 31, 2007, AREVA took control of the mining company UraMin Inc., which holds uranium mining permits in Namibia, the Central African Republic and South Africa. UraMin Inc. had no impact on the division's revenue in 2007 or 2008.

Some operations in the Fuel business unit were transferred to the Plants business unit. The impact on revenue was -83 million euros.

#### > REACTORS AND SERVICES DIVISION

##### 2008

Some operations in the Plants business unit were transferred to the Fuel business unit. The impact on revenue was -50 million euros.

In early January 2008, AREVA acquired 70% of Koblitiz, a Brazilian supplier of integrated solutions for power generation and cogeneration from bagasse and small hydro dams. Koblitiz contributed 61 million euros to revenue in 2008.

On April 3, 2008, AREVA acquired the British firm RM Consultants, which specializes in risk management and nuclear safety. The impact of the acquisition on revenue was 6 million euros in 2008.

##### 2007

On September 17, 2007, AREVA announced the acquisition of 51% of Multibrid, a wind turbine designer and manufacturer based in Germany which specializes in high capacity (5 MW) offshore equipment. The company contributed 12.3 million euros to consolidated revenue in 2007.

The disposals of Jeumont Machines Electriques and Sarelem (as of December 31, 2006) had a negative impact of 54 million euros on 2007 revenue.

Some operations in the Fuel business unit were transferred to the Plants business unit. The impact on the division's revenue was 83 million euros.

#### > TRANSMISSION & DISTRIBUTION DIVISION

##### 2008

On January 3, 2008, AREVA announced the acquisition of the Finnish company Nokian Capacitors Ltd, a supplier of power grid components, particularly capacitors, to strengthen its position on the booming ultra high voltage market. The impact of the acquisition on 2008 revenue was 68 million euros.

On October 1, 2008, AREVA announced the acquisition of Waltec, a Brazilian company specialized in medium voltage switchgear and dry-type transformers. With this transaction, AREVA expands its industrial footprint in Brazil, one of the main emerging markets in transmission and distribution. Waltec contributed 9 million euros to the group's revenue in 2008.

##### 2007

On February 16, 2007, AREVA signed an agreement with the Italian company Passoni & Villa that finalized the legal and financial terms for the acquisition of this business. Passoni & Villa, one of the world's leading manufacturers of high voltage bushings, contributed 20 million euros to 2007 consolidated revenue.

On August 1, 2007, AREVA concluded an agreement with VEI Power Distribution to acquire its operations in Italy and Malaysia. This acquisition bolsters the division's presence on the world distribution market and in medium voltage equipment. VEI was consolidated on December 31, 2007 and therefore had no impact on 2007 revenue.

The early 2007 sale of the operations of the FSV unit had a negative impact of 11 million euros on revenue. The sale of Pro RMS Medford in late 2006 had a negative impact of 18.3 million euros on revenue.

#### Changes in foreign exchange rates

The group's foreign exchange policy is presented in chapter 4 of the Reference Document.

In 2008, 55% of the group's revenue originated outside the euro zone, including a significant share in the United States and in South America, particularly Brazil. From 2007 to 2008, the average value of the euro increased by 6.97% compared with the US dollar.

Changes in exchange rates had a negative impact (currency translation adjustment) of 224 million euros on the group's revenue in 2008, compared with a negative impact of 164 million euros in 2007.

Exposure to other currencies (primarily the Swiss franc, pound sterling, Japanese yen and Southeast Asian and Middle Eastern currencies), mainly connected with the Transmission & Distribution business, is secondary in nature.

## 9.2.5. Backlog

<i>(in millions of euros)</i>	2008	2007	2008 / 2007 change
<b>Backlog</b>	<b>48,246</b>	<b>39,834</b>	<b>21.1%</b>
Front End division	26,897	21,085	27.6%
Reactors and Services division	7,850	7,640	2.7%
Back End division	7,784	6,202	25.5%
<b>Nuclear</b>	<b>42,531</b>	<b>34,927</b>	<b>21.8%</b>
<b>Transmission &amp; Distribution division</b>	<b>5,715</b>	<b>4,906</b>	<b>16.5%</b>

The group's backlog as of December 31, 2008 was 48.246 billion euros, up 21.1% from 39.834 billion euros as of December 31, 2007.

In Nuclear operations, the backlog as of December 31, 2008, was 42.531 billion euros, compared with 34.927 billion as of December 31, 2007, representing an increase of 21.8% for the period. New orders in Nuclear operations represented close to 19 billion euros in 2008. AREVA signed several major, multi-year contracts in the Front End with EDF and US and Japanese utilities, and in Reactors and Services, including an order for nine replacement steam generators from EDF. In the Back End, in addition to contracts with the US DOE and the NDA of Great Britain, AREVA signed a used fuel Treatment-Recycling contract with EDF for the 2008-2012 period.

In the Transmission & Distribution division, the backlog as of December 31, 2008, was 5.715 billion euros, compared with 4.906 billion euros as of December 31, 2007, representing an increase of 16.5%. Orders booked for the year came to 6.065 billion euros, an increase of 4.3% year-on-year. Business was up 15.8% like-for-like, adjusted for a major contract won in Qatar in 2007. In 2008, the division won several major contracts with Dubai Electricity, UTE in Uruguay, StatoilHydro in the United Kingdom, and Aluminum Bahrain.

## 9.2.6. Income statement

### 9.2.6.1. Revenue

Consolidated revenue for the AREVA group rose to 13.16 billion euros in 2008, from 11.923 billion euros in 2007, for growth of 10.4% in reported data. Organic growth was 9.8% for the year.

Exchange rate movements had a negative impact of 224 million euros (currency translation adjustment) for the group. Changes in consolidation scope had a negative impact of 233 million euros between the two accounting periods.

<i>(in millions of euros)</i>	2008	2007	2008/2007 change
<b>Revenue</b>	<b>13,160</b>	<b>11,923</b>	<b>+10.4%</b>
Front End division	3,363	3,140	+7.1%
Reactors and Services division	3,037	2,717	+11.8%
Back End division	1,692	1,738	-2.7%
<b>Nuclear</b>	<b>8,092</b>	<b>7,595</b>	<b>+6.5%</b>
<b>Transmission &amp; Distribution division</b>	<b>5,065</b>	<b>4,327</b>	<b>+17.0%</b>
<b>Corporate and other operations</b>	<b>3</b>	<b>1</b>	<b>-</b>



The Nuclear divisions reported 2008 revenue of 8.092 billion euros, up 6.5% in reported data and up 6.3% like-for-like. Highlights are as follows:

- a 7.2% increase in revenue like-for-like in the Front End division, reflecting in particular favorable prices in the Mining and Enrichment businesses and sustained volume in the Fuel business in Europe, offset in part by the discontinuation of spot sales in the uranium trading business;
- the growing contribution of major reactor construction projects (OL3, FA3 and Taishan) in the Reactors and Services division and the consolidation of Koblitz in Renewable Energies; and

- the 2.5% organic drop in revenue in the Back End division due to a less favorable customer mix at La Hague, offset in part by strong volume in the Logistics business unit.

The Transmission & Distribution division posted revenue of 5.065 billion euros in 2008, for year-on-year growth of 17.0% in reported data (+15.8% like-for-like), consistent with the sharp increase in business in the Products, Systems and Automation business units in the past several quarters.

### 9.2.6.2. Gross margin

The group's gross margin for 2008 was 2.286 billion euros, or 17.4% of revenue, compared with 2.762 billion euros in 2007, or 23.2% of revenue.

<i>(in millions of euros)</i>	2008	2007	2008/2007 change
<b>Gross margin</b>	<b>2,286</b>	<b>2,762</b>	<b>-17.2%</b>
<i>% contribution to consolidated revenue</i>	<i>17.4%</i>	<i>23.2%</i>	<i>-</i>

This change is the net result of two developments:

- the sharp drop in the gross margin of the nuclear operations (including Corporate and other operations), which comes to 892 million euros in 2008, or 11.1% of revenue, compared with 1.66 billion euros in 2007, or 21.8% of revenue. This is attributable to a less favorable customer mix in 2008 in certain business units, the temporary discontinuation of spot sales on the natural uranium market, and the impact of provisions for the estimated loss to completion on the OL3 project;
- gross margin for the Transmission & Distribution division rose from 1.103 billion euros in 2007 (25.5% of revenue) to 1.39 billion euros in 2008 (27.4% of revenue), for growth of 26.0%. The majority of this increase is due to the strong performance of the Products and Systems business units, for which the significant increase in volumes and the implementation of the optimization plan, in particular booking more profitable orders and successful contract execution, generated considerably improved income.

### 9.2.6.3. Research and development

Research and development expenses are capitalized if they meet criteria established by IAS 38 and expensed if they do not. Research and development expenses not eligible for capitalization are reported below gross margin in the income statement if solely funded by the group. Expenses for programs that are partially or fully funded by customers or for joint projects in which AREVA has the commercial rights to the results are recorded in the cost of sales. All research and development costs, whether capitalized or expensed during the period, are combined to determine the group's total R&D expenditure.

<i>(in millions of euros)</i>	2008	In percentage of revenue	2007	In percentage of revenue
Nuclear Power	291	3.6%	276	3.6%
Transmission & Distribution	149	2.9%	136	3.1%
Corporate and other operations	13	-	9	-
<b>Total research and development expenses</b>	<b>453</b>	<b>3.4%</b>	<b>421</b>	<b>3.5%</b>
R&D costs capitalized in the balance sheet <sup>(1)</sup>	454	3.4%	272	2.3%
Other	144	-	120	-
<b>Total R&amp;D expenditure</b>	<b>1,051</b>	<b>8.0%</b>	<b>813</b>	<b>6.8%</b>
<b>Number of patents registered</b>	<b>149</b>	<b>-</b>	<b>120</b>	<b>-</b>

(1) Capitalized R&D costs include development expenses for the period capitalized in intangible assets, R&D for the period included in PP&E, and capitalized mineral exploration expenses for the period.

The group's research and development expenses came to 453 million euros in 2008, representing 3.4% of consolidated revenue for the period. This figure indicates 7.6% growth in research and development expenses compared with 2007, when spending was 421 million euros and the ratio to revenue was 3.5%.

Taking into account all costs incurred for research and development, the group's total R&D expenditure was 1.051 billion euros in 2008, or 8.0% of revenue for the period, an increase of 29.3% on 2007.

Research and development expenses for the nuclear operations totaled 304 million euros in 2008, or 3.7% of revenue, and 276 million euros in 2007, or 3.7% of revenue. The total R&D expenditure in nuclear was 905 million euros in 2008, or 11.2% of revenue. The change in R&D expenditure between the two periods reflects the continued long-term increase in mineral exploration expenses and continued long-term projects, including:

- development and modernization of production capabilities in the front end of the cycle;
- performance improvement in Equipment;
- support for deployment of EPR™ reactors, including their certification in the United States and the United Kingdom;
- preliminary design of future treatment and recycling plants;
- additions to the light water reactor line, specifically the ATMEA1 reactor; and
- development of fast neutron reactors.

In the Transmission & Distribution division, research and development expenses rose 9.6% in 2008 compared with 2007, coming to 149 million euros or 2.9% of revenue. The majority of the spending focused on:

- enhancing the performance of electric power systems and equipment;
- developing digital instrumentation and control systems and information systems for power grid monitoring;
- ultra high voltage.

#### 9.2.6.4. General and administrative, marketing and sales expenses

Group marketing, sales, general and administrative expenses totaled 1.587 billion euros in 2008, compared with 1.411 billion euros in 2007. In relation to revenue for the year, these expenses were practically stable in comparison with those of 2007. This is indicative of efforts to control costs while boosting marketing and sales activities, leading to the significant increase in the backlog described above.

#### 9.2.6.5. Other operating income and expenses

Restructuring and early retirement costs came to 43 million euros in 2008, compared with 57 million euros in 2007. This change is the result of a decrease in restructuring expenses in the Transmission & Distribution division.

Other operating income and expenses represent net income of 214 million euros, compared with a net expense of 123 million euros in 2007. This increase is attributable to income from GDF-SUEZ's acquisition of an equity interest in group-consolidated companies, recognized in 2008.

#### 9.2.6.6. Operating income

Excluding the additional provision of 749 million euros recognized in 2008 on the OL3 contract in Finland, operating income totaled 1.166 billion euros in 2008, giving operating margin of 8.9%, unchanged from the operating income of the previous year, adjusted for the OL3 provision (1.043 billion euros, *i.e.* 8.8%). After recognition of that provision, consolidated operating income comes to 417 million euros for 2008, for a margin rate of 3.2%, compared with 751 million euros in 2007.

- Nuclear operations contributed 28 million euros to the group's operating income in 2008, compared with 520 million euros in 2007. This change is primarily due to an additional provision for the OL3 project. Net of this provision, operating income from nuclear operations came to 777 million euros.
- The Transmission & Distribution division reported operating income of 560 million euros in 2008, up 41.1% from 397 million euros in 2007. The division's operating margin went from 9.2% of revenue in 2007 to 11.1% of revenue in 2008. This improvement in the division's profitability reflects successful execution of the backlog together with increased volumes and the positive effects of the optimization plans.
- Corporate and other operations contributed a total charge of 170 million euros to operating income in 2008, practically unchanged from the total charge of 166 million euros in 2007.

## 9.2.6.7. Net financial income

<i>(in millions of euros)</i>	2008	2007
<b>Net borrowing costs [(expense) / income]</b>	<b>(111)</b>	<b>(73)</b>
<b>Other financial income and expenses</b>	<b>82</b>	<b>138</b>
<b>End-of-life-cycle operations</b>	<b>(57)</b>	<b>107</b>
Income from the financial portfolio earmarked for end-of-life-cycle operations	87	175
Income from non-portfolio assets	182	113
Discount reversal expenses on end-of-life-cycle operations and impact of schedule revisions	(327)	(181)
<b>Other financial income</b>	<b>139</b>	<b>31</b>
Foreign exchange gain (loss)	(13)	(4)
Income from disposals of securities and change in value of securities held for trading	370	3
Dividends received	96	63
Impairment of financial assets	(37)	(45)
Interest on prepayments	(49)	(50)
Pensions and other employee benefits	(72)	(55)
Other	(157)	118
<b>Net financial income</b>	<b>(29)</b>	<b>64</b>

The net financial expense for 2008 totaled 29 million euros, compared with net financial income of 64 million euros in 2007.

- Net borrowing costs grew from 73 million euros in 2007 to 111 million euros in 2008. This change is primarily due to the increase in net debt, from 1.954 billion euros in 2007 to 3.45 billion euros in 2008, excluding Siemens' put.
- The net financial expense linked to end-of-life-cycle operations was 57 million euros in 2008, compared with net financial income of 107 million euros in 2007. This change is due mainly to the decrease in income from the portfolio of assets earmarked for end-of-life-cycle operations, from 175 million euros in 2007 to 87 million euros in 2008, reflecting the declining value of the securities and the decline of the financial markets.
- Financial income unrelated to end-of-life-cycle operations increased from 31 million euros in 2007 to 139 million euros in 2008, in particular due to the capital gain on the disposal of REpower shares, offset in part by the reversal of income recognized in 2007 on the group's put option.

## 9.2.6.8. Income tax

The group's effective tax rate in 2008 is 11.8%, compared with 9.9% in 2007. The group recognized 46 million euros in tax expense for 2008 on net income before tax of 388 million euros.

The difference between the theoretical tax expense of 134 million euros and the recognized tax expense of 46 million euros is due to the impact of tax consolidation at the group level (33 million euros) and the positive impact of taxation at a lower rate of some operations (129 million euros), offset in part by permanent differences (-74 million euros).

### 9.2.6.9. Share in net income of associates

<i>(in millions of euros)</i>	2008	2007
STMicroelectronics	(46)	(25)
Eramet group	187	153
REpower	1	7
Others	14	14
<b>Total</b>	<b>156</b>	<b>148</b>

STMicroelectronics and Eramet are the two main equity-accounted interests in the consolidated financial statements. The group sold its equity interest in REpower to Suzlon in early June 2008.

The share in net income of associates totaled 156 million euros in 2008, for an increase of 8 million euros compared with 2007. This change is primarily due to the improvement in Eramet income.

The group may record net income from STMicroelectronics and Eramet that differs from the income reported by those companies:

- STMicroelectronics' financial statements are prepared according to US GAAP and are in US dollars. The group converts them into euros and adjusts them for IFRS. STMicroelectronics' IFRS financial statements are made available after AREVA publishes its own financial statements. The IFRS adjustments included in AREVA's 2008 consolidated financial statements are therefore not yet audited;

- with regard to Eramet, income is calculated based on preliminary results. Any differences between Eramet's preliminary and final financial statements are recorded in the following period.

### 9.2.6.10. Minority interests

Minority interests in the group's net income for 2008 are -91 million euros, compared with +139 million euros for 2007. The change is due primarily to:

- the decrease in AREVA NP income, impacted by the additional provision recognized on the OL3 project;
- the decrease in net income from Eurodif in the enrichment business, due in particular to an unfavorable baseline.

Minority interests are as follows:

<i>(in millions of euros)</i>	2008	2007
Siemen's 34% interest in AREVA NP	(186)	(17)
Minority shareholders' 40% interest in		
• Eurodif	34	105
• Others	61	51
<b>Total</b>	<b>(91)</b>	<b>139</b>

### 9.2.6.11. Net income attributable to equity holders of the parent

Taking into consideration the items described above, net income attributable to equity holders of the parent for 2008 totaled 589 million euros, compared with 743 million euros in 2007.

Net earnings per share were 16.62 euros in 2008, compared with 20.95 euros in 2007.

## 9.2.7. Review by division

### 9.2.7.1. Front End division

<i>(in millions of euros)</i>	<b>2008</b>	2007	2008/2007 change	2008 / 2007 change like-for-like*
<b>Backlog</b>	<b>26,897</b>	<b>21,085</b>	<b>+27.6%</b>	-
<b>Contribution to consolidated revenue</b>	<b>3,363</b>	<b>3,140</b>	<b>+7.1%</b>	<b>+7.2%</b>
Mining	770	728	+5.8%	+9.7%
Chemistry	253	229	+10.6%	+10.6%
Enrichment	1,093	1,059	+3.2%	+4.6%
Fuel	1,248	1,124	+11.1%	+7.5%
<b>Operating income</b>	<b>453</b>	<b>496</b>	<b>-8.7%</b>	-
<i>Percentage of contribution to consolidated revenue</i>	<i>13.5%</i>	<i>15.8%</i>	-	-

\* At constant exchange rate and consolidation scope.

#### Highlights of the year

##### Major events in the Mining business included:

- a 257-metric ton (MT) increase in volume year-on-year, to 6,303 MT in 2008;
- the continued slump of the uranium spot price, reaching 52 US dollars per pound at the end of year compared with 90 US dollars per pound a year earlier;
- the signature of an agreement with Kazatomprom related to the terms and conditions of the Katco mining agreement in Kazakhstan – a component of the overall strategy to increase the group's uranium production capacity – raising plant capacity from 1,500 MT to 4,000 MT per year and extending the term of the agreement from 2017 to 2039;
- receipt of the operating permit for the Trekkopje mine in Namibia, with production slated to start in 2010; and
- the signature of an agreement with the Jordan Atomic Energy Commission (JAEC) for the joint exploration of uranium resources in Central Jordan, a very promising region.

##### Highlights in the Enrichment business were as follows:

- GDF-SUEZ became a 5% shareholder of Société d'Enrichissement du Tricastin (SET), which will operate the Georges Besse II plant. This is yet another sign of utilities' determination to secure access to the front end of the fuel cycle. ETC began assembling the centrifuges and production startup is scheduled for 2009;
- Elsewhere, the group chose Bonneville County in Idaho as the location for construction of its US uranium enrichment plant.

##### Events in Fuel were:

- a second part was signed to the agreement between AREVA and Kazatomprom concerning the creation of two joint ventures that will produce and market 400 metric tons of fuel assemblies per year. Marketing operations will be conducted by a joint company (51% AREVA, 49% Kazatomprom);
- along similar lines, AREVA and MHI signed an agreement to create a joint venture to supply fuel for pressurized water reactors, boiling water reactors and gas reactors as well as MOX fuel to the Japanese market. Establishment of the new company is slated for early 2009.

#### 2008 performance

In the Front End division, the backlog as of December 31, 2008 was 26.897 billion euros, compared with 21.085 billion euros as of December 31, 2007, representing an increase of 27.8%. Contracts won in the Front End include the following:

- a contract with the electric utility Nuclear Power Corporation of India (NPCIL) to supply 300 metric tons of uranium to NPCIL reactors subject to IAEA safeguards;
- several very large long-term contract awards (more than 10 years) in enrichment, particularly in Europe (power companies Synatom, GDF-SUEZ and EDF, with the latter for more than 5 billion euros), in Asia (including Japco in Japan and CNEIC in China), and in the United States; and
- a fuel assembly supply contract awarded by Taiwan Power Company (Taipower) valued at more than 200 million US dollars.

Revenue for the Front End division totaled 3.363 billion euros in 2008, compared with 3.14 billion euros in 2007, for a 7.1% increase in reported data and 7.2% like-for-like. The main events were as follows:

- Mining: Rising average sales prices under long term uranium contracts fueled revenue growth, despite the negative impact of suspended uranium trading operations in the spot market;
- Enrichment: Growth was buttressed by strong export sales, particularly in Asia, rising prices, and the growing contribution of ETC (a joint AREVA/URENCO company);
- Fuel: Sales benefited from particularly strong volumes in Europe.

Operating income for the Front End division totaled 453 million euros (13.5% of revenue), compared with 496 million in 2007 (15.8% of revenue).

This change is primarily due to atypical events, including:

- AREVA's decision to suspend its spot sales on the natural uranium market;
- an unfavorable baseline effect in the Enrichment business, which made a major sale in 2007 under better than average terms.

Excluding these items, operating income rose on the improved profitability of long-term uranium sales and conversion operations and on the dilution gain from the stake GDF-SUEZ took in Georges Besse II.

Free operating cash flow before tax in the Front End division is negative 609 million euros, compared to a negative cash flow of 1.672 billion euros in 2007. This improvement reflects a decrease in net Capex compared with 2007, the year of the UraMin Inc. acquisition.

### 9.2.7.2. Reactors and Services division

<i>(in millions of euros)</i>	<b>2008</b>	2007	2008/2007 change	2008 / 2007 change like-for-like*
<b>Backlog</b>	<b>7,850</b>	<b>7,640</b>	<b>+2.7%</b>	-
<b>Contribution to consolidated revenue</b>	<b>3,037</b>	<b>2,717</b>	<b>+11.8%</b>	<b>+10.9%</b>
Plants	1,171	1,053	+11.3%	+18.2%
Nuclear Services	779	791	-1.4%	+1.4%
Equipment	260	215	+20.7%	-0.8%
AREVA TA	363	308	+17.9%	+10.4%
Nuclear Measurement	167	159	+5.4%	+10.5%
Consulting and Information Systems	149	157	-5.4%	-5.4%
Renewable Energies	147	35	+317.6%	+83.9%
<b>Operating income</b>	<b>(687)</b>	<b>(179)</b>	<b>(507)</b>	-
<i>Percentage of contribution to consolidated revenue</i>	<i>-22.6%</i>	<i>-6.6%</i>	-	-

\* At constant exchange rate and consolidation scope.

### Highlights of the year

**The main developments in 2008 in the Plants business unit were as follows:**

- following a democratic consultation process launched in 2006, the United Kingdom plans to restart the nuclear program and AREVA clearly expressed its interest in participating in the construction of new reactors through partnerships with several utilities. EDF (which acquired British Energy) and E.ON, two of the candidates, have already announced their choice of the EPR™ reactor technology, assuming they are selected by the British government;
- the US Nuclear Regulatory Commission (NRC) announced a one-year delay in the certification process for new reactor design, rolling back the date at which new reactor construction could begin in the United States from 2010 to 2011;

- the French government announced its determination to build at least one additional EPR™ reactor in France. The French President confirmed this decision on January 29, 2009;
- the interim government of South Africa decided to postpone a call for tender for the construction of EPR™ reactors;
- to prepare for the construction of EPR™ reactors in the United Kingdom, AREVA concluded industrial partnerships with Balfour Beatty and Rolls-Royce.

### Major events in the Equipment business included:

- AREVA and Northrop Grumman Shipbuilding established a joint venture to build and operate a heavy component manufacturing plant in the United States;

- AREVA and Japan Steel Works (JSW) signed an agreement securing AREVA's supply chain for large forgings through 2016 and beyond. Large forgings are vital to nuclear equipment supply;
- AREVA signed an agreement with Arcelor Mittal to increase the Industeel's steel production capacity.

**In Renewable Energies**, AREVA and Duke Energy established a joint venture to develop biomass power plants in the United States.

**In AREVA TA**, AREVA acquired RM Consultants in 2008, a firm specializing in nuclear safety and environmental hazards, thereby strengthening its presence on the strategic British market.

### The OL3 project

There was significant forward momentum on the OL3 project in 2008:

- completion of the primary coolant system piping and pressure tests for the first steam generator; delivery of the reactor vessel to the site;
- installation of the pool vault in the reactor building, while the reactor containment reached the +41 meter level;
- start of deliveries of auxiliary components; and
- start of installation of all electro-mechanical systems.

In the spring of 2008, AREVA, Siemens and TVO jointly defined a series of immediately applicable measures to improve project supervision and lift impediments. While some progress was achieved, these measures have not yet yielded all the intended benefits as TVO's modus operandi is still not suited to fluid project implementation.

For instance, TVO has not yet provided an answer for approval of the documentation of certain auxiliary equipment needed to install piping on the critical path of construction. As a result of TVO's behavior, the schedule, which contemplates reactor startup in 2012, is not entirely in the hands of the consortium.

To assert its legal position, the AREVA-Siemens consortium initiated proceedings and submitted, as early as 2006, an important claim for extension of the project's deadlines and compensation for additional costs caused by TVO. No agreement was reached and the consortium started arbitration proceedings on December 5, 2008. These proceedings may last several years.

TVO, meanwhile, made known its position in 2007, formally disagreeing with the consortium's 2006 claim and presenting its own claim. A supplement to the counterclaim was received in August 2008.

The consortium and its counsel consider the allegations made in the counterclaim to be unfounded and without merit under the

contract terms and Finnish law; consequently, AREVA made no provision in this respect.

The accounting provision for the OL3 project was revised in 2008, particularly to recognize cost overruns generated by the mobilization of additional resources required to offset interruptions caused by the project circumstances and anticipated cost overruns for civil works and installation.

Remaining uncertainties regarding the cost of the project relate chiefly to the customer's cooperation, completion of engineering and civil works, and the potential difficulties during installation and testing of the first physical implementation of the EPR™ reactor.

### 2008 performance

In the Reactors and Services division, the backlog as of December 31, 2008 stood at 7.85 billion euros, compared with 7.64 billion euros as of December 31, 2007, representing an increase of 2.7%. Some of the most significant contract awards in 2008 include EDF's order for nine steam generators and the service contracts signed with British Energy (United Kingdom) and Eletronuclear (Brazil).

The Reactors and Services division reported revenue of 3.037 billion euros in 2008, up 11.8% from 2007 (up 10.9% like-for-like), mainly due to the following:

- **Plants:** The percentage of completion of major projects moved forward, with a 40% increase in contribution to division revenue in 2008;
- **Nuclear Services:** Business was strong, particularly in the United States;
- **Renewable Energies:** Koblitz was successfully integrated into the biomass business.

The Reactors and Services division reported an operating loss of 687 million euros in 2008, compared with an operating loss of 179 million euros in 2007. This change is mainly due to an additional provision of 749 million euros on the OL3 project in Finland, bringing the total estimated loss to completion to -1.7 billion euros. This amount does not include all of the claims addressed to TVO and which are now part of arbitration proceedings launched by the AREVA-Siemens consortium to exercise its rights; this amount also does not include the claim presented by TVO, for the AREVA-Siemens consortium and its counsel consider the allegations made in that claim to be groundless and without merit in terms of the contract and Finnish law.

The division's free operating cash flow came to -591 million euros in 2008, slightly down from -528 million euros in 2007, due to an improvement in the work capital requirement, which offsets the expenses related to the OL3 project.



## 9.2.7.3. Back End division

<i>(in millions of euros)</i>	2008	2007	2008/2007 change	2008/2007 change like-for-like*
<b>Backlog</b>	<b>7,784</b>	<b>6,202</b>	<b>+25.5%</b>	-
<b>Contribution to consolidated revenue</b>	<b>1,692</b>	<b>1,738</b>	<b>-2.7%</b>	<b>-2.5%</b>
Recycling	1,068	1,363	-21.6%	-5.9%
Nuclear Site Value Development	241	-	-	-
Logistics	234	218	+7.4%	+10.7%
Engineering	45	59	-23.9%	+45.7%
Cleanup	104	98	+6.5%	+6.5%
<b>Operating income</b>	<b>261</b>	<b>203</b>	<b>+28.5%</b>	-
<i>Percentage of contribution to consolidated revenue</i>	<i>15.4%</i>	<i>11.7%</i>	-	-

\* At constant exchange rate and consolidation scope.

## Highlights of the year

- AREVA met with significant success in the United States in 2008, as the country moved toward the closed cycle for used fuel management. The US Department of Energy (DOE) awarded several important contracts:
  - a contract extension to the International Nuclear Recycling Alliance (INRA) led by AREVA and MHI; the contract provides for an assessment of the closed nuclear fuel cycle in the United States as part of the Global Nuclear Energy Partnership program (GNEP);
  - a contract for the construction of a MOX (mixed oxide) fuel fabrication facility at the Savannah River site in South Carolina to Shaw AREVA MOX Services, the joint venture formed by AREVA and the US group Shaw;
  - management of the cleanup and dismantling program for the Hanford Tanks, a chemical and radioactive waste storage site in the State of Washington, to Washington River Protection Solutions (WRPS), which has subcontracted with AREVA;
  - a contract for the management of the future used nuclear fuel repository site at Yucca Mountain, awarded to USA Repository Services LLC, which includes AREVA, Shaw Group and URS Washington Division; and
  - a contract to manage the treatment and disposal of liquid radioactive waste at the DOE's Savannah River site, awarded to Savannah River Remediation LLC, to which AREVA is a preferred supplier.
- In the United Kingdom, Nuclear Management Partners (NMP), consisting of AREVA, URS Washington Division and AMEC plc, signed a contract to manage and operate the Sellafield nuclear site in the United Kingdom on behalf of the Nuclear Decommissioning Authority (NDA).
- In France, AREVA and EDF signed an umbrella agreement on used nuclear fuel recycling for the 2008-2040 period.

## 2008 performance

In the Back End division, the backlog as of December 31, 2008 was 7.784 billion euros, compared with 6.202 billion euros as of December 31, 2007, representing an increase of 25.5%. Among the most significant contracts won in 2008 are:

- two contracts with Japanese utility KANSAI related to the supply of MOX fuel assemblies for the Takahama power plant; and
- the definition of prices and volumes for used nuclear fuel recycling in the post-2007 period under the 2008-2040 umbrella agreement with EDF.

In 2008, treatment and recycling operations were redefined to bring the production operations of the La Hague and MELOX plants together under the umbrella of a Recycling business unit and to combine operations associated with the dismantling of the group's and the CEA's sites in a Nuclear Site Value Development business unit.

The Back End division reported 2008 revenue of 1.692 billion euros, compared with 1.738 billion euros in 2007. The revenue decrease reflects:

- a less favorable customer mix at La Hague, where the proportion of foreign contracts decreased slightly; and
- solid business in Logistics, particularly in cask manufacturing.

The Back End division reported operating income of 261 million euros, compared with 203 million euros in 2007. The operating margin rate came to 15.4%, compared with 11.7% a year earlier. This good performance reflects:

- the restart of foreign MOX contracts; and
- the price catch-up for 2007, following the signature of an agreement with EDF on recycling.

The group's free operating cash flow before tax was 422 million euros in 2008, compared with 172 million euros in 2007. This change is primarily due to the receipt of customer advances.

## 9.2.7.4. Transmission &amp; Distribution division

<i>(in millions of euros)</i>	<b>2008</b>	2007	2008 / 2007 change	2008 / 2007 change like-for-like*
<b>Backlog</b>	<b>5,715</b>	<b>4,906</b>	<b>+16.5%</b>	-
<b>Contribution to consolidated revenue</b>	<b>5,065</b>	<b>4,327</b>	<b>+17.0%</b>	<b>+15.8%</b>
Products	3,254	2,581	+26.1%	+20.8%
Systems	1,596	1,389	+14.9%	+13.4%
Services	385	441	-12.6%	+1.0%
Automation	612	570	+7.4%	+11.8%
Eliminations of inter-business unit sales	(782)	(653)	+19.8%	+19.5%
<b>Operating income</b>	<b>560</b>	<b>397</b>	<b>+41.1%</b>	-
<i>Percentage of contribution to consolidated revenue</i>	<i>11.1%</i>	<i>9.2%</i>	-	-

\* At constant exchange rate and consolidation scope.

## Highlights of the year

- The T&D division consolidated the Finnish company Nokian Capacitors, which designs and manufactures components for power grids, in line with the group's objective of strengthening its position on the ultra high voltage market.
- AREVA acquired Waltec, a Brazilian company specialized in medium voltage switchgear and dry-type transformers. With this transaction, AREVA expands its industrial footprint in Brazil, which is one of the main emerging markets in transmission and distribution.
- AREVA and GE Consumer & Industrial India announced their strategic alliance in the field of electricity transmission and distribution, mainly to supply turnkey electrical solutions to the power generation, mining, metallurgy and handling sectors.
- AREVA and Shanghai Electric (SEC) signed a new partnership agreement confirming the construction of two new transformer manufacturing plants in 2009, which will triple their production capacity.

## 2008 performance

The backlog for the T&D division came to 5.715 billion euros at the close of 2008. A total of 6.065 billion euros in orders was booked during the year, for an increase of 4.3% year-on-year. Business grew by 15.8% like-for-like, adjusted for the major contract won in Qatar in 2007. The division won several significant contracts in 2008, in particular:

- a contract valued at more than 130 million euros with Dubai Electricity and Water Authority (Dewa) for two high voltage substations;
- a contract valued at 100 million euros with UTE to supply a high voltage direct current conversion station in Melo, Uruguay;
- a contract valued at more than 60 million euros with StatoilHydro to supply onshore and offshore stations to connect the Sheringham Shoal offshore wind farm to the British power grid; and

- a contract valued at approximately 60 million euros with Aluminum Bahrain for the design, construction and commissioning of 10 rectifier-transformer groups.

The Transmission & Distribution division reported revenue of 5.065 billion euros in 2008, compared with 4.327 billion euros in 2007, an increase of 17.0% in reported data and of 15.8% like-for-like.

- The Products business unit, representing more than 60% of the division's revenue, recorded 20.8% growth like-for-like, buoyed in particular by the power transformers and shielded gas-insulated switchgear substations product lines, which were up 36% and 40% respectively. Sales were up 13.4% and 11.8% like-for-like respectively in the Systems and Automation business units.
- Geographically, all regions reported growth, with growth very sharply up in Asia (+24%), particularly in India (+23%), in the Near East and Middle East (+24%), and in Europe (15%), notably Germany.

The Transmission & Distribution division reported total operating income of 560 million euros, up 41.1% from the previous year. The operating margin rate comes to 11.1% of revenue, up 1.9 point in relation to 2007. This increase in the division's profitability primarily reflects:

- good execution of backlog;
- volume growth; and
- the positive impacts of the optimization plans.

The division's pre-tax free operating cash flow was negative 20 million euros in 2008, compared with positive 233 million euros in 2007. While the EBITDA of the Transmission & Distribution division increased from 426 million euros in 2007 to 587 million euros in 2008, other factors contributed to the drop in free cash flow:

- the use of cash generated by the increase in WCR, in line with increased business; and
- the increase in net Capex.

### 9.2.7.5. Corporate and other operations

<i>(in millions of euros)</i>	<b>2008</b>	2007	2008 / 2007 change	2008 / 2007 change like-for-like*
<b>Contribution to consolidated revenue</b>	<b>3</b>	<b>1</b>	-	-
<b>Operating income</b>	<b>(170)</b>	<b>(166)</b>	<b>-2.2%</b>	-

\* At constant exchange rate and consolidation scope.

Corporate and other operations reported a total charge to operating income of 170 million euros in 2008, practically unchanged from the total charge of 166 million euros in 2007.

## 9.3. Cash flow

### 9.3.1. Comparative table of operating cash flows and consolidated cash flows

The group analyzes cash flows from operating activities separately from flows relating to end-of-life-cycle operations and other cash flows.

#### Reconciliation of operating cash flows and consolidated cash flows

The following table distinguishes operating cash flows from the other cash flows presented in the consolidated cash flow statement.

<i>(in millions of euros)</i>	Operating	End-of-life-cycle operations <sup>(1)</sup>	Others <sup>(2)</sup>	<b>Total</b>
EBITDA (I)	1,181	-	-	-
Net gain on the sale of non-current operating assets and other non-cash items (II)	(197)	-	-	-
<b>Cash flow from operations after interest and taxes (I+II)</b>	<b>984</b>	<b>(105)</b>	<b>(351)</b>	<b>527</b>
Change in working capital requirement (III)	(451)	-	5	(446)
<b>Net cash flow from operating activities (I+II+III)</b>	<b>533</b>	<b>(105)</b>	<b>(347)</b>	<b>81</b>
Cash from (used in) investing activities, net of disposals (IV)	(1,712)	(10)	462	(1,259)
Net cash from (used in) financing activities (V)	258	0	1,258	1,516
Impact of foreign exchange variations (VI)	0	0	19	19
<b>Cash flow (I+II+III+IV+V+VI)</b>	<b>(921)</b>	<b>(115)</b>	<b>1,393</b>	<b>357</b>

(1) Includes expenses for end-of-life-cycle operations incurred on-site and for final waste disposal, flows relating to the financial asset portfolio earmarked for end-of-life-cycle operations, and flows resulting from the signature of agreements with third parties (most notably the CEA), for the funding by such parties of a share of end-of-life-cycle operations.

(2) That is, non-operating flows not relating to end-of-life-cycle operations and primarily corresponding to financing flows, including exceptional flows relating to external growth operations, dividends paid, and tax flows.

## 9.3.2. Operating cash flow

	EBITDA		Change in operating WCR		Net operating Capex		Free operating cash flow before tax	
(in millions of euros)	2008	2007	2008	2007	2008	2007	2008	2007
Front End	780	731	(533)	(140)	(664)	(2,260)	(609)	(1,672)
Reactors and Services	(349)	(125)	124	(81)	(365)	(322)	(591)	(528)
Back End	320	440	190	(186)	(88)	(81)	422	172
<b>Nuclear</b>	<b>751</b>	<b>1,046</b>	<b>(219)</b>	<b>(407)</b>	<b>(1,116)</b>	<b>(2,663)</b>	<b>(777)</b>	<b>(2,028)</b>
<b>Transmission &amp; Distribution</b>	<b>587</b>	<b>426</b>	<b>(276)</b>	<b>(5)</b>	<b>(324)</b>	<b>(193)</b>	<b>(20)</b>	<b>233</b>
Corporate	(158)	(137)	44	(20)	(13)	(33)	(124)	(190)
<b>Group total</b>	<b>1,181</b>	<b>1,335</b>	<b>(451)</b>	<b>(432)</b>	<b>(1,454)</b>	<b>(2,889)</b>	<b>(921)</b>	<b>(1,985)</b>

### Earnings before income tax, depreciation and amortization (EBITDA)

The group's EBITDA totaled 1.181 billion euros in 2008, against 1.335 billion euros in 2007. The change is due to the following items:

- EBITDA rose 6.7% in the Front End division in 2008, to 780 million euros, driven mainly by improved performance in conversion operations and by the cash provided by GDF-SUEZ's acquisition of an equity interest in the Georges Besse II plant.
- In the Reactors and Services division, EBITDA was negative 349 million euros, compared with negative 125 million euros in 2007, mainly due to expenses related to the OL3 project.
- EBITDA for the Back End division was 320 million euros in 2008, compared with 440 million euros reported in 2007. This change reflects a less favorable customer mix in the Recycling business.
- EBITDA for the Transmission & Distribution division totaled 587 million euros in 2008, compared with 426 million euros in 2007. This increase reflects improved execution of orders and increased sales volumes.

### Change in operating working capital requirement (Operating WCR)

The change in operating WCR corresponds to a use of 451 million euros of cash in 2008.

This change was due to:

- a 533-million euro cash outflow relating to operating activities in the Front End division, up from 2007, with the bulk of this outflow related to inventory build-up in the Enrichment business unit to ensure the transition between the Georges Besse and Georges Besse II plants;
- a 124-million euro improvement in operating WCR in the Reactors and Services division, driven by the Plants division;

- a 190-million euro cash inflow in the Back End division, driven by the Recycling business; and

- a 276-million euro cash outflow relating to operating activities in the Transmission & Distribution division, up from 2007, reflecting the significant upturn in business over the period.

### Net operating Capex

The group's net operating Capex totaled 1.454 billion euros in 2008, compared with 2.889 billion euros in 2007. This is primarily the result of:

- a decrease in the amount of acquisitions of companies, net of disposals, which came to +127 million euros in 2008 (primarily due to the contribution to cash when GDF-SUEZ acquired a stake in Georges Besse II), compared with -1.818 billion euros in 2007, the year of the UraMin Inc. acquisition;
- an increase in gross Capex, net of acquisitions of companies, which went from -1.11 billion euros in 2007 to -1.623 billion euros in 2008.

### Free operating cash flow

In light of the above, the group's free operating cash flow in 2008 was negative 921 million euros, compared with negative 1.985 billion euros in 2007. Three factors explain this change:

- a reduction in the amount of operating Capex, net of disposals, which comes to 1.454 billion euros in 2008 compared with 2.889 billion euros in 2007, the year UraMin Inc. was acquired;
- the change in operating working capital requirement, which is practically stable at negative 451 million euros, despite the reconstitution of uranium and SWU inventories in the Front End division and the increase in working capital requirement in the Transmission & Distribution division, in line with business growth; and
- a drop in EBITDA, which went from 1.335 billion euros in 2007 to 1.181 billion euros in 2008, primarily due to expenses recognized on the OL3 project.

### 9.3.3. Cash flows for end-of-life-cycle operations

To finance its end-of-life-cycle commitments, the group has set aside a portfolio of securities earmarked to fund expenses related to these operations (see section 20.2, "Notes to the consolidated financial statements", note 13, "End-of-life-cycle operations"). It is the group's policy to offset negative cash flows associated with end-of-life-cycle operations with positive cash flows generated by dividends or sales of securities held in the portfolio.

Cash flows for end-of-life-cycle operations totaled negative 115 million euros in 2008, compared with positive 171 million euros in 2007. This negative variance is mostly the result of the group's disposal of assets in 2007 to reduce the excess coverage ratio of the portfolio. This was discontinued due to weakness in the financial markets.

### 9.3.4. Consolidated cash flow statement

The simplified consolidated cash flow statement is presented below.

<i>(in millions of euros)</i>	<b>2008</b>	2007	2008 / 2007 change
Cash flow from operations	904	1,294	-30.1%
Interest expense and taxes paid	(377)	(156)	+141.7%
<b>Cash flow from operations after interest and taxes</b>	<b>527</b>	<b>1,138</b>	<b>-53.7%</b>
Change in working capital requirement	(446)	(416)	+7.2%
<b>Cash from operating activities</b>	<b>81</b>	<b>722</b>	<b>-88.8%</b>
Cash used in investing activities	(1,259)	(2,796)	-55.0%
Cash from (used in) financing activities	1,516	1,522	-0.4%
Decrease (increase) in marketable securities maturing in more than 3 months	42	178	-76.4%
Change in consolidated group, foreign exchange adjustments, etc.	(22)	(7)	+214.3%
Cash from discontinued operations	0	0	-
<b>Increase (decrease) in net cash</b>	<b>357</b>	<b>(381)</b>	<b>-</b>
Cash at the beginning of the year	520	901	-42.3%
<b>Cash at the end of the year</b>	<b>877</b>	<b>520</b>	<b>+68.7%</b>

#### Cash flow from operating activities

Cash flow from operating activities went from 772 million euros in 2007, to 81 million euros in 2008.

This change reflects the decrease in cash flow from operations, the increase in tax payments, and the increase in interest expenses due to increased borrowings.

#### Cash used in investing activities

Cash used in investing activities, net of disposals, totaled 1.259 billion euros in 2008, compared with 2.796 billion in 2007, for a decrease in net investment of 1.537 billion euros in 2008. This decrease reflects the following:

- a decrease in net operating Capex (see section 9.3.2., "Operating cash flow");

- a decrease in cash flow from rotation in the portfolio of securities earmarked for end-of-life-cycle operations (see section 9.3.3., "Cash flows for end-of-life-cycle operations"); and
- an increase in other investment flows net of disposals, including in particular the disposal of REpower shares.

#### Cash from (used in) financing activities

Cash from financing activities came to 1.516 billion euros in 2008, stable compared with 2007.

#### Increase (decrease) in net cash

Based on the foregoing, the group had an increase in net cash of 357 million euros in 2008, compared with a decrease of 381 million euros in 2007. The group thus had a closing cash position for 2008 of 877 million euros, up from 520 million euros in 2007.

## 9.4. Balance sheet data

For more information on borrowings, see section 20.2., "Notes to the consolidated financial statements"; note 25, "Borrowings". For more information on financing activities, see section 20.2. "Notes to the consolidated financial statements"; note 31, "Market Risk Management".

### Summary consolidated balance sheet

<i>(in millions of euros)</i>	<b>December 31, 2008</b>	December 31, 2007
<b>Assets</b>		
Net goodwill	4,803	4,377
PP&E and intangible assets	8,002	6,933
End-of-life-cycle assets (third party share)	270	2,491
Financial assets earmarked to finance end-of-life-cycle operations	4,954	2,873
Investments in associates	1,757	1,558
Other non-current financial assets	2,152	2,588
Deferred taxes (assets – liabilities)	140	(673)
Working capital requirement (WCR)	(143)	(488)
Cash and cash equivalents	1,050	634
Other current financial assets	113	279
Others	1	0
<b>Liabilities and equity</b>		
Equity	6,541	6,994
Minority interests	743	470
Provisions for end-of-life-cycle operations (third party share)	270	2,493
Provisions for end-of-life-cycle operations (AREVA share)	5,404	2,582
Other current and non-current provisions	3,472	3,119
Borrowings	6,662	4,915
<b>Summary balance sheet total</b>	<b>23,092</b>	<b>20,573</b>
<b>Net cash (debt) (including Siemens' put)</b>	<b>(5,499)</b>	<b>(4,002)</b>
<b>Net cash (debt) (excluding Siemens' put)</b>	<b>(3,450)</b>	<b>(1,954)</b>

*Note: Working capital assets and liabilities are reported on a net basis in the summary balance sheet. Deferred tax assets are also offset against deferred tax liabilities. Assets and liabilities are not offset in the detailed balance sheet.*

### 9.4.1. Non-current assets

#### Net goodwill

Net goodwill went from 4.377 billion euros as of December 31, 2007 to 4.803 billion euros as of December 31, 2008, for a net increase of 426 million euros. This change in goodwill is primarily due to:

- an 83-million euro impact from the change of goodwill for UraMin Inc. following completion of the purchase price accounting;
- acquisition of Koblitiz for 48 million euros and the 15-million euro decrease in goodwill for Multibrid in the Reactors and Services division;
- the acquisition of Nokian Capacitors (29 million euros) and Waltec (30 million euros); and
- recognition of an additional 185 million euros in goodwill to reflect the valuation of put options held by minority interests in AREVA NP (see section 20.2. "Notes to the consolidated financial statements", note 25 "Borrowings").

#### Property, plant and equipment and intangible assets

PP&E and intangible assets went from 6.933 billion euros as of December 31, 2007 to 8.002 billion euros as of December 31, 2008, for a net increase of 1.069 billion euros. Key aspects of this change are as follows:

- the 158-million decrease in mineral rights linked in particular to the change in the UraMin Inc. (now renamed AREVA Resources Southern Africa) purchase price accounting;

- the 191-million euro increase in pre-mining development expenses;
- the 105-million euro increase in research and development expenses, mostly related to development expenses for EPR™ reactor projects in China and the United States;
- the significant increase (+709 million euros) in the net value of property, plant and equipment (PP&E), consistent with the Capex plan.

The components of PP&E and intangible assets are described in section 20.2., "Notes to the consolidated financial statements for the year ended December 31, 2008", note 11. "Intangible assets" and note 12. "Property, plants and equipment".

#### Investments in associates

STMicroelectronics, Eramet and REpower (disposal in early June 2008) represent the bulk of the investments in associates. Investments in associates totaled 1.757 billion euros as of December 31, 2008, compared with 1.558 billion euros as of December 31, 2007, representing an increase of 192 million, mostly for Eramet.

#### Other non-current financial assets

Non-current financial assets fell from 2.588 billion euros to 2.152 billion euros due to the drop in value of available-for-sale securities.

### 9.4.2. Assets earmarked for end-of-life-cycle operations

Assets earmarked for end-of-life-cycle operations are discussed with the corresponding liabilities in section 9.4.6., "Assets and provisions for end-of-life-cycle operations".

### 9.4.3. Working capital requirement (WCR)

The group's working capital requirement totaled negative 143 million euros as of December 31, 2008, compared with negative 488 million euros at December 31, 2007. This 345 million

euro use of cash is explained primarily by the change in operating WCR discussed in section 9.3.2., "Operating cash flow", corresponding to a use of 451 million euros.



### 9.4.4. Net cash (debt)

Net cash (debt) is defined as the sum of "Cash and cash equivalents" and "Other current financial assets", less "Current and non-current borrowings". "Current and non-current borrowings" include the present value of the put held by Siemens.

On January 27, 2009, during its shareholders' meeting, Siemens announced its intention of exercising the put option for its 34% stake in AREVA NP.

Due to the negotiations to come with Siemens, AREVA has decided to keep the value of the put option in borrowings at the amount of its valuation as of December 31, 2007, *i.e.* 2.049 billion euros.

Based on that valuation, the group's net debt comes to 5.499 billion euros, compared with 4.003 billion euros at the end of 2007.

Before recognition of this put option, net debt comes to 3.45 billion euros, compared with 1.954 billion in 2007.

#### Reconciliation between net cash reported in the cash flow statement and net cash (debt) reported on the balance sheet

<i>(in millions of euros)</i>	2008	2007	2008 / 2007 change
<b>Net cash per cash flow statement</b>	<b>877</b>	<b>520</b>	<b>+68.7%</b>
Short-term bank facilities and non-trade current accounts (credit balances)	172	113	+52.2%
Securities held for trading maturing in more than 3 months	6	69	-91.3%
Other current financial assets and derivatives on financing activities	107	210	-49.0%
<b>Cash position per the balance sheet</b>	<b>1,163</b>	<b>913</b>	<b>+27.4%</b>
Borrowings	(6,662)	(4,915)	+35.5%
<b>Net cash (debt) including Siemens' put option</b>	<b>(5,499)</b>	<b>(4,002)</b>	<b>+37.4%</b>
Siemens put option	2,049	2,049	0.0%
<b>Net cash (debt) excluding Siemens' put option</b>	<b>(3,450)</b>	<b>(1,954)</b>	<b>+76.6%</b>

The increase in net debt is primarily due to the change in free operating cash flow described above.

#### Schedule of borrowings

<i>(in millions of euros)</i>	2008	2007	2008 / 2007 change
Put options of minority shareholders (including Siemens' put option)	2,068	2,049	+0.9%
Interest-bearing advances	727	652	+11.5%
Loans from financial institutions	3,582	2,009	+78.3%
Short-term bank facilities and other credit balances	172	113	+52.2%
Financial instruments	54	27	+100.0%
Other debt	59	65	-9.2%
<b>Total borrowings</b>	<b>6,662</b>	<b>4,915</b>	<b>+35.5%</b>

### 9.4.5. Equity

Equity totaled 6.547 billion euros as of December 31, 2008, compared with 6.994 billion euros as of December 31, 2007, a 447 million euro drop, mainly due to the following:

- the effect of net income for 2008 in the amount of 589 million euros;
- changes in the value of available-for-sale securities (-800 million euros), linked in particular to the slump in the financial markets; and
- the payment of dividends to equity holders of the parent for 2007 in the amount of 240 million euros.

### 9.4.6. Assets and provisions for end-of-life-cycle operations

The change in the balance sheet from December 31, 2007 to December 31, 2008 with regard to assets and provisions for end-of-life cycle operations is summarized in the table below.

<i>(in millions of euros)</i>	<b>December 31, 2008</b>	December 31, 2007
<b>Assets</b>		
<b>End-of-life-cycle assets</b>	<b>459</b>	<b>2,665</b>
• AREVA share (to be amortized in future years)	189	174
• third-party share	270	2,493
<b>Financial assets earmarked for end-of-life-cycle operations</b>	<b>4,954</b>	<b>2,873</b>
<b>Shareholders' equity and liabilities</b>		
<b>Provisions for end-of-life-cycle operations</b>	<b>5,674</b>	<b>5,075</b>
• provisions to be funded by AREVA	5,404	2,582
• provisions to be funded by third parties	270	2,491

Net end-of-life-cycle assets totaled 459 million euros as of December 31, 2008, compared with 2.665 billion euros as of December 31, 2007.

The reduction in the third-party share is the result of the signature in December 2008 of a memorandum of agreement with EDF on principles applicable to Back End contracts for the post-2007 period.

For end-of-life-cycle operations in particular, this memorandum of agreement mainly provides that EDF shall pay a full and final settlement to AREVA for the final shutdown and dismantling of the La Hague plants and for the retrieval and packaging of legacy waste.

The memorandum of agreement established governing principles but did not set forth the terms of payment of the full and final settlement, the schedule of payment, or the offsets against prepayments received by AREVA under the 2001-2007 contract. These aspects are to be formalized in a contract to be finalized before December 31, 2009.

For accounting purposes, the memorandum of agreement was recognized as follows:

- the existing third-party share of liabilities was reduced, while the full and final settlement to be paid by EDF was recognized as a receivable on end-of-life-cycle operations;
- the prepayment received from EDF remains on the balance sheet under non-current borrowings pending contract signature (see "Interest-bearing advances" in note 25, "Borrowings" of section 20.2, "Notes to the consolidated financial statements").

The third party share remaining in the end-of-life-cycle assets mainly corresponds to the funding expected from the CEA for its share of the commitment for the Pierrelatte site. This heading increases based on discount reversals and decreases based on work performed.

The increase in provisions for end-of-life-cycle operations in 2008 comes principally from the recognition of a waste retrieval and packaging provision corresponding to the CEA's share of funding of legacy waste retrieval and packaging operations at the La Hague site. At the same time, the full and final settlement to be paid by the CEA to AREVA was recognized as a receivable on end-of-life-cycle operations.

The IFRS balance sheet allows the provisions for end-of-life-cycle operations (5.674 billion euros as of December 31, 2008, of which 270 million euros are to be funded by third parties and 5.404 billion euros are to be funded by AREVA) to be reconciled with the assets relating to those provisions: "End-of-life-cycle assets, third party share" (270 million euros) and "Financial portfolio covering end-of-life-cycle operations" (4.954 billion euros).

As of December 31, 2008, 52% of this portfolio consisted of equities and 48% consisted of bonds (60% equities and 40% bonds as of December 31, 2007). The portfolio's composition is regularly analyzed by the Clean-up and Decommissioning Fund Monitoring

Committee, which issues opinions and makes recommendations to the Supervisory Board.

By design, the third party share of end-of-life-cycle assets is always equal to the provision to be funded by the third parties, but the value of the portfolio of financial assets covering end-of-life-cycle operations borne by the group varies according to the change in value of the securities in the portfolio. The coverage ratio came to 92% as of December 31, 2008.

The nature of the commitments and the calculation of the provision are presented in section 20.2., "Notes to the consolidated financial statements", note 13, "End-of-life cycle operations".

### 9.4.7. Other provisions

Other provisions consist mainly of provisions for employee benefits, non-current provisions other than those related to end-of-life-cycle operations, and current provisions.

These provisions rose by 318 million euros in 2008, from 3.119 billion euros as of December 31, 2007 to 3.473 billion euros as of December 31, 2008. The increase is primarily due to:

- the increase in provisions for employee benefits, which totaled 1.268 billion euros as of December 31, 2008, compared with 1.175 billion euros as of January 1, 2007;

- recognition of gross current provisions totaling 1.234 billion euros covering in particular the restructuring plans, losses on contracts to completion, and provisions for contract completion, as explained in section 20.2., "Notes to the consolidated financial statements", note 24. "Other provisions".

However, this was reduced by the use of provisions from prior periods and of those that no longer apply, in the amount of 1.006 billion euros.

### 9.4.8. Off balance-sheet commitments

<i>(in millions of euros)</i>	December 31, 2007	December 31, 2008	Maturity < 1 year	Maturity 1 – 5 years	Maturity > 5 years
<b>Commitments given</b>	<b>3,502</b>	<b>3,933</b>	<b>1,562</b>	<b>1,516</b>	<b>855</b>
Operating commitments given	3,185	3,368	1,379	1,199	790
Commitments given on financing	30	71	19	39	13
Other commitments given	287	494	164	278	52
<b>Commitments received</b>	<b>1,191</b>	<b>855</b>	<b>292</b>	<b>187</b>	<b>376</b>
Operating commitments received	675	545	272	148	125
Commitments received on financing	6	2	2	0	0
Other commitments received	510	308	18	39	251
<b>Reciprocal commitments</b>	<b>2,932</b>	<b>3,036</b>	<b>288</b>	<b>1,483</b>	<b>1,265</b>

A detailed table of off-balance sheet commitments is presented in note 33, "Commitments given or received", section 20.2, "Notes to the consolidated financial statements for the year ended December 31, 2008".

The group's off-balance sheet commitments are presented by economic purpose: operating commitments, commitments related to financing, and other types of commitments. "Reciprocal commitments" correspond to commitments given by the group in consideration for a warranty from a third party in the same amount.

The amounts above only include commitments that the group considers valid as of the date of closing. Accordingly, these commitments do not include construction contracts currently under negotiation.

### Commitments given

The value of commitments given was 3.933 billion euros as of the end of 2008, compared with 3.502 billion euros as of the end of 2007.

Operating commitments represent 86% of all commitments given. The majority of these commitments consist of performance guarantees.

In 2007, the group discontinued the reporting of repayment guarantees under commitments given.

The group gave a parent company guarantee to TVO for the EPR™ reactor project for the full value of the contract and received a counter-guarantee from Siemens corresponding to that supplier's share of the TVO contract. The net commitment given by the group

is in the range of 1.5 billion euros to 2 billion euros. This amount is not included in the summary table.

AREVA gave a specific guarantee in respect of ownership of FCI shares sold to Bain Capital. This guarantee, which is capped at the sale price of 582 million euros, is not included in the summary table.

### Commitments received

Commitments received totaled 855 million euros, compared with 1.191 billion euros as of December 31, 2007. Commitments received as of December 31, 2008 include the maximum value of environmental guarantees received from Alstom pursuant to the acquisition of AREVA T&D.

### Reciprocal commitments

Reciprocal commitments totaled 3.036 billion euros as of December 31, 2008, compared with 2.932 billion euros at the end of 2007. Reciprocal commitments include, in particular, future minimum payments to be made on operating leases. In addition, in February 2007, the group established a 2 billion euro revolving line of credit available in euros and in US dollars over a seven-year period. One billion euros had been drawn on that line of credit as of December 31, 2008. Outstanding orders for property, plant and equipment increased by nearly one billion euros in the Front End division.

## 9.4.9. Capital employed and ROACE

Return on average capital employed (ROACE) is an indicator for internal and external used to measure profitability and assess the group's performance. In the group's opinion, this performance indicator measures the long-term productivity of the group's capital.

ROACE is a performance measurement indicator of capital employed by the group, as defined by management rather than by accounting standards. This should be taken into account when using ROACE to make comparisons with other companies.

The group defines ROACE as the return on average capital employed.

ROACE represents the after-tax operating profitability of capital employed by the company for its operating requirements.

ROACE is equal to the ratio of net operating income to average capital employed.

- Net operating income is equal to operating income less the corresponding pro forma income tax derived:
  - in 2008 by applying the nominal tax rate applicable to the operating income of each subsidiary, reflecting the termination of the global consolidated tax regime;

- In 2007, by multiplying operating income by the tax rate applicable to the group under the global consolidated tax regime, or the specific tax rates applicable to certain subsidiaries subject to specific tax rates.

- Capital employed comprises the following:
  - net PP&E and intangible assets;
  - goodwill, other than goodwill related to equity associates, to Siemens' put option (until December 31, 2007), or allocated to Total shares; In fact, on January 27, 2009, during its shareholders' meeting, Siemens announced its intention of exercising the put option for its 34% stake in AREVA NP. The goodwill used in the ROACE calculation as of December 31, 2008 therefore includes that related to the Siemens put;
  - prepayments and borrowings funding non-current assets;
  - inventories, trade receivables and other operating receivables;
  - less customer advances, trade payables and other operating liabilities;
  - less employee benefits and provisions for contingencies and losses, excluding provisions for end-of-life-cycle operations and provisions for tax risk.

<i>(in millions of euros)</i>	<b>December 31, 2008</b>	December 31, 2007	2008 / 2007 change
Net intangible assets	3,089	2,729	+13.2%
Goodwill	4,803	4,377	+9.7%
Goodwill used in ROACE calculation	4,748	2,521	+88.8%
Net PP&E	4,914	4,204	+16.9%
Prepayments and borrowings funding non-current assets	(941)	(907)	-3.7%
Operating working capital requirements, excluding advances to fund non-current assets	656	368	+78.3%
Provisions for contingencies and losses	(3,430)	(3,088)	+11.1%
<b>Total capital employed</b>	<b>9,036</b>	<b>5,826 <sup>(1)</sup></b>	<b>+55.1%</b>
<b>Average capital employed over the period</b>	<b>8,341 <sup>(2)</sup></b>	<b>4,264</b>	<b>+95.6%</b>

*Note: The method used takes into account a definition of capital employed after deduction of all provisions for contingencies and losses.*

*(1) This amount does not include the goodwill allocated to Siemens' put option. Including this item, the total comes to 7.646 billion euros.*

*(2) Average capital employed used to calculate ROACE in 2008 is based on total capital employed, including goodwill allocated to Siemens' put in 2008 and 2007.*

## ROACE

The following table presents changes in the group's ROACE by year:

December 31 <i>(in millions of euros)</i>	Average capital employed	Net operating income	ROACE
<b>2008</b>	<b>8,341 <sup>(1)</sup></b>	<b>328</b>	<b>3.9%</b>
2007	4,264	583	13.7%
2006	2,315	308	13.3%
2005	1,952	396	20.3%

*(1) Average capital employed used to calculate ROACE in 2008 is based on total capital employed, including goodwill allocated to Siemens' put in 2008 and 2007.*

In 2008, ROACE was 3.9%, compared with 13.7% in 2007. This change reflects the decrease in net operating income – impacted by an additional provision for the OL3 project – and an increase in capital employed due to the combined effect of Capex for 2008, the increase in working capital requirement and, effective

December 31, 2008, the recognition in the group's capital employed of goodwill allocated to Siemens' put option following the latter's decision to exercise the put option on its 34% equity interest in AREVA NP.

## 9.5. Events subsequent to year-end closing for 2008

On January 5, AREVA signed the mining agreement with the government of Niger giving it the operating permit for the Imouraren ore deposit. The agreement provides for a capital split of 66.65% for AREVA and 33.35% for the State of Niger in the company established to mine the deposit. With ultimate production estimated at 5,000 metric tons per year for more than 35 years, the Imouraren mining operation is the largest industrial project ever planned in Niger. Imouraren is the largest uranium mine on the African continent and the second largest in the world.

AREVA submitted a license application to representatives of the US Nuclear Regulatory Commission (NRC) for authorization to build and operate uranium enrichment facilities at the Eagle Rock site in Idaho. If the US regulator gives its approval, construction could start in 2011.

On January 26, 2009, the Supreme Court of the United States ruled that the US Department of Commerce could impose anti-dumping measures on sales of enrichment services. AREVA intends to continue its appeals in the US courts and to sponsor proceedings with the World Trade Organization to limit the consequences of this ruling (see note 34, "Disputes and contingent liabilities", section 20.2 "Notes to the consolidated financial statements for the year ended December 31, 2008").

On January 27, 2009, the CEO of Siemens informed the CEO of AREVA of his decision to exercise the option to sell shares of AREVA NP's capital, 34% of which are held by Siemens. In accordance with the shareholders' agreement of January 30, 2001, this notice will take effect on or before January 30, 2012.

The shareholders' agreement establishes a process for setting a price for the shares to be sold. The impacts on the consolidated financial statements for the year ending December 31, 2008 are described in notes 1.19, "Borrowings" and 25, "Borrowings", section 20.2 "Notes to the consolidated financial statements for the year ended December 31, 2008".

On January 29, 2009, the President of France announced the construction of France's second EPR™ reactor. The new reactor, whose construction is slated to begin in 2012, will be the fifth in the world to enter construction, after Olkiluoto 3 in Finland, Flamanville 3 in France, and Taishan 1 and 2 in China.

On February 4, 2009, AREVA and Nuclear Power Corporation of India Limited (NPCIL) concluded a memorandum of understanding to initiate technical cooperation between NPCIL and AREVA for subsequent work on siting two to six EPR™ reactors in Jaitapur. It also provides for the supply of fuel throughout the service life of these reactors. The MOU is pursuant to the bilateral agreement signed by France and India on September 30, 2008 related to cooperation in the development of peaceful applications of nuclear energy.

In connection with the contract between Bouygues Travaux Publics SA and AREVA NP for the OL3 project, the Dispute Resolution Board rendered a decision on March 13, 2009. This decision pertains to the terms and conditions for contract enforcement and is open to an appeal to arbitration within a period of 30 days. The parties will meet to discuss how to implement the decision.

# 10

## Capital resources

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For information on cash flow and equity, please refer to chapter 9, section 9.3., “Cash flow” and section 9.4., “Balance sheet data”.



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## 11.1. Research and development

### 11.1.1. Key data

<i>(in millions of euros, IFRS)</i>	2008	2007	2006
Research and development expenses	453	421	355
• Nuclear share	64%	66%	68%
• T&D share	33%	32%	32%
• Corporate and other operations	3%	2%	-
Number of registered patents	149	120	111

Research and development expenses in 2008 were up by almost 8% on 2007; in both years, they represented 3.5% of revenue. This increase is a reflection of the additional resources allocated to key R&D projects contributing to the group's strategic objectives.

The total R&D expenditure, taking into account all committed costs, was 1.051 billion euros in 2008, or 8% of consolidated revenue for the period. This compares with 813 million euros and 6.8% of consolidated revenue in 2007.

Research and development expenses for nuclear operations totaled 304 million euros in 2008, or 3.7% of revenue, and 276 million euros in 2007, or 3.7% of revenue. R&D expenditure in nuclear was 905 million euros in 2008, or 11.2% of revenue. The change in total R&D expenditure between the two periods reflects the continued long-term increase in mineral exploration expenses and continued long-term projects, including:

- development of and upgrades to production capabilities in the front end of the cycle;

- performance improvement in Equipment;
- support for deployment of EPR™ reactors, including their certification in the United States and the United Kingdom;
- preliminary designs of future treatment and recycling plants;
- additions to the light water reactor line, and in particular the ATMEA1 pressurized water reactor and the KERENA™ boiling water reactor;
- development of fast neutron reactors.

In the Transmission & Distribution division, research and development expenses rose 9.6% in 2008 compared with 2007, coming to 149 million euros or 2.9% of revenue. The majority of the expenses were directed at improving the performance of electric power systems and equipment, developing digital controls and information systems to monitor power grids, and ultra high voltage.

### 11.1.2. Overall organization of research and development

The AREVA group sets the pace for the global competition in terms of technology, with dynamic programs to harness advanced technologies and integrate them into its products and services. Ever since the first industrial applications of nuclear energy were developed, the group has worked continuously to build up major intellectual assets, maintain its strong technological lead and bolster its international positions. AREVA has pooled Research and Innovation functions as a group to tap into the synergies resulting from its establishment and to protect and multiply its technology assets. By functioning in integrated mode, the group is able to share best practices among all entities and boost R&D effectiveness in areas as wide-ranging as technology management, knowledge and expertise management, intellectual asset protection, innovation, and leadership for a portfolio of research and development projects. It also helps initiate and, when the time is right, manage and fund projects at the corporate level when they serve several group subsidiaries or are longer term.

AREVA's Research and Innovation department establishes group-level programs such as research and development action plans, project portfolio management, management of technical expertise and technology excellence, and intellectual property management. The Research and Innovation department also promotes and drives innovation throughout the group.

The program to stimulate innovation launched in 2005 and fully deployed in 2006 translated into some 20 new key projects, most led by the business units, although some – usually cross-business or longer term – were launched by the Research and Innovation function itself. Management and the Research and Innovation function jointly review these projects at regular intervals.

### 11.1.3. Partnerships

Thirty years of technological achievement and commercial successes have positioned AREVA as the global leader in the nuclear industry and one of the leaders in the field of electricity transmission and distribution. Today, the group has a solid base of operations on three continents. Scientific and technical partnerships reflecting the group's international dimension will be a cornerstone of its continued growth.

AREVA already has a broad network of partnerships with the world's leading research laboratories. In particular:

- in France: the CEA at Saclay, Cadarache, Grenoble and Marcoule; EDF's Research and Design Laboratories; the French National Scientific Research Center (CNRS); and major engineering schools and universities such as the École de Chimie of Paris and Montpellier University;
- in Germany: the University of Zittau and the Karlsruhe, Rossendorf and Jülich research centers;
- in the United States: Massachusetts Institute of Technology (MIT), the Universities of Florida, Idaho, Texas and Virginia, and the Sandia and Idaho National Laboratories;
- in China: the Tsinghua-Beijing and Xi'an Jiaotong Universities;
- in Russia: the Kurchatov, VNIINM and Khlopin research institutes;
- in Australia: the Ian Wark Research Institute and the University of South Australia.

AREVA is a participant, *via* the CEA representing the French parties, in the Generation IV International Forum (GIF), a US initiative. The multilateral agreement was signed by several countries in 2005, providing a framework for international collaboration on R&D dedicated to Generation IV nuclear reactor concepts. AREVA is keenly interested in this initiative, alongside its French, European and international partners, especially as concerns fast spectrum reactors, which push the envelope of resource conservation.

Agreements and partnerships of note include:

- the tripartite agreement between AREVA NP, the CEA and EDF, renewed in 2007, which coordinates the three parties' R&D efforts and resources to improve the performance of existing reactors and related fuels and plan for long-range development of key technologies for future generations of reactors; and
- the 10-year cooperative agreement between AREVA NC and the CEA in the nuclear fuel cycle field, which has the same purpose and objectives as the tripartite agreement, and under which work began on January 1, 2004.

For partnerships with the CEA, the allocation of ownership and utilization rights (industrial and commercial use, or use exclusively for research) is a function of each party's financial share.

### 11.1.4. Future directions in technology

#### Nuclear Power

The AREVA group's research and development programs are anchored in meeting customer requirements. They focus on enhancing safety, reducing operating costs, minimizing final waste volumes, conserving natural resources and preparing future generations of nuclear systems.

#### Development and modernization of production tools in the front end of the fuel cycle

The revival of nuclear programs in many countries will generate increased demand for uranium, especially as highly enriched uranium (HEU) inventories near depletion.

The stepped-up mineral exploration of recent years continued in 2008 at a level comparable with that of 2007. In addition to studies on uranium geochemistry and to improve geophysical prospecting methods, efforts concentrated mainly on the exploration of new areas. Following the acquisition of UraMin Inc., projects are also being conducted on the recovery of uranium from ores that may be very different from those mined up to now. R&D spending incorporates sustainable development criteria, namely the impacts on the environment, society and the economy.

In response to growing demand for conversion services, studies are under way to modernize facilities and increase production capacity. These studies will serve to validate investment decisions when the time comes.

#### Optimizing the economic performance of reactors and fuel

##### > BOOSTING NUCLEAR FUEL PERFORMANCE

AREVA is looking beyond the successful performance of its current products by conducting far-reaching research and innovation programs to boost thermo-hydraulic, mechanical and burn-up performance while enhancing fuel reliability.

These programs involve:

- adapting to changes in operating conditions, whether for cladding materials (new alloys for better corrosion resistance and enhanced mechanical properties) or fuel (advanced microstructures to reduce the release of fission gases at high burn-ups);
- the development of new fuel rod, spacer grid and assembly designs.

Substantial development programs are in progress to prepare for future generations of PWR and BWR fuel assemblies.

##### > ENHANCING DESIGN TOOLS FOR FUEL AND REACTORS

AREVA puts considerable effort into its modeling tools and design codes, whether for its own account or in cooperation with the CEA. Developments focus on advanced physical models that take advantage of growing computer modeling capabilities, expanding their validated domains, establishing modular application architectures, and developing ergonomic graphical interfaces. These developments are helping to improve code forecasting accuracy, reduce design schedules and improve design quality. They are being used to design and validate fuel and reactors delivering even better performance.

##### > UNDERSTANDING AND ANTICIPATING AGING PHENOMENA

AREVA is conducting important research and development programs with the CEA and EDF whose objective is to gain a better understanding of and control over materials aging in the reactor environment (radiation, pressure, temperature, mechanical loads). This in turn will strengthen the ability to predict and demonstrate structural and equipment life spans and to offer solutions for extending the service life of reactors and their components to meet utility requirements.

##### > SUPPLYING MODERN DIGITAL INSTRUMENTATION AND CONTROL SYSTEMS

Instrumentation and control system products and programs offering a high level of safety are being integrated into AREVA-supplied reactors, including the EPR™ reactor, and offered as upgrades to existing reactors to replace older systems.

These advanced instrumentation and control systems are helping to improve reactor operations and availability, lower their maintenance costs, and increase their power as needed.

#### Developing enhanced solutions for the back end of the fuel cycle

The 30 years of industrial research and development at the La Hague plant site have set the standard for used fuel treatment today. The design and operating experience from this plant are helping to guide our main research programs.

##### > PRODUCTION PLANT SUPPORT

This involves optimizing current plant operations over the long term and adapting to market trends to be in a position to treat new fuels (high burn-up UOX fuel, MOX fuel, research reactor fuel, etc.). In addition, programs continue to minimize the La Hague plant's environmental impacts.

### > OPTIMIZING FUEL TREATMENT AND REDUCING FINAL WASTE VOLUMES

A far-reaching development program is under way to renovate the vitrification facility for increased productivity and capacity. The program involves installing the cold crucible technology developed jointly with the CEA, which is capable of processing a wider range of feed solutions, including effluent from the rinsing of facilities scheduled for dismantling. The process is undergoing qualification in a full-scale vitrification pilot plant at the CEA Marcoule site. These research programs should also enable AREVA to expand its offering to include the treatment of new products.

### > IMPROVING USED FUEL TRANSPORT AND STORAGE

The Back End division is developing new materials – resins, radiation shielding and impact limiters – for the design of innovative shipping casks and even more efficient integrated storage solutions that accommodate the changing and ever more demanding characteristics of used fuels.

## Widening the range of light water reactors and supporting their deployment

### > THE EPR™ REACTOR

The EPR™ reactor project team formed in the United States in 2005 prepared a design certification application which it submitted to the US Nuclear Regulatory Commission at the end of 2007. The certification review, involving AREVA-NRC interaction, is in progress. The design certification application review of the EPR™ reactor in the United Kingdom was launched in 2007 in partnership with EDF and is ongoing.

The R&D teams also actively support the OL3 project in Finland and the FA3 project at the Flamanville site in France, most notably for experimental validation of certain components.

### > THE ATMEA1 REACTOR

Within the framework of ATMEA, a joint company established in 2007 by AREVA and Mitsubishi Heavy Industries (MHI), AREVA is developing ATMEA1, a 1,100+ MWe pressurized water reactor in which the know-how of both partner companies is pooled. ATMEA1 is designed for medium capacity power grids.

### > KERENA™

AREVA is developing a boiling water reactor with around 1,250+ MWe of power: the KERENA™ reactor. The basic design, carried out with support from E.ON, is nearing completion. At the same time, AREVA is conducting the Inka experimental program to support qualification of safety codes, verification of safety systems design, and simulation of accidental transients.

The KERENA™ reactor is designed to meet the needs of utilities seeking mid-range BWRs. It was designed to be economically competitive and to take advantage of optimized passive and active safety and operating systems.

## Planning for next-generation reactors and related fuel cycle plants

This involves long-term research – the key to maintaining technological leadership – that looks at the total reactor/fuel cycle system to optimize sustainable development criteria, *i.e.* an economic system that conserves natural resources and minimizes environmental impacts while addressing societal issues.

A discussion of some of the key areas for research follows.

### > RELAUNCHING DEVELOPMENT OF SODIUM-COOLED FAST NEUTRON REACTORS

In connection with the international Generation IV reactor initiative, and with sustainable development objectives in mind, AREVA initiated an innovation phase in 2006 designed to overcome the technological hurdles concerning sodium-cooled fast neutron reactors. The innovation phase is being carried out as part of a cooperative program with the CEA and EDF and will focus initially on core safety issues and in-service inspection and repairs.

### > SOLUTIONS FOR THE FUTURE OF NAVAL PROPULSION

AREVA launched two initiatives in 2008, one to increase reactor compactness and performance by developing a new type of steam generator, the other focusing on design concepts for an onboard nuclear steam supply system for merchant ships.

### > DESIGNING NEW GENERATIONS OF FUEL CYCLE PLANTS

In this field, AREVA worked with the CEA to develop the COEX process for co-extracting uranium and plutonium. The individual steps in the process have been mastered.

Development of a new generation of treatment and recycling plant continues. AREVA will participate in the research component of the Law of June 28, 2006 on radioactive waste management, as it did with the previous law. In this area, the main goals for future programs will be to:

- reduce waste package volumes;
- define packaging solutions for waste from legacy nuclear facilities under the best possible safety conditions; and
- help Andra update waste package assessment documents for waste disposal facility design.

## Emerging technologies

Héliion continued its research into proton exchange membrane fuel cells (PEM) in pursuit of the AREVA group's CO<sub>2</sub>-free energy strategy.

A demonstrator for a standardized commercial emergency power unit is being tested at a Héliion facility. Along with the CEA's first operational emergency power unit, which has fulfilled all expectations since 2006, the new demonstrator is paving the way to marketing development of the units.

The Bahia module, a 1 kWe fuel cell test bench for training purposes, is now on the market.

The focus in these technological developments is to reduce the cost of the systems over the short term to make them competitive.

A medium-term R&D plan for wind energy is being defined as part of the development of AREVA subsidiary Multibrid, a designer and manufacturer of offshore wind turbines.

Studies on marine energy have confirmed that these resources, which are still being assessed and researched, have significant potential but are not likely to be deployed before 2020.

The group's commitment to applying skills from other sectors to innovation led to the recruitment of a number of top experts from the aerospace, nanotechnology and applied mathematics fields in late 2008.

For the past two years, AREVA has been studying the use of nuclear energy in applications other than power generation. This study indicates that large-scale hydrogen production by electrolysis is a promising lead. A research and development program on high-temperature electrolysis called Elhypse is under way.

An analysis of the potential uses for large-scale hydrogen production and the technical solutions required led AREVA to the following conclusions:

- oil industry processes are heavy consumers of hydrogen and large CO<sub>2</sub> emitters;
- considerable progress could be made by combining the use of nuclear power, hydrogen and oil industry processes; and
- such combinations would be possible on an industrial scale by 2020.

More generally, the study showed that whether or not the number of automobiles increases, evolving energy supply for transportation and the determination to reduce environmental impacts are two considerations that will lead us to use a combination of onboard hydrogen generators, electric vehicles, a dramatically reduced

environmental footprint for fossil fuels, and synthetic fuels. All of these solutions will eventually require large-scale use of nuclear power, and what AREVA is currently exploring is in effect a massive decarbonizing of transportation via the nuclear industry.

## Transmission & Distribution

With the short cycles typical of this sector compared with the nuclear business, research is crucial to the Transmission & Distribution division's competitive position. The main areas for research are discussed below.

### Direct current power electronics

This is certainly the most promising technology for the future of the Transmission & Distribution division. The technology is evolving rapidly in terms of technical performance and economics.

Optimizing existing power supply systems by increasing their capacity and improving power allocation potential are two new applications for FACTS (Flexible Alternating Current Transmission Systems) in many existing configurations, particularly with the growing interest in extending direct current technologies in countries experiencing strong growth.

### Ultra high voltage

As the world's urban and industrial centers develop, the need to transmit large amounts of power over long distances is rising. One solution is to increase the transmission voltage. Transmission at ultra high voltage of 1,100 kV is a tremendous technological challenge, however.

The T&D division is one of the world's leading manufacturers in the field of very high voltage direct current transmission, with 45 years of experience in this business. The division's current offering covers the main types of very high voltage direct current power lines, i.e.:

- overhead transmission lines for up to 500 kV;
- submarine transmission cables for up to 300 kV; and
- back-to-back for up to 250 kV.

However, the world market for power transmission is evolving from 500 kV today to 800 kV in the near future. The T&D division is developing technology to meet the new demand.

These components will be combined to build an 800-kV direct current converter station enabling customers to dispatch electricity over long distances economically and very efficiently.

### Integrating distributed energy sources

For more than a century, electric grids were based on centralized power generation, with the size of the production facilities increasing as the grids expanded. In the past ten years, the development of local energy sources such as wind power or biomass was strongly encouraged to respond to the challenges of climate change and the need for greater energy diversity. However, the proliferation of these distributed energy resources (DER) can be a real challenge to the operator of distribution systems.

#### “Smarter grids”

Power system operators have several challenges before them:

- improving grid reliability and stability as major grids are interconnected;

- addressing environmental issues, particularly CO<sub>2</sub> emissions reduction and the deployment of renewable energies;
- improving grid energy efficiency as resources become scarcer and costlier; and
- the possibility for operators to manage deregulated energy markets and for end-users to manage their consumption more proactively.

This is where the concept of “Smarter Grids” comes in.

Through a far-reaching innovation program, the T&D division anticipated these needs and is now able to offer some initial solutions. Furthermore, it plans to double its investments by 2012 to become the technology leader in Smarter Grids.

## 11.2. Intellectual property and brands

Intellectual property, licenses, patents, trademarks and technical expertise in general play an important part in the group's daily operations and thus in the production and protection of AREVA products, services and technology. Protecting the group's knowledge and unique know-how requires a comprehensive system

for developing and managing AREVA's intellectual assets. This is also the key to negotiating successful technology transfer and process license agreements, now standard practice for large-scale international projects.

### Patents and know-how

Several years ago, the AREVA group set the goal of building a portfolio of patent rights consistent with its strategies and right-sized in terms of both quality and quantity, in keeping with the group's research and development efforts.

Today, the AREVA group has a portfolio of some 8,000 patents derived from more than 1,900 inventions pertaining to the nuclear fuel cycle, nuclear reactors, electricity transmission and distribution, renewable energies and related services. In 2008, the AREVA group registered 149 new patents, a 24% increase from the previous year.

Consistent with the main strategic directions set for the group's R&D effort, patent portfolios were initiated, developed or

strengthened in several areas: cold crucible and COEX technology in the Back End division; designs for new generations of PWR and BWR fuel assemblies, advanced design tools and related services in the Front End division; and ultra high voltage direct current technology in the T&D division. These efforts will continue in the years to come.

In addition to the patent portfolios, the AREVA group has elected to maintain the confidentiality of some of its technology innovations. Accordingly, the group owns and uses valuable know-how recognized for its technical excellence that contribute to AREVA's leadership in its businesses and bolster the group's technical and commercial offering.

## Legal activities related to intellectual property

In 2008, the AREVA group concluded several R&D and partnership agreements on international markets for which balanced and profitable intellectual property strategies were devised in the interests of the group as well as its partners.

The AREVA group endeavors to protect its intellectual property rights in all agreements with third parties, particularly license agreements and technology transfer contracts, to optimize the management of its intellectual property and prevent unauthorized use.

### Brands

The AREVA group owns several brands. The best known are the AREVA brand name, the figurative “A” mark and the semi-figurative “A AREVA” mark.

The AREVA brand’s visual identity comprises two components: the logo “A” combined with the name “AREVA”. These brands designate all group operations and for several years have been international brands protected in all countries in which AREVA operates.

New brands were registered in 2008 for the AREVA group’s “Renewable Energies” operations and to protect the AREVA brand in Chinese characters.

The communication program undertaken to support and accompany the group’s development is based on deployment of the AREVA

brand name and its logo. Actions taken in this regard – advertising, websites, brochures, press relations – help strengthen the group’s brand awareness in France and abroad and position AREVA as a leading brand in the energy sector.

In 2008, the AREVA group adopted a new brand signature: “A AREVA L’ENERGIE AU SENS PROPRE” in French and “A AREVA PURE ENERGY” in English. New brands were consequently registered worldwide to protect these two signatures in most of the countries in which the group operates. In France, the AREVA group had to discontinue the use of its brand signature at the end of 2008 pursuant to a claim filed by the Greens with the Jury for Ethics in Advertising, a body associated with the French advertising self-regulatory organization ARPP.

### In 2009

The AREVA group intends to continue, strengthen and organize its intellectual property initiative to support the growth of its R&D effort and the development of new partnerships, in keeping with the group’s industrial and marketing strategies, and with the goal of making intellectual property a fundamental tool of the group’s strategy.

The AREVA group has set the following goals in this regard:

- to implement balanced and profitable intellectual property strategies in its partnerships, in the interests of the group as well as its partners;

- to pursue and expand its policy to strengthen intellectual property awareness in the AREVA group;
- to pursue and strengthen its policy to identify, claim, collect, protect, maintain, renew and defend this intangible capital, which provides decisive competitive advantages for growth; and
- to intensify its efforts to establish best practices in intellectual property and ensure their implementation throughout the group, both for registration of the rights and their valuation and protection, and for appropriate contracting methods.



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## 12.1. Current situation

See section 6.1. “The Nuclear and Transmission & Distribution markets” which deals with the current economic situation and the way it affects our activities.

## 12.2. Financial outlook

As indicated in the general comments at the beginning of this Reference Document, this section contains information on the objectives, outlook and development directions of the AREVA group and its markets. This information should not be interpreted as a guarantee that events and data set forth herein are assured or that objectives will be met. Neither AREVA nor the AREVA group is committing to updating forward-looking statements or information contained in this section. In addition, the unexpected occurrence of some of the risks described in chapter 4, “Risk factors”, is likely to have consequences on the group’s ability to achieve its objectives.

The AREVA group sees solid financial prospects for the coming years. Its nuclear operations constitute a basis for recurring operating cash flow. However, the amounts reported through 2005 are high due to moderate capital expenditure and to the receipt of large customer advances and prepayments in the Back End division and in the Reactors and Services division.

The year 2006 saw the transition to consumption of cash reserves through the working capital requirement and, more importantly, the start of a major capital expenditure cycle, particularly in the Front End division. This trend continued in 2007, in particular with the acquisition of UraMin Inc., and in 2008, when operating Capex continued to grow while acquisitions slowed.

The Nuclear divisions may well benefit, ultimately, from a nuclear revival. This should be put into a medium- to long-term perspective, considering the long cycles that apply in nuclear operations.

In the Transmission & Distribution division, a series of optimization plans helped the division improve its operating margin significantly. In 2008, the division once again saw strong growth and increased profitability.

Over the medium term, the group plans to pursue a strategy of profitable growth aimed at making the Transmission & Distribution division one of the sector’s most profitable players and the leading supplier to utilities and electricity intensive industries.

With backlog at the record level of 48 billion euros as of December 31, 2008, having more than doubled since 2004, AREVA has a strong financial outlook.

For 2009, AREVA expects again a backlog growth, revenue growth, and rising operating income.

Furthermore, the group initiated a far-reaching, 2.7-billion euro investment program approved by the French government. It will be funded, among other things, by the disposal of non-strategic assets and a minority share float of certain assets.

The group has initiated a 600-million euro cost reduction program targeting purchasing and overhead expenses, bolstered by the simplification of the group's organizational structure associated with Siemens' withdrawal from AREVA NP.

A 300-million euro working capital requirement reduction program is also being implemented.

Not applicable.

## Administrative, management and supervisory bodies and senior management

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### 14.1. Composition of the Executive Board

The Executive Board consists of at least two members and at most five members named by the Supervisory Board, which appoints the Chairman of the Executive Board from among its members. When AREVA shares are publicly traded in a regulated market, the Executive Board may be increased to seven members.

The members of the Executive Board must be natural persons. They need not be shareholders and may be AREVA employees. Any Supervisory Board member designated as an Executive Board member shall cease to be a member of the Supervisory Board upon assuming his or her new position.

The Executive Board is appointed for a term of five years expiring at the first meeting of the Supervisory Board held after the fifth anniversary of that appointment. The Supervisory Board may appoint a new member to the Executive Board during its term.

The decision to increase the number of Executive Board members above the number set at its appointment is subject to the approval of the Executive Board chairman.

Executive Board member terms are renewable.

As of December 31, 2008, the members of the Executive Board were as follows:

#### Anne Lauvergeon (age 49)

Chief Executive Officer of AREVA since the Supervisory Board appointed her on July 3, 2001. Mrs. Lauvergeon's term was renewed at the Supervisory Board meeting held on June 29, 2006 and will expire at the first meeting of the Supervisory Board held after June 29, 2011.

Mrs. Lauvergeon holds the rank of *Ingénieur en chef* in the Corps des Mines, is a graduate of École Normale Supérieure and holds a doctorate in Physical Sciences.

She held several positions before joining AREVA. In 1984, she was in charge of studying chemical safety issues in Europe for the French Atomic Energy Commission (CEA). In 1985, she managed underground resources in the Ile-de-France region. In 1988, she also became deputy to the Department Head of the Conseil Général des Mines. In 1990, Mrs. Lauvergeon became a special assistant on international economics and trade to the President of the French Republic, for whom she also served as Deputy Secretary General responsible for the organization of the G7 summits in 1991. In 1995, Mrs. Lauvergeon became a General Partner at Lazard Frères & Cie, and in 1997 she was Executive Vice President of Alcatel Télécom.

#### > OTHER OFFICES HELD:

- CEO of AREVA NC;
- Director of AREVA Enterprises, Inc.;
- Director of AREVA T&D Holding;
- Vice Chairman of the Supervisory Board of Safran until February 2009;
- Director of GDF-SUEZ, Total and Vodafone Group Plc.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS:

- Permanent representative of AREVA to the Board of Directors of FCI (until November 2005).

#### Gérald Arbola (age 60)

Member of the AREVA Executive Board since the Supervisory Board appointed him on July 3, 2001. Mr. Arbola's term was renewed at the Supervisory Board meeting held on June 29, 2006 and will expire at the first meeting of the Supervisory Board held after June 29, 2011. Mr. Arbola has been Chief Operating Officer since the Board appointed him on June 29, 2006.

Mr. Arbola is a graduate of the Institut d'Études Politiques of Paris. He also holds an advanced degree in economics.

Mr. Arbola held several positions in the Cogema group (now AREVA NC) before joining AREVA in 2001 as Chief Financial Officer and member of the Executive Board.

He joined the Cogema group in 1982 as Director of Planning and Strategy for SGN, where he also served as Chief Financial Officer from 1985 to 1989 and as Executive Vice President in 1988. He became Chief Financial Officer of Cogema in 1992 and a member of its Executive Committee in 1999, while also serving as Chairman of SGN in 1997 and 1998.

#### > OTHER OFFICES HELD:

- CEO of FT1CI;
- Director of SUEZ Environnement since July 2008;
- Vice Chairman of the Supervisory Board of STMicroelectronics NV since May 2008;
- Chairman of the AREVA Enterprise Foundation;
- Director of AREVA NC and AREVA T&D;
- Member of the Management Committee of AREVA NP.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS:

- Director of Assystem until 2003;
- Chairman and member of the Supervisory Board of STMicroelectronics Holding NV until November 2006;
- Chairman of AREVA Finance / Gestion until June 2007;
- Chairman of Cogeraip until December 2007;
- Chairman of the Supervisory Board of STMicroelectronics NV until May 2008.

### Didier Benedetti (age 56)

Member of the AREVA Executive Board since the Supervisory Board appointed him on October 15, 2002. Mr. Benedetti's term was renewed at the Supervisory Board meeting held on June 29, 2006 and will expire at the first meeting of the Supervisory Board held after June 29, 2011.

Mr. Benedetti holds an engineering degree from the École Supérieure d'Informatique, d'Electronique et d'Automatique (ESIEA) and is a graduate of the Institut d'Administration des Entreprises (IAE) of Paris.

Mr. Benedetti held several positions with Schlumberger, Thomson and Fiat before joining AREVA. In particular, he served as Executive Vice President of Thomson Brandt Armement, Vice Chairman of Thomson Consumer Electronic, and President of all Magneti Marelli passenger compartment divisions (Fiat group).

#### > OTHER OFFICES HELD:

- Chief Operating Officer and director of AREVA NC;
- Director of AREVA NC Inc. and member of the Supervisory Board of Eurodif SA;
- Director of Compagnie Nucléaire de Services (CNS);
- Director of Canberra Industries Inc.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS:

- Member of the Strategy Committee of Société d'Enrichissement du Tricastin SAS (SET) until March 2008;
- Director of Multiservices et Enseignements Pratiques;
- Chairman of AREVA EC (SAS) until May 2007.

### Luc Oursel (age 49)

Member of the AREVA Executive Board since the Supervisory Board appointed him on March 22, 2007. Mr. Oursel's term will expire at the first meeting of the Supervisory Board held after June 29, 2011.

Mr. Oursel is a graduate of the École nationale supérieure des Mines of Paris and holds the rank of *Ingénieur en chef* in the Corps des Mines.

Before joining AREVA, Mr. Oursel was a senior civil servant with the Ministry of Industry and then with the cabinet of the Minister of Defense, where he served as technical advisor in charge of industrial affairs, armament programs and research until 1993. Beginning in 1993, he held various positions with the Schneider, Sidel and Geodis groups. In particular, he was President of Schneider Shanghai Industrial Control, CEO of Schneider Electric Italia, Executive Vice President of Sidel and President of Geodis.

#### > OTHER OFFICES HELD:

- Chief Executive Officer of AREVA NP SAS;
- Member of the Supervisory Committee of Souriau Technologies Holding SAS.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS:

- None.

The members of AREVA's Executive Board may be contacted at the company's corporate office at 33, rue La Fayette, 75009 Paris, France.

## 14.2. Composition of the Supervisory Board

The members of the Supervisory Board are appointed by the shareholders and by holders of voting right certificates, except for employee-elected members of the Board and representatives of the French State.

The Supervisory Board consists of at least 10 and no more than 18 members, including 3 members elected by company personnel, as described below, and, when applicable, representatives of the French State appointed pursuant to article 51 of Law no. 96-314 of April 12, 1996. The 3 members representing company personnel are elected by an electoral college consisting of engineers and managers (1 member) and by an electoral college consisting of the other employees (2 members).

The members of the Supervisory Board serve for a term of five years. The duties of a member of the Supervisory Board not elected by company personnel expire at the end of the Annual General Meeting of Shareholders held during the year of expiration of his or her term, convened to approve the financial statements of the previous year.

The General Meeting of Shareholders may dismiss members of the Supervisory Board, other than members representing the French State and members elected by company personnel. The duties of a member elected by company personnel expire upon announcement of the results of elections, which AREVA must organize according to the by-laws, or upon the end of said member's employment contract or his or her dismissal, as provided by laws or regulations in effect at the time of the dismissal.

Only natural persons may be elected by company employees to serve as members of the Supervisory Board. Members of the Supervisory Board not elected by company employees may be natural persons or corporate entities.

Except as provided by law, each member of the Supervisory Board must own at least one share of the company.

The Supervisory Board elects a Chairman and a Vice Chairman from among its members who are in charge of convening the Board and conducting meetings, with the Vice Chairman fulfilling these functions in the event of the Chairman's absence or inability to do so. The Chairman and Vice Chairman are natural persons.

As of December 31, 2008, following the appointment of Mr. François David by the shareholders in April 2008, the Supervisory Board consists of 15 members, 4 of whom – Mr. Frédéric Lemoine, Mrs. Guylaine Saucier, Mr. François David and Mr. Oscar Fanjul – are considered independent by the Supervisory Board.

### Members appointed by the shareholders

#### Frédéric Lemoine (age 43)

Mr. Frédéric Lemoine was appointed to the Supervisory Board in its meeting of March 8, 2005 to replace Mr. Philippe Pontet, who had resigned. The Annual General Meeting of Shareholders confirmed his appointment on May 12, 2005. The Supervisory Board elected him Chairman of the Supervisory Board on March 8, 2005. His term having expired after the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2005, the Annual General Meeting of Shareholders on May 2, 2006 renewed him in his functions as member of the Supervisory Board; the Supervisory Board convened on that same day reappointed him Chairman of the Supervisory Board. Mr. Lemoine's term, which in principle should have expired at the Annual General Meeting of Shareholders convened in 2011 to approve the financial statements for the year ending December 31, 2010, ended following his resignation, effective April 10, 2009. As of that date, Mr. Bigot, Chairman of the CEA, elected Vice Chairman by the Supervisory Board on February 5, 2009, will temporarily assume the duties of Chairman of the Supervisory Board.

Frédéric Lemoine is *Inspecteur des finances* and a graduate of École des Hautes Études Commerciales and of the Institut d'Études Politiques de Paris. He is an alumnus of the École Nationale d'Administration.

During his professional career, Mr. Lemoine was also Deputy Secretary General to the President of the French Republic from 2002 to 2004 and Executive Vice President in charge of Finance at the Capgemini group until 2002.

#### > OTHER OFFICES HELD:

- Administrator of LCE Sarl;
- Director and Chairman of the Audit and Accounting Committee of Groupama SA;
- Director and Chairman of the Audit Committee of Flamel Technologies;
- Member of the Supervisory Board of Générale de Santé until June 27, 2007, and subsequently Censor; and
- Member of the Supervisory Board of Wendel.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS:

- None.

#### Alain Bugat (age 60)

Mr. Bugat was appointed to the Supervisory Board on January 23, 2003. The Annual General Meeting of Shareholders confirmed his appointment on May 12, 2003. The Supervisory Board elected

him Vice Chairman of the Supervisory Board on June 12, 2003. His term, which in principle should have expired at the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2005, the Annual General Meeting of Shareholders on May 2, 2006 renewed his term as member of the Supervisory Board; the Supervisory Board convened on that same day renewed him in his functions as Vice Chairman of the Supervisory Board. His term, which in principle should have expired at the Annual General Meeting of Shareholders convened in 2011 to approve the financial statements for the year ending December 31, 2010, ended following his resignation, effective January 8, 2009. Mr. Bugat is replaced in his duties as member and Vice Chairman of the Supervisory Board by Mr. Bigot, Chairman of the CEA, whose appointment was decided by the Supervisory Board on February 5, 2009 and shall be ratified by the Annual General Meeting of Shareholders to be convened April 30, 2009. In addition, as of April 10, 2009, the effective date of Mr. Lemoine's resignation, Mr. Bigot shall temporarily assume the Chairmanship of the Supervisory Board.

Mr. Bugat is a graduate of École Polytechnique and of École Nationale des Techniques Avancées and holds the rank of *Ingénieur général de l'Armement*.

#### > OTHER OFFICES HELD:

- Chairman of the CEA (until January 8, 2009);
- Representative of the French State to the Board of Directors of AREVA NC;
- Vice Chairman of the Board of Agence Nationale de la Recherche Technologique (ANRT) Association; and
- Member of the General Armament Board (Conseil Général de l'Armement) in the capacity of military engineer.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS:

- Chairman of the Supervisory Board of MVI Technologies until 2003;
- Director of EDF until 2004;
- Director of DCN SA until 2007;
- Member of the Supervisory Board of CDC Entreprises until 2007;
- Director of Cybernetix until October 2008.

#### François David (age 67)

Mr. François David was appointed to the Supervisory Board by the General Meeting of Shareholders on April 17, 2008. His term will expire at the end of the General Meeting of Shareholders convened in 2013 to approve the financial statements for the year ending December 31, 2012.

Mr. François David is a graduate of Institut d'Études Politiques of Paris and École Nationale d'Administration. His duties as Chairman of Coface were renewed in 2007.

#### > OTHER OFFICES HELD:

- Member of the Supervisory Board of Lagardère SCA;
- Director of Vinci and Rexel.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS:

- Director of EADS until April 2007.

#### Thierry Desmarest (age 63)

Mr. Desmarest was appointed member of the Supervisory Board by the Annual General Meeting of Shareholders on June 18, 2001. His term expired at the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2005 and was renewed by the Annual General Meeting of Shareholders on May 2, 2006. Mr. Desmarest's term will expire at the Annual General Meeting of Shareholders convened in 2011 to approve the financial statements for the year ending December 31, 2010.

Thierry Desmarest is a graduate of École Polytechnique and holds the rank of *Ingénieur en chef* in the Corps des Mines. He became Chairman of the Board of Total SA on February 14, 2007, after serving as CEO of that company for 10 years.

#### > OTHER OFFICES HELD:

- Director of Renault SA and Renault SAS (since April 2008), of Air Liquide, and of Sanofi-Aventis.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS:

- CEO of Total SA until February 2007; and
- CEO of Elf Aquitaine until May 2007.

#### Oscar Fanjul (age 59)

Mr. Fanjul was appointed member of the Supervisory Board by the Annual General Meeting of Shareholders on May 2, 2006. His term will expire at the Annual General Meeting of Shareholders convened in 2011 to approve the financial statements for the year ending December 31, 2010.

Oscar Fanjul holds a PhD in economics. He is Vice Chairman and President of Omega Capital.

#### > OTHER OFFICES HELD:

- Member of the Boards of Directors of the London Stock Exchange, Marsh & McLennan Companies, Lafarge, Acerinox and Cibeles. Trustee of the International Accounting Standards Committee Foundation (IASC). International Adviser of Goldman Sachs.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS:

- Director of Inmobiliaria Colonial until December 2007;
- Director of Unilever Plc until May 2006; and
- Director of Técnicas Reunidas until June 2005.



**Philippe Pradel (age 52)**

Mr. Pradel was appointed member of the Supervisory Board by the Annual General Meeting of Shareholders on May 2, 2006. Mr. Pradel's term will expire at the Annual General Meeting of Shareholders convened in 2011 to approve the financial statements for the year ending December 31, 2010.

Mr. Pradel is a graduate of École Polytechnique and École Nationale Supérieure des Techniques Avancées (ENSTA). He is Director of Nuclear Energy at the CEA.

**> OTHER OFFICES HELD:**

- Permanent representative of the CEA to the Board of Directors of AREVA TA;
- Representative of France to the Joint Research Center;
- Director of Andra;
- Representative of the CEA to GENCI (Grand Équipement National de Calcul Intensif);
- Chairman of the technology platform for sustainable nuclear energy.

**> OTHER OFFICES HELD DURING THE PAST FIVE YEARS:**

- Director of AREVA NC Inc. until February 2005;
- Director of Comurhex until February 2005;
- Director of MELOX SA until 2003, then permanent representative of AREVA NC to the Board of Directors of MELOX SA until February 2005;
- Permanent representative of AREVA NC to the Board of Directors of Socodei until February 2005;
- Director of EMA until February 2005;
- Director of AREVA NC Deutschland until February 2005;
- Director of SGN until February 2005;
- Permanent representative of AREVA NC to the Board of Directors of TN International until February 2005;
- Chairman of the Management Board and Director of Commox GIE until February 2005.

**Guyllaine Saucier (age 62)**

Mrs. Saucier was appointed member of the Supervisory Board by the Annual General Meeting of Shareholders on May 2, 2006. Mrs. Saucier's term will expire at the Annual General Meeting of Shareholders convened in 2011 to approve the financial statements for the year ending December 31, 2010.

Mrs. Saucier is a Chartered Accountant and a graduate of HEC Montreal.

**> OTHER OFFICES HELD:**

- Director of the Danone group (since December 2008), of Axa Canada, of Petro-Canada and of the Bank of Montreal.

**> OTHER OFFICES HELD DURING THE PAST FIVE YEARS:**

- Director of Nortel Networks until 2005;
- Director of Tembec Inc. until 2005;
- Director of Altran Technologies until February 2007;
- Director of CHC Helicopter Corp until 2008.

**Commissariat à l'Énergie Atomique (CEA), represented by Olivier Pagezy**

The CEA became a member of the Supervisory Board on September 3, 2001. The CEA's term expired at the end of the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2005 and was renewed by the Annual General Meeting of Shareholders held on May 2, 2006. The CEA's term will expire at the Annual General Meeting of Shareholders convened in 2011 to approve the financial statements for the year ending December 31, 2010.

The CEA is represented by Olivier Pagezy (age 40). Mr. Pagezy is a graduate of Institut d'Études Politiques of Paris and of École Nationale d'Administration. He is CFO of the CEA and *Inspecteur des finances*. Mr. Pagezy resigned from his position as permanent representative of the CEA to the AREVA Supervisory Board on March 1, 2009.

**> OTHER OFFICES HELD:**

- Director of CEA Valorisation SA and of Co-Courtage Nucléaire SA;
- Permanent representative of the CEA to FT1CI (beginning March 2008) and to GIP-DFT.

**> OTHER CEA OFFICES HELD:**

- Director of CEA Valorisation SA, AREVA TA, Route des Lasers (SEML) and Minatec (SEML).

**> OTHER OFFICES HELD DURING THE PAST FIVE YEARS:**

- Director of Sofratome until 2003.

**Members representing the French State, appointed by ministerial order****Luc Rousseau (age 51)**

Mr. Rousseau was appointed representative of the French State to the Supervisory Board by ministerial order of March 11, 2005 published in the *Journal Officiel* on March 25, 2005. He replaces Mr. Jean-Pierre Falque-Pierrotin. His term expired after the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2005, and his duties were renewed by ministerial order of April 26, 2006, published in the *Journal Officiel* on May 11, 2006. His term will expire at the end of the Annual General Meeting of Shareholders convened to approve the financial statements for the year ending December 31, 2010.

Mr. Rousseau is a graduate of École Polytechnique and holds the rank of *Ingénieur* in the Corps des Mines.

He is Director General of Competitiveness, Industry and Services at the Ministry of the Economy, Industry and Employment.

#### > OTHER OFFICES HELD:

- Member of the French Atomic Energy Board;
- Government Commissioner to La Poste and Oseo Innovation;
- Director of the French National Research Agency (Agence nationale de la recherche, ANR), of the Strategic Investment Fund, of the City of Science and Industry, and of the Invest in France Agency (AFII).

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS:

- Government Commissioner to the Supervisory Board of the Industrial Innovation Agency (AII) until December 2007.

#### Pierre-Franck Chevet (age 47)

Mr. Chevet was appointed representative of the French State to the Supervisory Board by ministerial order of March 1, 2007, published in the *Journal Officiel* on March 3, 2007. He replaces Dominique Maillard. His term will expire at the end of the Annual General Meeting of Shareholders convened to approve the financial statements for the year ending December 31, 2010.

Pierre-Franck Chevet is a graduate of École Polytechnique and of the Paris Graduate School of Economics, Statistics and Finance (ENSAE), and holds the rank of *Ingénieur général* in the Corps des Mines. He is Director General of Energy and the Climate at the Ministry of the Environment, Energy, Sustainable Development and Regional Development.

#### > OTHER OFFICES HELD:

- Director representing the French State to the Boards of Directors of GDF-SUEZ (since 2008), La Poste, and the Institut Français du Pétrole;
- Government Commissioner to the Energy Regulation Commission;
- Government Commissioner to AREVA NC;
- Government Commissioner to Andra;
- Director of the French Environment and Energy Management Agency (ADEME);
- Member of the Steering Committee of the International Energy Agency (IEA) and the French Atomic Energy Board.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS:

- None.

#### Gérard Errera (age 65)

Mr. Errera was appointed representative of the French State to the Supervisory Board by ministerial order of December 18, 2007, published in the *Journal Officiel* on December 20, 2007. He replaces Philippe Faure. His term, which was to have expired at the Annual General Meeting of Shareholders convened to approve the financial statements for the year ending December 31, 2010, ended effective April 1, 2009, the date Mr. Errera chose to take retirement.

Gérard Errera is a graduate of Institut d'Études Politiques of Paris and an alumnus of École Nationale d'Administration. He held various positions at the French Ministry of Foreign Affairs, including Director General of political affairs and foreign affairs security, Plenipotentiary Minister, and Ambassador of France in London. He is the Secretary General of the French Ministry of Foreign and European Affairs.

#### > OTHER OFFICES HELD:

- Director of EDF, École Nationale d'Administration (ENA), the Commission of Verification of Registered Works of Art, Cultures France, National Agency of Secure Shares (Agence Nationale des Titres Sécurisés), Institution of Planning and Response to Health Emergencies (Établissement de Préparation et de Réponse aux Urgences Sanitaires), Audiovisual Outside France;
- Member of the French Atomic Energy Board;
- Member of the Board of the Arab World Institute (IMA).

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS:

- None.

#### Bruno Bézard (age 45)

Mr. Bézard was appointed representative of the French State to the Supervisory Board by ministerial order of July 22, 2002, published in the *Journal Officiel* on July 26, 2002. He replaced Nicolas Jachiet. His term expired after the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2005, and his duties were renewed by ministerial order of April 26, 2006, published in the *Journal Officiel* on May 11, 2006. His term will expire at the end of the Annual General Meeting of Shareholders convened to approve the financial statements for the year ending December 31, 2010.

Bruno Bézard is *Inspecteur général des finances*, a graduate of École Polytechnique and an alumnus of École Nationale d'Administration. He is Director General of the agency in charge of the French government's shareholdings (Agence des Participations de l'État) at the Department of the Treasury and Economic Policy, Ministry of the Economy, Industry and Employment, following his appointment by ministerial order of February 26, 2007, published in the *Journal Officiel* on February 27, 2007.

**> OTHER OFFICES HELD:**

- Director of EDF, France Télécom, La Poste, Air France-KLM, Thalès, the Marseilles Seaport, Dexia and the Strategic Investment Fund.

**> OTHER OFFICES HELD DURING THE PAST FIVE YEARS:**

- Director of Renault until 2003;
- Director of SNCF and of France Télévisions until April 2007.

**Members elected by and representing the employees****Jean-Claude Bertrand (age 57)**

Mr. Bertrand was elected by the employee electoral college on May 28, 2002 in elections validated by the Work Council (*comité d'entreprise*) on July 12, 2002. He took office at the Supervisory Board meeting held on July 25, 2002. His term was renewed following elections held on May 24, 2007 and will expire following elections to be held in 2012.

Mr. Bertrand is a program manager with the management team of the Tricastin site.

**> OTHER OFFICES HELD:**

Director of Alexis Junior High School in Montélimar.

**> OTHER OFFICES HELD DURING THE PAST FIVE YEARS:**

- None.

**Gérard Melet (age 51)**

Mr. Melet was elected by the employee electoral college on May 28, 2002 in elections validated by the Work Council (*comité d'entreprise*) on July 12, 2002. He took office at the Supervisory Board meeting held on July 25, 2002. His term was renewed following elections held on May 24, 2007 and will expire following elections to be held in 2012.

Mr. Melet is Chief Buyer at the Procurement Department of AREVA NC / La Hague.

**> OTHER OFFICES HELD:**

- None.

**> OTHER OFFICES HELD DURING THE PAST FIVE YEARS:**

- None.

**Alain Vivier-Merle (age 60)**

Mr. Vivier-Merle was elected by the electoral college consisting of engineers and managers on June 20, 2002 in elections validated by the Work Council (*comité d'entreprise*) on July 12, 2002. He took office at the Supervisory Board Meeting held on July 25,

2002. His term was renewed following elections held on June 19, 2007 and will expire following elections to be held in 2012.

Mr. Vivier-Merle is a manager of strategy and marketing programs for AREVA NP in Lyon.

**> OTHER OFFICES HELD:**

- Chairman of the Supervisory Board of the Framépargne employee savings plan;
- Member of the Supervisory Board of the Framépargne balanced mutual fund.

**> OTHER OFFICES HELD DURING THE PAST FIVE YEARS:**

- Chairman of the Supervisory Board of Sogepan A until 2004;
- Member of the Supervisory Board of the AREVA employee savings plan's money market fund until 2004.

In addition, Mr. Marcel Otterbein replaced Mr. Patrick Germain as representative of the AREVA Work Council on February 21, 2007. He participated in the meetings of the Supervisory Board in 2008 in an advisory capacity.

**Comptroller General**

**Mrs. Anne-Dominique Fauvet**, who was appointed head of the general economic and financial control mission of the CEA by order of the Ministry of the Economy, Finance and Industry on February 15, 2006 with responsibility for general control of AREVA, ceased exercising those duties on July 3, 2008.

**Mr. Bruno Rossi** was appointed acting manager of the Atomic Energy control mission of the general economic and financial control department by the June 24, 2008 decision of the Ministry of the Economy, Industry and Employment. Mr. Rossi is represented by **Mr. Toni Cavatorta**, who reports to him on his control of AREVA SA and attends meetings of the Supervisory Board and of its specialized committees.

**Censors**

AREVA's by-laws authorize the Supervisory Board to appoint one or several censors, whose mission is to assist the Supervisory Board in its oversight functions. They attend the meetings without the right to vote.

No censor had been designated as of the filing of this reference document.

**Secretary of the Board**

Mr. Bernard de Gouttes, Senior Vice President of Compliance of the AREVA group, is the Secretary of the Supervisory Board.

The members of AREVA's Supervisory Board may be contacted at the company's corporate office at 33, rue La Fayette, 75009 Paris, France.

### 14.3. Legal information, conflicts of interest and service contracts

As of the date of this reference document and to the best of AREVA's knowledge:

- the members of the Supervisory Board and the members of the Executive Board are not subject to potential conflicts of interest between their duties as members and their private interests;
- there are no family relationships between members of the Supervisory Board and members of the Executive Board of AREVA ;
- no member of the Supervisory Board or the Executive Board has been convicted for fraud over the past five years. None of these members participated in any bankruptcy, receivership or liquidation proceeding in an executive capacity during the past five years, and none was indicted and/or officially sanctioned

by a statutory or regulatory authority, including professional organizations officially appointed. Over the past five years, no court has barred any of these members from becoming a member of an administrative, executive or supervisory body of a securities issuer, nor from participating in the management or business operations of an issuer ;

- no member of the Executive Board or the Supervisory Board has been retained as a corporate officer or board member of a major shareholder, customer or supplier pursuant to an arrangement or an agreement ;
- no service agreement contemplating any benefit has been concluded between AREVA or any of its subsidiaries and any member of the Supervisory Board or the Executive Board.

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## 15.1. Directors and officers compensation

The Supervisory Board sets compensation for the Chief Executive Officer and members of the Executive Board and for the Chairman, Vice Chairman and members of the Supervisory Board of AREVA, based on a recommendation from the Compensation and Nominating Committee. Compensation is, moreover, subject to approval by the ministers involved, in accordance with ministerial order no. 53-707 of August 9, 1953, as amended.

On a recommendation of the Compensation and Nominating Committee, the Supervisory Board decided on October 16, 2008 to bring commitments made by AREVA on executive severance pay into compliance with the TEPA Law. The proposed Sixth Resolution pertaining to this system (see Appendix 5, “Annual General

Meeting of Shareholders of April 30, 2009) will be submitted to a vote by the Annual General Meeting of Shareholders on April 30, 2009.

In addition, as indicated in section 16.5, “Report of the Chairman of the Supervisory Board on internal controls”, the group subscribed to the recommendations made on October 6, 2008 by the AFEP-MEDEF on the compensation of executive officers.

The tables below set forth the compensation and benefits of any kind paid to each executive officer of the group in 2006, 2007 and 2008 by AREVA, the companies it controls, or the company by which it is controlled, namely the CEA.

### 15.1.1. Compensation paid to the members of the Executive Board

(in euros)	2006				2007				2008			
	Fixed compensation	Variable compensation	In-kind benefits	Total gross compensation	Fixed compensation	Variable compensation	In-kind benefits	Total gross compensation	Fixed compensation	Variable compensation	In-kind benefits	Total gross compensation
Executive Board members <sup>(3)</sup>	(a) <sup>(4)</sup>	(b)	(c)	(d = a + b + c)	(a)	(b) <sup>(6)</sup>	(c)	(d = a + b + c)	(a)	(b)	(c)	(d = a + b + c)
Anne Lauvergeon <sup>(1)</sup>	441,985	176,865	4,332	623,182	500,264	181,453	7,032	688,749	550,008	362,800	5,808	918,616
Gérald Arbola <sup>(1)</sup>	351,835	145,360	5,136	502,331	380,364	145,759	4,248	530,371	425,004	270,558	4,272	699,834
Didier Benedetti <sup>(2)</sup>	352,623	119,317	5,016	476,956	370,268	161,740	5,016	537,024	410,004	177,231	5,016	592,251
Luc Oursel	-	-	-	-	370,268	-	2,887	373,155	410,004	130,000	4,286	544,290
Vincent Maurel <sup>(2 and 5)</sup>	317,959	102,910	4,032	424,901	-	72,352	-	72,352	-	-	-	-

(1) Appointed by the Supervisory Board on July 3, 2001. Reappointed by the Supervisory Board on June 29, 2006 for five years. Mr. Arbola's employment contract with AREVA NC is suspended during his term as an Executive Board member.

(2) Appointed by the Supervisory Board on October 15, 2002, with an effective date of February 1, 2003. Messrs. Benedetti and Maurel were reappointed by the Supervisory Board on June 29, 2006 for five years. Members of the Executive Board who have an employment contract with AREVA, which is suspended during their terms.

(3) Compensation is calculated based on the date of appointment.

(4) The fixed compensation of members of the Executive Board for 2006 includes adjustments for 2005, i.e. 794 euros for Anne Lauvergeon, 704 euros for Gérald Arbola, 760 euros for Didier Benedetti and 656 euros for Vincent Maurel.

(5) Mr. Maurel's contract with AREVA was reinstated after he resigned as a member of the Executive Board on December 28, 2006. Vincent Maurel was an advisor to the Chairman of the Executive Board from January to the end of December 2007. Under a settlement agreement dated July 2007, Mr. Maurel received a gross settlement of 209,981 euros and a net severance payment of 637,352 euros.

(6) The variable compensation of members of the Executive Board paid in 2007 for 2006 includes adjustments for 2005, i.e. 2,526 euros for Mrs. Lauvergeon, 3,147 euros for Mr. Arbola, 4,395 euros for Mr. Benedetti and 3,791 euros for Mr. Maurel.

In 2008, Mrs. Lauvergeon received total compensation of 149,124 euros for her board duties with GDF-SUEZ, Safran and Total. Mr. Arbola received total compensation of 135,552 euros for his board duties with STMicroelectronics and SUEZ Environnement.

There is no non-competition clause that applies to members of the Executive Board.

Please refer to the Special Report of the Statutory Auditors on regulated agreements and commitments appearing in Appendix 2 concerning severance pay or benefits due or likely to be due to the members of the Executive Board pursuant to a change in or termination of duties.

### 15.1.2. 2006 bonus calculation (paid in 2007)

The Compensation and Nominating Committee proposed that the 2006 variable compensation for the four members of the Executive Board should be set at a maximum of 50% of the fixed gross annual compensation, with the possibility of increasing this percentage to 60% for Anne Lauvergeon and Gérald Arbola in the event of truly outstanding performance. Seventy percent of this variable compensation is based on quantitative objectives concerning net income and budgeted operating income, excluding extraordinary items, and income from the T&D division. This calculation applies

exclusively to group performance for Anne Lauvergeon and Gerald Arbola. For Messrs. Benedetti and Maurel, it is based half on group performance and half on the performance of the entities they manage, *i.e.* AREVA NC and AREVA NP respectively.

The variable compensation of the members of the Executive Board is based on strategic and qualitative objectives for 30% of the bonus amount.

### 15.1.3. 2007 bonus calculation (paid in 2008)

The Compensation and Nominating Committee proposed that the 2007 variable compensation for the four members of the Executive Board (considering that Mr. Luc Oursel joined the Executive Board in 2007 after Mr. Vincent Maurel resigned on December 28, 2006) be set at a maximum of 80% of the fixed gross annual compensation for Anne Lauvergeon and Gerald Arbola, and 50% of the fixed gross annual compensation for Didier Benedetti and Luc Oursel. It is understood that 70% of the variable compensation is based on quantitative objectives regarding, in equal shares, net income and operating income as budgeted, excluding any extraordinary items. This calculation applies exclusively to group performance

for Anne Lauvergeon and Gérald Arbola. For the other executives, it is based half on group performance and half on the performance of the companies under their direct supervision, *i.e.* AREVA NC for Didier Benedetti and AREVA NP for Luc Oursel (therefore four equal shares for these members, each representing a maximum of 8.75% of their fixed compensation).

The variable compensation of the members of the Executive Board is based on strategic and qualitative objectives for 30% of the bonus amount.

### 15.1.4. 2008 bonus calculation (paid in 2009)

The Compensation and Nominating Committee proposed that the 2008 variable compensation for the four members of the Executive Board be set at a percentage of their fixed gross annual compensation in the maximum amount of 100% for Anne Lauvergeon, 80% for Gérald Arbola, 60% for Didier Benedetti and 60% for Luc Oursel. It is understood that 60% of this variable compensation is based on quantitative objectives regarding, in equal shares, net income (20%), operating income (20%) and net income net of extraordinary items (20%), as budgeted. This calculation

applies exclusively to group performance for Anne Lauvergeon and Gérald Arbola; for Didier Benedetti and Luc Oursel, half applies to AREVA's performance and half applies to the performance of the subsidiaries they manage, *i.e.* AREVA NC and AREVA NP respectively.

In addition, the variable compensation of the members of the Executive Board is based on strategic and qualitative objectives for 40% of the bonus amount.

### 15.1.5. Pensions and retirement benefits

There is no pension or similar commitment for Anne Lauvergeon, Didier Benedetti or Luc Oursel. A provision for pension in the amount of 47,645 euros for Gérald Arbola was recorded in 2008.

For Gérald Arbola, this commitment is for a defined benefit retirement plan meeting the criteria of the retirement plans mentioned in article L. 137-11 of the French Social Security Code. This retirement benefit is not subject to the TEPA law (article L. 225-90-1 of the French Commerce Code) and is therefore not subject to a performance condition.

### 15.1.6. Directors and Officers liability insurance

The purpose of D&O coverage is threefold: firstly, it provides liability coverage for financial risk incurred by group directors and officers due to damage suffered by third parties as a result of professional errors or misconduct in the course of business.

Secondly, it reimburses group companies that are legally allowed to indemnify directors and officers for claims submitted against these individuals. Thirdly, it covers civil or criminal defense expenses incurred by officers and directors as a result of claims based on professional errors or misconduct.

The policies exclude coverage of claims based on intentional misconduct by a director or an officer, or on personal gain (financial or otherwise) to which a director or officer was not entitled. Fines and penalties levied against directors and officers are also excluded, as well as claims for losses due to pollution, asbestos or toxic mold. Additionally, directors and officers liability insurance policies exclude claims based on the purchase of securities or assets of a company at an inadequate price.



### 15.1.7. Compensation of the members of the Supervisory Board

(in euros)	2006			2007			2008		
	Gross compensation	Directors' fees <sup>(12)</sup>	Total gross compensation	Gross compensation	Directors' fees <sup>(12)</sup>	Total gross compensation	Gross compensation	Directors' fees <sup>(12)</sup>	Total gross compensation
	(a)	(b)	(c = a+b)	(a)	(b)	(c = a+b)	(a)	(b)	(c = a+b)
Supervisory Board <sup>(1 and 2)</sup>									
Frédéric Lemoine <sup>(3 and 13)</sup>	167,970	-	167,970	170,993	-	170,993	173,729	-	173,729
Alain Bugat <sup>(3, 6 and 11)</sup>	165,789	-	165,789	182,957	-	182,957	196,980	-	196,980
Jacques Bouchard <sup>(7)</sup>	-	5,833	5,833	-	-	-	-	-	-
Patrick Buffet <sup>(3)</sup>	-	33,167	33,167	-	27,667	27,667	-	-	-
François David	-	-	-	-	-	-	-	36,500	36,500
Thierry Desmarest <sup>(3)</sup>	-	21,667	21,667	-	23,333	23,333	-	37,500	37,500
Oscar Fanjul <sup>(3)</sup>	-	17,833	17,833	-	44,333	44,333	-	50,500	50,500
Daniel Lebègue <sup>(4)</sup>	-	10,833	10,833	-	-	-	-	-	-
Olivier Pagezy <sup>(4, 5 and 9)</sup>	162,832	32,167	194,999	161,716	52,833	214,549	167,621	56,500	224,121
Philippe Pradel <sup>(3, 5 and 9)</sup>	188,812	16,333	205,145	194,471	42,833	237,304	200,369	44,500	244,869
Guylaine Saucier <sup>(3)</sup>	-	21,333	21,333	-	49,833	49,833	-	61,500	61,500
Jean-Claude Bertrand <sup>(8 and 10)</sup>	54,181	27,667	81,848	57,002	50,333	107,335	75,659	56,500	132,159
Gérard Melet <sup>(8 and 10)</sup>	40,157	26,167	66,324	39,972	45,333	85,305	59,640	44,500	104,140
Alain Vivier-Merle <sup>(8 and 10)</sup>	85,258	21,667	106,925	85,782	40,833	126,615	88,107	40,000	128,107

(1) Compensation calculated based on date of appointment or end of term.

(2) Directors' fees may have been paid in 2007 for 2006 as follows: Mr. Buffet: 8,333 euros; Mr. Desmarest: 3,333 euros; Mr. Fanjul: 3,333 euros; Mr. Pagezy: 6,333 euros; Mr. Pradel: 4,833 euros; Mrs. Saucier: 7,333 euros; Mr. Bertrand: 6,333 euros; Mr. Melet: 4,833 euros; Mr. Vivier-Merle: 3,333 euros.

(3) On May 2, 2006, the Annual General Meeting of Shareholders appointed these members to the Supervisory Board for a period of five years. The meeting of the Supervisory Board that followed this Annual General Meeting of Shareholders appointed Mr. Lemoine as Chairman and Mr. Bugat as Vice Chairman. Following Mr. Bugat's resignation effective January 8, 2009, the Supervisory Board, meeting on February 5, 2009, appointed Mr. Bigot to replace him subject to ratification by the Annual General Meeting of Shareholders on April 30, 2009.

(4) On May 2, 2006, the Annual General Meeting of Shareholders acknowledged that the terms of these members of the Supervisory Board had expired and that their renewal had not been proposed.

(5) Includes compensation received from the CEA and AREVA by Messrs. Pagezy (2006, 2007, 2008) and Pradel (2006, 2007, 2008).

(6) For 2006, 2007 and 2008, this amount includes only the compensation received as Chairman of the CEA. The 2006 compensation includes an allowance related to the CEA's change of corporate office (1,500 euros). AREVA pays no compensation to Mr. Bugat for his duties as Vice Chairman of the Supervisory Board.

(7) Mr. Bouchard replaced Mr. Rouvillois as permanent representative of the CEA on September 25, 2003. Mr. Pagezy replaced Mr. Bouchard as permanent representative of the CEA on April 26, 2006.

(8) Members elected by company personnel whose terms were renewed for five years beginning July 25, 2007 and who opted to distribute their net directors' fees to the labor organization of which they are members. Amounts reported for 2006, 2007 and 2008 correspond to their compensation as employees of certain AREVA subsidiaries (AREVA NC or AREVA NP).

(9) Mr. Pagezy's 2006 compensation includes a year-end bonus of 6,420 euros for 2005 paid on January 1, 2006. His 2006 compensation also includes an allowance of 1,500 euros related to the CEA's change of corporate office. His 2007 and 2008 compensation includes a performance-based bonus of 7,670 euros and 7,673 euros respectively.

Mr. Pradel's 2006 compensation includes a year-end bonus of 13,125 euros for 2005 paid on January 1, 2006. His 2007 and 2008 compensation includes a performance-based bonus of 13,500 euros and 14,063 euros respectively.

(10) Compensation for 2006, 2007 and 2008 includes, respectively:

- for Mr. Bertrand: 2,836 euros (in 2006) and 3,702 euros (in 2007) for incentive compensation, and 6,005 euros (in 2008) for employee profit sharing;
- for Mr. Melet: 2,689 euros (in 2006) and 3,067 euros (in 2007) for incentive compensation, and 5,132 euros (in 2008) for employee profit sharing;
- for Mr. Vivier-Merle: 1,330 euros (in 2006) for employee profit sharing, and 2,652 euros (in 2006), 2,478 (in 2007) and 3,074 euros (in 2008) for incentive compensation.

(11) Mr. Bugat does not collect directors' fees.

(12) Each member of the Supervisory Board receives a flat fee for each Supervisory Board meeting he or she attends, and a flat fee for each meeting of a specialized Committee he or she attends as a Committee member, as follows for 2006, 2007 and 2008:

- a flat fee of 10,000 euros (raised to 20,000 euros in 2008) paid annually for their duties. The payment may be withheld if the member is systematically absent;
- a fee of 2,500 euros per meeting of the Board, provided the member is in attendance;
- a fee of 2,000 euros per meeting of a specialized Committee for the Committee Chairmen, provided they are in attendance;
- a fee of 1,500 euros per meeting of a specialized Committee for the Committee members, provided they are in attendance.

(13) Mr. Lemoine does not collect directors' fees.

## 15.2. Directors and officers shares of share capital

Members of the AREVA Supervisory Board appointed by the Annual General Meeting of Shareholders each own one share of stock, except for the CEA, which holds 78.96% of the share capital and 82.99% of the voting rights.

Members of the Executive Board do not own any shares or investment certificates in the company.

## 15.3. Audit fees

(in thousands of euros)	2008 Fees				2007 Fees			
	Deloitte	Mazars	Other	Total	Deloitte	Mazars	Other	Total
Statutory Auditors, certification								
Issuer	611	557	-	1,168	437	300	300	1,037
Subsidiaries	5,398	3,888	1,310	10,596	4,696	2,995	1,363	9,054
Other reviews and services directly linked to the Statutory Auditors' mission								
Issuer	-	-	-	-	31	20	22	73
Subsidiaries	82	81	-	163	85	184	-	269
<b>Sub-total</b>	<b>6,091</b>	<b>4,526</b>	<b>1,310</b>	<b>11,928</b>	<b>5,249</b>	<b>3,499</b>	<b>1,685</b>	<b>10,433</b>
<b>Other services rendered by the networks to fully consolidated subsidiaries</b>								
Legal, tax, labor	940	161	-	1,101	880	2	98	980
Other	-	-	-	-	-	-	-	-
<b>Sub-total</b>	<b>940</b>	<b>161</b>	<b>-</b>	<b>1,101</b>	<b>880</b>	<b>2</b>	<b>98</b>	<b>980</b>
<b>Total</b>	<b>7,031</b>	<b>4,687</b>	<b>1,310</b>	<b>13,029</b>	<b>6,129</b>	<b>3,501</b>	<b>1,783</b>	<b>11,413</b>

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## 16.1. Functioning of the Executive Board

Full authority is vested in the Executive Board to act on behalf of AREVA in all circumstances with regard to third parties, except when authority is expressly attributed by law or the by-laws to the Supervisory Board or to the shareholders. Minutes of Executive Board meetings are recorded in a written report.

The Executive Board convenes General Meetings of Shareholders and Voting Right Certificate Holder, and Special Meetings of investment certificate holders.

The Executive Board meets whenever AREVA's interests so require. Meetings are held at the corporate headquarters or any other place indicated in the notice of meeting. The Executive Board met 15 times in 2008 with an attendance rate of 93%.

For the decisions of the Executive Board to be valid, at least half of the members must be present. Decisions are made on a majority

vote of members present or represented. Executive Board decisions are recorded in minutes.

Management duties may be distributed among the members of the Executive Board on a recommendation of the Chairman of the Executive Board and with the authorization of the Supervisory Board. On June 29, 2006, the Supervisory Board renewed the terms of Mrs. Anne Lauvergeon, Chief Executive Officer, Mr. Gérald Arbola, Chief Operating Officer, and Didier Benedetti and Vincent Maurel, members of the Executive Board, for five years. The Supervisory Board approved the following distribution of duties among members of the Executive Board: Anne Lauvergeon and Gérald Arbola are in charge of the group's general management; Didier Benedetti is in charge of R&D for the group and Vincent Maurel was in charge of information systems for the group until he resigned on December 28, 2006. Luc Oursel was appointed member of the Executive Board by the Supervisory Board on March 22, 2007. He replaces Vincent Maurel.

The Supervisory Board may, on a recommendation of the Chief Executive Officer, appoint one or more general managers from among the members of the Executive Board with the authority to represent the company with regard to third parties. On June 29, 2006, on the recommendation of the Chairman of the Executive Board, the Supervisory Board named Gérald Arbola Chief Operating Officer.

The Chief Executive Officer and the Chief Operating Officer represent AREVA with regard to third parties.

The Executive Board approved its rules of procedure on February 7, 2003, which were updated December 10, 2008 and include:

- the distribution of duties among the members;
- the order of meetings of the Executive Board; and
- conditions for the Executive Board to delegate its authority to an Executive Board member.

## 16.2. Functioning of the Supervisory Board

The Supervisory Board, whose functioning is set forth in rules of procedure <sup>(1)</sup>, exercises ongoing control of AREVA's management by the Executive Board. The Executive Board regularly informs the Supervisory Board of the business and operations of AREVA and the AREVA group through quarterly reports. The Supervisory Board performs such verifications and procedures as it deems necessary.

The Supervisory Board appoints the members and the Chairman of the Executive Board. The Supervisory Board may recommend the dismissal of Executive Board members to the General Meeting of Shareholders. The Supervisory Board may call meetings of the General Meeting of Shareholders.

The Supervisory Board meets at least once quarterly at the corporate office or any other place indicated in the notice of meeting issued by the Chairman, or by the Vice Chairman in the absence of the former, to review the Executive Board's report.

For decisions of the Supervisory Board to be valid, at least half of the members must be present. Decisions are made on a majority vote of the members present or represented. In the event of a tie vote, the Chairman of the meeting casts the deciding vote.

The Supervisory Board submits its remarks on the report of the Executive Board and on the financial statements to the Annual General Meeting of Shareholders.

The Supervisory Board is not limited to a supervisory function; it also delegates authority to the Executive Board to conduct transactions that the Executive Board cannot accomplish without such authorization. It reviews the overall strategy for AREVA and for the group. Annual budgets and multi-year plans for AREVA, its direct subsidiaries and the group are subject to Supervisory

Board approval, as well as any transaction at the subsidiary level contemplated by article 23-2 of the by-laws.

Pursuant to article 23-2 of the by-laws, the following Executive Board decisions are subject to prior approval by the Supervisory Board when they involve an amount exceeding 80 million euros:

- (i) issuing securities, regardless of type, that may have an impact on share capital;
- (ii) significant decisions on opening establishments in France and abroad, either directly, through the creation of a branch, or by establishing a direct or indirect subsidiary, or by acquiring an equity stake; a similar approval is required for decisions to close such establishments;
- (iii) significant operations that may affect the group's strategy and modify its financial structure or scope of business;
- (iv) acquisitions, increases or disposals of equity interests in any company, existing or to be established;
- (v) exchanges of goods, securities or assets, with or without cash payment, excluding cash management operations;
- (vi) acquisitions of real estate;
- (vii) settlements, agreements or transactions relating to disputes;
- (viii) decisions pertaining to loans, borrowings, credit and advances; and
- (ix) acquisitions and disposals of any receivables by any means.

(1) The rules of procedure of the Supervisory Board may be reviewed at the company's corporate office at 33, rue La Fayette -75009 Paris, France.

In addition, proposals for the allocation of earnings presented by the Executive Board are subject to the prior approval of the Supervisory Board.

On July 3, 2001, the Supervisory Board authorized the Executive Board to carry out certain transactions, up to the following amounts:

- disposals of real property up to 30 million euros;
- provision of collateral to secure corporate commitments, up to 80 million euros per year in the aggregate, provided that no single commitment exceeds 30 million euros.

The Supervisory Board regularly updates its rules of procedure, which stipulate in particular:

- the establishment and functioning of the four committees described below;
- rules for preparing Supervisory Board deliberations;
- conditions for establishing the schedule of Supervisory Board meetings; and
- resources at the disposal of Supervisory Board members elected by the employees.

## Supervisory Board meetings in 2008

In 2008, the Supervisory Board met eight times with an attendance rate of 82%. During these meetings, the Supervisory Board voted on the matters described below:

**February 26, 2008:** As contemplated in article 23-2 of the by-laws, the Supervisory Board approved the Executive Board's recommendations concerning in particular the profit allocation and the distribution of a dividend of 6.77 euros per share and per investment certificate. On the recommendation of the Compensation and Nominating Committee, the Supervisory Board decided to propose that the next Annual General Meeting of Shareholders set the total amount of directors' fees to be paid to the Supervisory Board in 2008. The Supervisory Board also examined the report of the Chairman of the Supervisory Board and the Executive Board's management report for 2007, and made comments on the latter. During this session of the Supervisory Board, a modification to the Board's rules of procedure related to the Audit Committee's missions was also ratified.

**April 17, 2008:** On the recommendation of the Strategy Committee, meeting on April 2, on the participation of minority shareholders in the share capital of Georges Besse II, the Supervisory Board authorized the Executive Board (i) to create SET Holding, a wholly-owned subsidiary of AREVA NC, and (ii) to conclude negotiations with identified partners to allow them to become shareholders in SET Holding *via* a capital increase. In addition, the Supervisory Board received all explanations necessary on the quarterly report of the Executive Board and the group's R&D. The Supervisory Board was also informed that the Annual General Meeting of Shareholders of the same day had voted in favor of the appointment of Mr. François David as a new independent member of the Supervisory Board.

**May 26, 2008:** As provided in article 23-2 of the by-laws, the Supervisory Board authorized the Executive Board to sell all of the shares held in REpower to Suzlon.

**June 26, 2008:** The Supervisory Board reviewed revision 1 of the budget, the matter of the evolution of AREVA's share capital, the Executive Board's quarterly report, the status of discussions with minority shareholders solicited to participate in Georges Besse II's capital, the Audit Committee report on, in particular, diligences concerning the OL3 project in Finland, and the Strategy Committee report on, in particular, the renewal of the shareholders' agreement with Eramet. The Supervisory Board, on a recommendation of the End-of-life-cycle Obligations Monitoring Committee, approved the internal controls report appended to the annual update of the report prepared in accordance with article 20 of the Law of June 28, 2006.

**August 29, 2008:** The Supervisory Board received all explanations required on the Inspector General's 2007 annual report on the status of nuclear safety and radiation protection, as well as a detailed briefing on the events occurring last summer, particularly the Socatri event. This session of the Supervisory Board was also called to present the consolidated financial statements for the half year ended June 30, 2008 and review AREVA's forecast documents. The Supervisory Board discussed the matter of the evolution of AREVA's share capital and received explanations on the offer submitted by AREVA in South Africa.

**October 3, 2008:** AREVA's Supervisory Board authorized the sale of 49% of the share capital of UraMin Inc. held by two subsidiaries of AREVA NC to an acquisition vehicle controlled by CGNPC. The Supervisory Board also authorized AREVA SA to guarantee the commitments made by the subsidiaries of AREVA NC in the Share Purchase Agreement to be concluded with CGNPC.

**October 16, 2008:** The Supervisory Board approved:

- the new four-year strategic plan for the subsidiary AREVA T&D;
- implementation of the project submitted by the subsidiary AREVA NP for, in particular, the creation of a joint venture with Northrop Grumman Shipbuilding under AREVA NP's control to build a new heavy component manufacturing plant in the United States.

The Supervisory Board also authorized the Executive Board to:

- establish a commercial paper program;
- negotiate and conclude a line of credit with the EIB to finance its enrichment plant project at the Tricastin site;
- launch a share buy-back program to ensure the liquidity of shares held by the Framépargne employee savings plan, and to submit a resolution for this purpose to the General Meeting of Shareholders of December 18, 2008.

On a recommendation of the Compensation and Nominating Committee of September 4, the Supervisory Board also decided to bring commitments made by AREVA on executive severance pay into compliance with the TEPA Law. The Supervisory Board also examined the Audit Committee report dated October 15, 2008 on the OL3 matter in particular and the Executive Board's quarterly report.

**December 18, 2008:** The Supervisory Board, on a recommendation of the Compensation and Nominating Committee of December 9, (i) decided to submit to the Annual General Meeting of Shareholders of April 30, 2009 a resolution regarding the directors' fees for 2008, and (ii) decided to implement the October 2008 recommendations of AFEF/MEDEF on the compensation of executive officers of publicly traded companies. At same meeting, the Supervisory Board authorized the Executive Board to provide surety, endorsements and guarantees through December 31, 2009 and to launch one or more bond issues.

The Supervisory Board received the Executive Board's quarterly report and the reports of (i) the End-of-life-cycle Obligations Monitoring Committee of December 11, in which the issue of the coverage ratio was examined, and (ii) the Audit Committee of December 12, in which the projected financial performance for 2008 and the draft budget for 2009 were examined. Discussions centered in particular on developments in the OL3 project and the initiation of arbitration proceedings for delays caused by the customer. It was decided that an exceptional Board meeting would be held in the beginning of 2009 to reexamine the budget in view of the current economic situation. The meeting was scheduled for February 5, 2009.

## 16.3. Information on the Committees established by the Supervisory Board

The Supervisory Board may establish committees comprised of Board members, which functions under its responsibility. The Board establishes the composition and duties of each committee and the compensation, if any, of the members.

Prior to each meeting of the Supervisory Board, as necessary, the specialized committees carry out detailed analysis and regularly report on their work to the members of the Supervisory Board.

### Strategy Committee

As of December 31, 2008, the Strategy Committee had five members, chosen from among the members of the Supervisory Board. They are Frédéric Lemoine, Chairman <sup>(1)</sup>, Bruno Bézard, Alain Bugat, Oscar Fanjul <sup>(1)</sup> and Luc Rousseau. Bernard de Gouttes serves as Committee Secretary.

The Committee meets at least once per six-month period and as often as necessary to fulfill its duties. It is convened by its Chairman or at least two of its members. It is responsible for advising the Supervisory Board on the strategic objectives of AREVA and of its main subsidiaries and for assessing the risks and merits of major strategic decisions proposed by the Executive Board to the Supervisory Board. It ensures application of AREVA's strategic policy and its implementation at the subsidiary level. It orders studies to be carried out as it deems useful and recommends policies as it deems necessary.

The Strategy Committee met three times in 2008, with an attendance rate of 93%.

**April 2, 2008:** The Committee issued a favorable recommendation on the matter of opening Gorges Besse II's share capital to minority shareholders. The Committee proposed that this transaction and the planned creation of the holding company connected with it be authorized by the Supervisory Board due to the strategic importance of the matter, although such authorization is not formally required.

**May 26, 2008:** The purpose of the Committee meeting was (i) the Eramet shareholders' agreement and recent amendments concerning in particular the term of the agreement; (ii) the policy concerning the development of the reactor line, and (iii) the development policy for renewable energies, particularly biomass. The Committee was also consulted on the matter of the disposal of AREVA's shares in REpower.

**September 29, 2008:** The Committee issued a favorable recommendation on the new T&D strategic plan and on the joint project with Northrop Grumman Shipbuilding.

### Audit Committee

As of December 31, 2008, the Audit Committee had four members, chosen from among the members of the Supervisory Board. They are Guylaine Saucier <sup>(1)</sup> Chairman, Bruno Bézard, Jean-Claude Bertrand and Olivier Pagezy. Jean-Pierre Kaminski, manager of accounting standards and procedures in AREVA's Finance Department, serves as Committee Secretary. The Chairman of the Supervisory Board is invited to attend Committee meetings, as are the Statutory Auditors, if required by the Audit Committee.

The Committee meets at least once quarterly and as often as necessary to fulfill its duties. It is convened by its Chairman or at least two of its members. The Committee clarified and described its role during its meeting of December 17, 2007. Once its positions have been validated by the Supervisory Board, the role of the Committee, which has no formal authority, is to assist the Supervisory Board in exercising its authority and attributions in the following fields: the integrity of the financial data published by the company, internal controls, the execution of the internal audit function, the independence and performance of the Statutory Auditors, risk management, financial planning, monitoring of major projects, and business ethics standards.

*(1) Independent members of the Supervisory Board.*



The Supervisory Board may also expand the scope of work of the Audit Committee by entrusting other fields to it as it deems necessary. To discharge its duties, the Audit Committee may review specific points on its own initiative as it deems relevant to its mission.

In particular, the Audit Committee reviews the draft financial statements, budget, internal and external audit plans, risk maps, internal control policies, Values Charter and other relevant reports. It interviews the members of the Executive Board and the CEO designated by the Board, the Statutory Auditors, the head of the internal audit and the business ethics advisor. The Committee makes recommendations to the Supervisory Board based on its findings and may suggest modifications or additional investigations that it deems necessary.

The Audit Committee organizes a call for bids upon expiration of the term of the Statutory Auditors and recommends that the Supervisory Board renew the terms of current auditors or appoint a new firm.

The Audit Committee prepares a work schedule each year to plan its mission.

Ten Audit Committee meetings were held in 2008, with an attendance rate of 95%:

**January 30, 2008:** The Committee reviewed the draft press release on 2007 revenue for the AREVA group.

**February 21, 2008:** The Committee examined the financial statements for 2007 and the accounting options used. The Statutory Auditors presented their summary report on the audit of the 2007 financial statements. The status of the OL3 project and the reporting methods for major projects were reviewed in detail. The Committee also reviewed the Chairman's report on internal controls and the draft management report.

**April 16, 2008:** The Committee meeting was largely devoted to the Statutory Auditors' presentation on internal controls and the group's initiative to strengthen internal accounting and financial controls. The Committee also received a document with an evaluation of mining reserves and resources.

**April 24, 2008:** The Committee reviewed the draft press release on first quarter 2008 financial data.

**June 20, 2008:** The Audit Committee received a consolidated report on major projects, a benchmark briefing on quarterly data and a document on developments in accounting standards. The Committee commented on developments in the OL3 project and discussed revision 1 of the 2008 budget.

**July 15, 2008:** The Committee received information on developments in the OL3 matter and the status of negotiations with EDF concerning the back end sector. The Committee asked to be briefed on financial communications scheduled for July 23.

Information was provided concerning the accounting treatment for dilution gains.

**August 27, 2008:** The Committee examined the financial statements for the half-year and discussed the terms of the draft press release. An update was presented on the OL3 project and on the execution of the internal audit plan for 2008, including a status report.

**October 15, 2008:** The Committee was briefed on developments in the OL3 project. The Committee also reviewed (i) the document retracing risk mapping activities, (ii) the report on business ethics in the group and (iii) the report on major projects.

On **October 22, 2008**, The Committee reviewed the draft press release on third quarter 2008 financial data.

**December 12, 2008:** The Committee reviewed the progress of the OL3 matter and the consequences of the financial crisis for AREVA, and examined the 2009 budget.

## Compensation and Nominating Committee

As of December 31, 2008, the Compensation and Nominating Committee had three members, chosen from among the members of the Supervisory Board; they are Frédéric Lemoine <sup>(1)</sup>, Chairman, Bruno Bézard and Oscar Fanjul <sup>(1)</sup>. Bernard de Gouttes serves as Committee Secretary. The Committee meets at least once per six-month period and as often as necessary to fulfill its duties. It is convened by its Chairman or at least two of its members.

With respect to compensation, the Committee is responsible for recommending to the Supervisory Board compensation levels, retirement and insurance programs, and in-kind benefits for executive officers of AREVA based on comparable factors in the market and on individual performance assessments. With respect to nominations, the Committee reviews the files of individuals selected to serve as members of the Executive Board and conveys its opinion to the Supervisory Board.

The Committee also gives the Supervisory Board its opinion on executive nominations for first-tier companies of the AREVA group.

The Compensation and Nominating Committee met four times in 2008 with an attendance rate of 100%.

**January 30, 2008:** The Committee set the compensation of and objectives for the Executive Board for 2008 with a view to submitting them to the Supervisory Board for final decision. It also reexamined the total amount of directors' fees and individual amounts of directors' fees paid to certain members of the Supervisory Board, and discussed the search for new independent directors.

(1) Independent members of the Supervisory Board.



**March 11, 2008:** The Committee examined the matter of setting the variable component of the compensation of members of the Executive Board for 2007 and gave its recommendations to the Supervisory Board.

**September 4, 2008:** The Committee conferred on bringing severance pay for AREVA executives into compliance with the TEPA Law.

**December 9, 2008:** During the meeting, and also the meeting of February 3, 2009, the Committee gave a favorable recommendation on the adherence of the AREVA group to the AFEP-MEDEF recommendations of October 2008 in the AREVA group. The Committee also discussed the Executive Board's potential compensation for 2009, potential objectives for 2009 and directors' fees. The Committee was informed of Mr. Bugat's resignation and gave a favorable opinion on the appointment of Mr. Bigot as a member of the Supervisory Board and of the Strategy Committee and his election as Vice Chairman.

## End-of-life-cycle Obligations Monitoring Committee

The Annual General Meeting of Shareholders having appointed Mr. François David as a member of the Supervisory Board on April 17, 2008, and the Supervisory Board having designated him as Chairman of the End-of-life-cycle Obligations Monitoring Committee on that same date, as of December 31, 2008, the Committee is comprised of four members designated from among the members of the Supervisory Board: François David <sup>(1)</sup> (Chairman), Pierre-Franck Chevet, Gérard Melet and Philippe Pradel. Patrick Herbin-Leduc, Chief Financial Officer of AREVA NC, serves as Committee Secretary. The Chairman of the Supervisory Board is invited to attend the Committee meetings.

The Committee meets at least once per six-month period and as often as necessary to fulfill its duties. It is convened by its Chairman or at least two of its members. The Committee's mission is to contribute to the monitoring of the asset portfolio set up by AREVA subsidiaries to cover future clean-up and dismantling expenses. In this capacity, and based on pertinent documenta-

tion submitted by AREVA, including a management charter, the Committee reviews the multi-year schedule of future clean-up and dismantling expenses for affected companies of the AREVA group; the criteria for establishing, managing and controlling the funds earmarked to cover those expenses in these companies; and the investment management strategy for the related assets. The Committee provides the Supervisory Board with opinions and recommendations on these various topics.

The Committee may give audience to financial consulting firms chosen by the fund management companies.

The End-of-life-cycle Obligations Monitoring Committee met three times in 2008, with an attendance rate of 58%.

**May 29, 2008:** The Committee examined the draft annual update of the report prepared in connection with article 20 of the Law of June 28, 2006, the report on internal controls appended to that report update, and the status of dismantling liabilities and assets earmarked to cover those liabilities. The Committee reviewed the solvency ratio, which confirmed the need to allocate financial resources based on the group's requirements and the need to establish management rules for deviations from a 100% coverage ratio, which is the legal requirement. The Committee also reviewed the selection criteria used by asset managers for each asset category. The Committee issued a favorable recommendation on the report update and the report on internal controls. It did not comment specifically on the management of earmarked financial assets and noted that the earmarked assets are more than sufficient to cover the group's end-of-life-cycle liabilities as of year-end 2007.

**October 9, 2008:** The Committee met to review the ratio of dismantling assets to liabilities in view of the economic crisis. The purpose of the meeting was to discuss an adjustment to internal rules so as not to burden AREVA with an obligation to allocate significant funding to this program, since the fundamentals of end-of-life-cycle obligations have not changed and 100% coverage is not required by law until 2011.

**December 11, 2008:** The Committee reviewed obligations related to the 100% coverage ratio, which shall apply as of June 2011. It was agreed that the Committee would meet quarterly to monitor the coverage ratio.

(1) Independent members of the Supervisory Board.

## 16.4. Observations by the Supervisory Board on the Executive Board's management report and on the 2008 financial statements

After reviewing and auditing the corporate and consolidated financial statements for 2008, and pursuant to article L. 225-68, paragraph 6 of the French Commercial Code, the Supervisory Board had no observations to make on these accounts or on the Executive Board's related management report, as presented during the Supervisory Board meeting of February 25, 2009.

For the Supervisory Board,

The Chairman,  
Frédéric Lemoine

## 16.5. Report of the Supervisory Board Chairman on the preparation and organization of the Board's activities and internal control procedures

Under the provisions of article L. 225-68 of the French Commercial Code, amended by the Law of July 3, 2008, "in publicly traded companies, the Chairman of the Supervisory Board shall report on [...] the composition of the Board, on the preparation and organization of the activities of the Board, and on internal control and risk management procedures established by the company, describing in particular those procedures relating to the preparation and treatment of accounting and financial data used to prepare corporate financial statements and, when applicable, consolidated financial statements."

This report by the Chairman of the Supervisory Board may be found in Appendix 1. "Report of the Supervisory Board Chairman on the preparation and organization of the Board's activities and internal control procedures".

## 16.6. Statutory Auditors' report, prepared in accordance with article L.225-235 of the French Commercial Code, on the report prepared by the Chairman of the Supervisory Board of AREVA with respect to internal control procedures related to the preparation and treatment of financial and accounting information

Article L. 225-235 of the French Commercial Code provides, among other things, that the Statutory Auditors shall present their observations on the Chairman of the Supervisory Board's report on internal control procedures.

These observations may be found in Appendix 2, "Reports of the Statutory Auditors".

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## 17.1. Human resources report

See Appendix 3, “Human Resources report”.

## 17.2. Change in number of employees and human resources data

### 17.2.1. Incentive remuneration and profit sharing plans

Various incentive remuneration and profit sharing agreements are in effect in the companies of the AREVA group. The aim is to involve employees in collective performance while enabling them to take advantage of the plans' favorable income tax and social security tax treatment.

In 2008, the group distributed a total of more than 96 million euros in respect of performance for 2007. Employees elected to invest 59.5% of the incentive compensation paid in 2008 in the Group Savings Plan.

Under these agreements, employees receive incentive remuneration when specific objectives have been reached and/or profit sharing bonuses based on the group's overall financial performance.

#### 17.2.1.1. Profit sharing

Employee profit sharing regulations, pursuant to articles L. 3322-2 *et seq.* of the French Labor Code, provide for employees to receive a portion of the company's net taxable income, determined according to a legally mandated formula incorporated in almost all profit sharing agreements signed by group entities.

The global amount so determined is then allocated among the company's employees based on their seniority and/or the beneficiary's salary, in accordance with specific agreements.

A company's profit sharing contributions may not be withdrawn by a beneficiary for a period of five years, unless otherwise allowed by regulation. These contributions benefit from preferential tax and social security tax treatment.

All necessary measures have been taken to comply with the new provisions passed into law at the end of the year. These provisions apply in 2009.

#### 17.2.1.2. Incentive remuneration

Incentive remuneration, regulated under articles L. 3312-2 *et seq.* of the French Labor Code, allows a company to provide financial incentives to its employees based on qualitative and quantitative objectives in more technical and specific fields. Incentive remuneration agreements are concluded for periods of three years. The various agreements in effect in the group expire on dates specific to each group entity involved.

The performance criteria included in the incentive remuneration agreements concluded by group entities are defined jointly by the management of the company and by the organizations representing company personnel. Depending on the agreement, these criteria may include:

- quantitative performance, such as operating income, revenue, operating profit, etc.;

- productivity improvements;
- costs reductions; and
- qualitative performance, which relates to performance improvement objectives specific to each company, such as meeting delivery schedules, reducing customer claims, improving industrial safety as evidenced by lower accident frequency and accident severity rates, and receipt or renewal of quality or other certifications.

Company contributions for incentive remuneration are paid after year-end closing. Employees usually have the option of investing these contributions in the Group Savings Plan to which the company subscribes. These contributions, which the beneficiary may not withdraw for a period of five periods, benefit from preferential tax and social security tax treatment applicable to employee savings plans.

### 17.2.2. Stock options allowing subscription or acquisition of shares for no consideration

The AREVA group does not presently have a stock option plan. No issue of shares for no consideration was undertaken or authorized.

## 17.3. Arrangements for involving employees in the capital of the issuer

### 17.3.1. Corporate savings plans and investment vehicles

In early 2005, AREVA decided to harmonize and unify the various savings plans in the French subsidiaries and established a common Group Savings Plan. This new plan gives employees a single statement for all their assets and a much wider choice of new services.

The centralized reporting of all assets held by French employees has been subcontracted to Creelia, a subsidiary of Crédit Agricole Asset Management. Centralized account reporting allows each employee to receive complete information, available online, on all of his or her assets in the various funds. Exchanges among funds are possible at all times and without fee. Employees can also redeem shares held in any fund.

The AREVA Group Savings Plan offers a complete range of funds covering all asset categories. It includes:

- AREVA Monétaire, a money market fund managed by Société Générale Asset Management (SGAM), which is fully invested in money market instruments;
- AREVA Obligataire, a bond fund managed by Crédit Agricole Asset Management (CAAM), which is fully invested in bonds from issuers in the euro zone;
- AREVA Actions Zone Euro, a fund managed by CIC Asset Management, which is fully invested in equities from issuers in the euro zone;
- Three balanced funds: AREVA Diversifié Obligataire, managed by Natixis Asset Management (25% equities/75% bonds); AREVA Diversifié Équilibré, managed by HSBC Asset Management

(50% equities/50% bonds); ARCANCI Dynamique, managed by Société Générale Asset Management (75% equities/25% bonds);

- AREVA ISR Solidaire, a socially responsible fund managed by Fongepar Gestion Financière. This fund is fully invested according to socially responsible investment criteria, including 10% in companies promoting socially responsible employment practices.

A diversified pool of fund managers was selected with a view to optimizing investor returns. The performance of the managers is compared and measured regularly and the management contracts are periodically reassessed.

Fundamental work continued in 2008 to improve the savings plan, including the exchange process between funds, information to fund holders on trading deadlines, and dedicated service improvements (electronic access, elimination of the toll phone line, etc.).

The funds' supervisory boards met in May and November, after a half-day training session open to representatives of employees and employers. As in previous years, the participants were asked to provide an online evaluation after the meeting.

Two savings plans monitoring committee meetings were held during the year, as provided in the February 9, 2005 agreement on AREVA group savings organizations.

### 17.3.2. Employee shareholding

When the group was established in September 2001, Framatome ANP shares held by employees *via* the Framépargne corporate mutual fund were exchanged for AREVA shares. Those shares are currently invested in the “Framépargne” fund of the AREVA Group Savings Plan. At the end of the year, AREVA started the process

to provide liquidity to the fund directly, as required by the Law of December 30, 2006.

As of December 31, 2008, employee shareholders through Framépargne represented 0.62% of AREVA's share capital.

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## 18.1. Shareholders and voting rights

The company's share capital as of December 31, 2008 is as follows:

- 34,013,593 shares;
- 1,429,108 investment certificates (IC); and
- 1,429,108 voting-right certificates.

In addition to ordinary shares, AREVA has investment certificates and voting right certificates. An original share is reestablished with full rights and privileges when a voting right certificate and an investment certificate are reunited.

The CEA owns all of the voting right certificates. The investment certificates are quoted on Compartment B of Euronext Paris and are held by the public.

With the exception of investment certificates, which by definition are devoid of voting rights, all AREVA securities carry a single voting right. There is no other type of voting right.

Each member of the AREVA Supervisory Board, including members of the Board representing salaried personnel, but excluding members representing the French State, holds one share of stock. Members of the Executive Board do not own stock in the company.

To AREVA's knowledge, no agreement exists whose implementation could result in a change in its control at a later date.



The table below shows the percentages of share capital and voting rights owned by all shareholders, holders of investment certificates, and holder of voting right certificates as of December 31, 2008:

		CEA	French State	Caisse des Dépôts et Consignations	ERAP	EDF	Framépargne (employees)	Calyon	Total group	IC holders (public)	Supervisory Board members***	Total
12/31/2001	% capital	78.96	5.19	3.59	3.21	2.42	1.58	-	1.02	4.03	-	100
	% voting rights	82.99*	5.19	3.59	3.21	2.42	1.58	-	1.02	-	-	100
12/31/2002	% capital	78.96	5.19	3.59	3.21	2.42	1.18 **	0.40 **	1.02	4.03	-	100
	% voting rights	82.99*	5.19	3.59	3.21	2.42	1.18 **	0.40 **	1.02	-	-	100
12/31/2003	% capital	78.96	5.19	3.59	3.21	2.42	1.06 **	0.52 **	1.02	4.03	-	100
	% voting rights	82.99*	5.19	3.59	3.21	2.42	1.06 **	0.52 **	1.02	-	-	100
12/31/2004	% capital	78.96	5.19	3.59	3.21	2.42	0.86 **	0.72 **	1.02	4.03	-	100
	% voting rights	82.99*	5.19	3.59	3.21	2.42	0.86 **	0.72 **	1.02	-	-	100
12/31/2005	% capital	78.96	5.19	3.59	3.21	2.42	0.79 **	0.79 **	1.02	4.03	-	100
	% voting rights	82.99*	5.19	3.59	3.21	2.42	0.79 **	0.79 **	1.02	-	-	100
12/31/2006	% capital	78.96	5.19	3.59	3.21	2.42	0.73 **	0.85 **	1.02	4.03	-	100
	% voting rights	82.99*	5.19	3.59	3.21	2.42	0.73 **	0.85 **	1.02	-	-	100
12/31/2007	% capital	78.96	5.19	3.59	3.21	2.42	0.69 **	0.89 **	1.02	4.03	-	100
	% voting rights	82.99*	5.19	3.59	3.21	2.42	0.69 **	0.89 **	1.02	-	-	100
<b>12/31/2008</b>	<b>% capital</b>	<b>78.96</b>	<b>5.19</b>	<b>3.59</b>	<b>3.21</b>	<b>2.42</b>	<b>0.69 **</b>	<b>0.89 **</b>	<b>1.02</b>	<b>4.03</b>	<b>-</b>	<b>100</b>
	<b>% voting rights</b>	<b>82.99*</b>	<b>5.19</b>	<b>3.59</b>	<b>3.21</b>	<b>2.42</b>	<b>0.69 **</b>	<b>0.89 **</b>	<b>1.02</b>	<b>-</b>	<b>-</b>	<b>100</b>

\* The reason for the difference in the percentage of share capital and percentage of voting rights held by the CEA in AREVA is that the CEA owns all of the voting right certificates.

\*\* Calyon entered into a liquidity guarantee with Framépargne under which it agreed to acquire, in the event of insufficient liquidity, AREVA shares held by Framépargne that the latter would have to sell to meet share repurchase requirements. Pursuant to this guarantee, Calyon purchased some AREVA shares beginning in July 2002. Since the passage of the Law of December 30, 2006 and its implementing order of October 24, 2007, AREVA itself may provide this liquidity guarantee.

\*\*\* Each member of the Supervisory Board holds one share of stock.

## 18.2. Investment certificate trading

### 18.2.1. Reduction of share capital (article 9 of the by-laws)

The Extraordinary General Meeting of Shareholders may reduce the share capital by reducing the number of shares and investment certificates and, in conjunction with this, the number of voting right

certificates, or by any other means insofar as the share capital remains greater than the minimum legal requirement.

### 18.2.2. Trading exchange

The investment certificates are quoted on Compartment B of Euronext Paris, under Euroclear code 004540972 and ISIN code FR 0004275832.

### 18.2.3. Custodian services

Custodian and transfer services are provided by:  
 CACEIS CT  
 Investor Relations Department  
 14, rue Rouget de Lisle  
 92130 Issy-les-Moulineaux - Cedex 09 – France  
 Tel: +33 1 57 78 34 44  
 Fax: +33 1 57 78 34 00  
 e-mail: [actionnariat.ge@caceis.com](mailto:actionnariat.ge@caceis.com)

### 18.2.4. Historical data

Summary of investment certificate prices and trading volumes since January 2004.

#### 2004

<i>(in euros)</i>	High*	Low*	Volume traded	Traded value
January	224.0	200.1	98,264	20,905,200
February	223.5	213.5	185,570	40,450,200
March	223.0	206.0	147,326	31,649,800
April	239.5	211.5	213,363	48,462,200
May	225.9	197.2	214,308	45,101,900
June	234.0	217.0	89,527	20,280,400
July	245.0	226.8	179,425	42,381,700
August	260.0	231.0	102,902	25,295,400
September	302.6	251.0	275,848	76,340,800
October	297.3	271.0	181,019	51,292,100
November	295.0	273.0	173,545	49,385,800
December	335.0	293.0	132,491	41,301,900

\* Intraday prices.

Source : Reuters.

**2005**

<i>(in euros)</i>	High*	Low*	Volume traded	Traded value
January	339.5	305.0	123,980	39,990,600
February	379.0	299.0	399,299	130,365,600
March	395.0	315.0	288,326	101,341,300
April	350.0	301.0	152,017	49,526,656
May	336.0	302.5	121,854	39,187,668
June	369.0	325.6	104,834	36,619,044
July	395.7	353.0	121,648	46,224,508
August	400.0	334.1	66,793	25,121,602
September	472.0	372.0	131,664	56,717,980
October	443.5	365.0	137,112	55,404,036
November	409.0	373.3	71,269	27,927,086
December	412.0	372.2	118,269	46,755,504

\* Intraday prices.

Source : Reuters.

**2006**

<i>(in euros)</i>	High*	Low*	Volume traded	Traded value
January	474.0	403.0	108,905	48,526,342
February	562.0	466.0	126,476	63,346,962
March	598.0	500.0	139,666	75,517,521
April	650.0	528.5	106,845	64,114,190
May	628.0	494.0	174,662	96,875,610
June	549.5	460.0	115,878	57,276,050
July	570.0	445.2	123,037	59,294,350
August	505.0	452.1	68,503	33,060,610
September	531.0	462.1	97,767	48,250,700
October	510.0	457.0	83,607	40,184,040
November	579.0	500.0	97,228	52,361,180
December	587.5	535.5	81,597	45,598,410

\* Intraday prices.

Source : Reuters.

**2007**

<i>(in euros)</i>	High*	Low*	Volume traded	Traded value
January	642.0	552.5	121,100	72,468,830
February	764.5	621.0	229,541	156,207,700
March	743.0	648.4	129,391	89,144,010
April	795	705.1	133,697	101,713,600
May	778	720.6	149,038	110,813,100
June	828.8	722.8	198,895	154,026,600
July	831.5	770.3	113,955	91,262,010
August	794	625	211,513	147,078,000
September	745	671.1	120,719	85,127,920
October	782.7	701.0	130,192	95,959,380
November	780	675	135,717	100,112,300
December	798	725	92,222	70,059,250

\* Intraday prices.

Source : Reuters.

**2008**

<i>(in euros)</i>	High*	Low*	Volume traded	Traded value
January	788	580	189,654	127,161,596
February	725	641	95,628	64,783,836
March	724	640	68,657	46,614,150
April	740	660	83,896	59,147,460
May	820	717	86,274	67,569,584
June	820	732	81,499	63,290,107
July	788	728	126,266	95,546,404
August	750	662	76,428	53,256,981
September	714	505	161,280	94,820,167
October	564	333	289,378	126,162,801
November	446	330	140,008	53,548,059
December	380	315	118,796	40,693,861

\* Intraday prices.

Source : Reuters.

From AREVA's establishment on September 3, 2001 through December 31, 2008, the price of the investment certificate has risen by 163.3%, outperforming the CAC 40, which lost 30.49% over the same period. The Euro Stoxx 50® lost 35.60% over that period. In 2008, the price of the investment certificate dropped 55.41%, compared with a drop of 42.68% for the CAC 40 and a

drop of 45.96% for the Euro Stoxx 50® index. The average daily volume traded was 6,071 ICs in 2008, compared with 5,255 ICs in 2006 and 7,067 ICs in 2007.

In value, average trading was 3,570,380 euros in 2008, compared with 2,715,897 euros in 2006 and 5,097,674 euros in 2007.

### 18.3. Control of the issuer

There is no agreement known to the issuer that could, if implemented, result in a change in control of the issuer.

For more information on the control exercised by the issuer, see section 21.2.1, “Establishing Decree”.

### 18.4. Agreement known to the issuer that could, if implemented, result in a change in control of the issuer

There is no agreement known to the issuer that could, if implemented, result in a change in control of the issuer.

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■ 19.3. Relations with EDF .....	237

Significant operations with related parties are described in this chapter; some of them are also covered in section 20.2. “Notes to the consolidated financial statements for the year ended December 31, 2008”, in note 29 “Transactions with related parties”.

## 19.1. Relations with the French State

As of December 31, 2008, the French State holds, directly or indirectly, more than 90% of the shares issued by AREVA and more than 94% of its voting rights.

In practice, the French State makes the decisions submitted to the Annual General Meeting of Shareholders, including the appointment of members of the Supervisory Board, where the French State and the CEA are largely represented.

Of the 15 members of the Supervisory Board, 4 are appointed by ministerial order and represent the French State, including the Director of the agency in charge of managing the government's equity interests. The CEA, the CEA's Chairman and the CEA's Director of Nuclear Energy are also members of the Supervisory Board.

Within the Supervisory Board, a person responsible for the general economic and financial control of the AREVA group ensures control on behalf of the French government and is designated by ministerial order.

For more information, please refer to section 4.3., “Risk factors”, section 5, “Information about the issuer”, and section 14, “Administrative, management and supervisory bodies and senior management”.

AREVA is also subject to the control of the French Cour des Comptes, which examines the quality and consistency of its financial statements and of its management practices, as provided in articles L.133-1 and L.133-2 of the French Code of the Financial Courts.

## 19.2. Relations with the CEA

The CEA held 78.96% of the share capital of AREVA and almost 82.99% of the voting rights as of December 31, 2008. As such, the CEA is the group's main related party. The description of transactions between the AREVA group and the CEA may be found in

section 20.2., “Notes to the consolidated financial statements”, note 29, “Related party transactions” (including compensation of executive officers).

## 19.3. Relations with EDF

The nature of the relations with EDF and the transactions concluded between the two groups are explained in section 4.3.4., “Contractual and commercial risks”, and in section 20.2., “Notes to the consolidated financial statements”, note 29, “Related party transactions”.

## Financial Information concerning assets, financial positions, and financial performance

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## 20.1. 2008 Consolidated financial statements

### 20.1.1. Statutory Auditors' report on the consolidated financial statements

*This is a free translation into English of the Statutory Auditors' report on the consolidated financial statements issued in the French language and is provided solely for the convenience of English speaking readers. The Statutory Auditors' report includes information specifically required by French law in such reports, whether qualified or not. This information is presented below the opinion on the consolidated financial statements and includes explanatory paragraphs discussing the auditors' assessments of certain significant accounting and auditing matters. These assessments were made for the purpose of issuing an audit opinion on the consolidated financial statements taken as a whole and not to provide separate assurance on individual account captions or on information taken outside of the consolidated financial statements. Such report should be read in conjunction and construed in accordance with French law and French auditing professional standards.*

To the shareholders,

In accordance with our appointment as statutory auditors at your Annual General Meeting, we hereby report to you for the year ended December 31, 2008 on:

- the audit of the accompanying consolidated financial statements of AREVA SA;
- the justification of our assessments; and
- the specific procedures required by law.

The consolidated financial statements have been approved by the Management Board. Our role is to express an opinion on these financial statements, based on our audit.

#### I - Opinion on the consolidated financial statements

We have conducted our audit in accordance with professional standards applicable in France. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatements. An audit includes verifying, using sample testing techniques or other selection methods, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made, as well as evaluating the overall financial statement presentation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements give a true and fair view of the assets and liabilities and of the financial position of the Group as of December 31, 2008 and of the results of its operations for the year then ended in accordance with international financial reporting standards (IFRS), as adopted by the European Union.

Without qualifying the above opinion, we draw your attention to the following notes to the consolidated financial statements:

- notes 1.1, 1.18 and 13, in which the procedures for measuring end-of-life-cycle assets and liabilities and their sensitivity to assumptions adopted with regard to estimates, timing of cash outflows and discount rates are described;
- notes 1.1, 1.8 and 24, in which are described in particular, the performance conditions of the OL3 contract and the sensitivity of result at completion of this contract to customer conduct, contractual risks, termination of engineering and civil engineering activities and potential problems arising from the assembly and testing phases relating to the EPR's first physical erection;
- notes 1.1, 1.19.1 and 25 in which are described the procedure for determining the price of the AREVA NP put option exercised by Siemens on January 29, 2009, the uncertainty relating to this procedure and the accounting treatment adopted as of December 31, 2008 for the financial liability relating to this option.

## II - Justification of our assessments

The accounting estimates adopted and significant judgements made for the financial statements for the year ended December 31, 2008 were prepared in a context of strong financial market volatility and uncertain economic outlooks. These conditions are referred to in the introduction to note 1.1 to the consolidated financial statements. It is in this context and in accordance with article L. 823-9 of the French Commercial Code relating to the justification of our assessments that we bring to your attention the following matters:

- provisions for end-of-life cycle operations were measured in accordance with the methods disclosed in note 1.18 to the consolidated financial statements. During the course of our procedures, we reviewed the implementation of these accounting methods, the assumptions adopted and the estimates obtained;
- against these provisions the Group recognizes:
  - end-of-life cycle assets to be financed by third parties and receivables related to end-of-life cycle operations which we reviewed taking into accounts the agreements signed with EDF in 2008,
  - financial assets earmarked for end-of-life-cycle operations, including a dedicated portfolio comprising shares held directly and units in equity investment funds. The management objectives and the measurement principles of this portfolio are described in notes 13 and 1.13.1 to the consolidated financial statements. As part of our procedures we assessed the appropriateness of the methods adopted and the measurement of permanent impairments in the specific context of the long-term holding of this portfolio;
- other non-current financial assets comprise available-for-sale securities measured in accordance with the methods detailed in notes 1.1, 1.13.2 and 15 to the consolidated financial statements. In the course of our procedures we assessed the appropriateness of the methods adopted and the measurement of permanent impairments;
- goodwill and intangible assets were tested for impairment in accordance with the principles set out in notes 1.10 and 10 to the consolidated financial statements. We reviewed the procedures applied for the performance of these tests, assessed the consistency of the assumptions adopted with the forecast data resulting from the strategic plan of the Group and verified that appropriate disclosures are presented in notes 1.10 and 10 to the consolidated financial statements;
- the accounting principles relating to employee benefits are outlined in notes 1.1, 1.16 and 23 to the consolidated financial statements. As part of our procedures we assessed the appropriateness of the methods adopted and reviewed the marking-to-market of hedging assets;
- AREVA Group recognizes income from long-term contracts in accordance with the accounting methods described in notes 1.8 and 24 to the consolidated financial statements. Our procedures, generally and specifically for the OL3 contract, consisted in assessing the data and assumptions made by Management used as a basis to estimate profits and losses at completion on contract and changes therein and reviewing the calculations performed and Management's procedures for approving these estimates;
- with respect to risks, litigation and contingent liabilities, we assessed the procedures currently used by your Group to identify, assess and record such risks, litigation and contingent liabilities in the accounts. We also ascertained that the main litigations identified by the procedures implemented by your Group were described appropriately in the consolidated financial statements and specifically in notes 24 and 34.

These assessments were performed as part of our audit approach for the consolidated financial statements taken as a whole and contributed to the expression of our opinion in the first part of this report.

## III - Specific procedure

We have also verified the financial information presented in the Group Management Report.

We have no comment to make as to the fair presentation of this information or its consistency with the consolidated financial statements.

Paris-La Défense and Neuilly-sur-Seine, February 25, 2009

The Statutory Auditors

Mazars

Jean-Luc Barlet

Juliette Decoux

Deloitte & Associés

Étienne Jacquemin

Patrice Choquet

## 20.1.2. Consolidated income statement

<i>(in millions of euros)</i>	Note	2008	2007	2006
<b>Revenue</b>	<b>3</b>	<b>13,160</b>	<b>11,923</b>	<b>10,863</b>
Other income from operations		32	21	55
Cost of sales		(10,906)	(9,183)	(8,698)
<b>Gross margin</b>		<b>2,286</b>	<b>2,762</b>	<b>2,220</b>
Research and development expenses		(453)	(421)	(355)
Marketing and sales expenses		(607)	(529)	(493)
General and administrative expenses		(980)	(881)	(778)
Other operating expenses	6	(202)	(243)	(312)
Other operating income	6	373	64	125
<b>Operating income</b>		<b>417</b>	<b>751</b>	<b>407</b>
Income from cash and cash equivalents		38	37	50
Gross borrowing costs		(148)	(110)	(78)
<b>Net borrowing costs</b>		<b>(111)</b>	<b>(73)</b>	<b>(29)</b>
Other financial expenses		(707)	(408)	(330)
Other financial income		788	546	456
<b>Other financial income and expenses</b>		<b>81</b>	<b>138</b>	<b>126</b>
<b>Net financial income (expense)</b>	<b>7</b>	<b>(29)</b>	<b>64</b>	<b>97</b>
Income tax	8	(46)	(81)	(51)
<b>Net income of consolidated businesses</b>		<b>343</b>	<b>734</b>	<b>453</b>
Share in net income of associates	14	156	148	220
<b>Net income from continuing operations</b>		<b>498</b>	<b>882</b>	<b>672</b>
Net income from discontinued operations	9	-	-	-
<b>Net income for the period</b>		<b>498</b>	<b>882</b>	<b>672</b>
Less minority interests		(91)	139	24
<b>Net income attributable to equity holders of the parent</b>		<b>589</b>	<b>743</b>	<b>649</b>
Average number of shares outstanding		35,442,701	35,442,701	35,442,701
Earnings per share from continuing operations		16.62	20.95	18.31
Basic earnings per share		16.62	20.95	18.31
Diluted earnings per share <sup>(1)</sup>		16.62	20.95	18.31

(1) AREVA has not issued any instruments with a dilutive impact on share capital.

### 20.1.3. Consolidated balance sheet

#### Assets

<i>(in millions of euros)</i>	Note	December 31, 2008	December 31, 2007	December 31, 2006
<b>Non-current assets</b>		<b>22,841</b>	<b>21,425</b>	<b>17,350</b>
Goodwill on consolidated companies	10	4,803	4,377	2,515
Intangible assets	11	3,089	2,729	1,175
Property, plant and equipment	12	4,913	4,204	3,814
End-of-life-cycle assets (third party share)	13	270	2,491	2,091
Assets earmarked for end-of-life-cycle operations	13	4,954	2,873	2,986
Investments in associates	14	1,757	1,558	1,521
Other non-current financial assets	15	2,152	2,588	2,376
Pension fund assets		1	-	-
Deferred tax assets	8	900	604	873
<b>Current assets</b>		<b>11,804</b>	<b>9,251</b>	<b>8,543</b>
Inventories and work-in-process	16	3,403	2,817	2,306
Trade accounts receivable and related accounts	17	4,486	3,884	3,604
Other operating receivables	18	2,434	1,402	1,121
Current tax assets	8	164	94	116
Other non-operating receivables		154	141	142
Cash and cash equivalents	19	1,050	634	962
Other current financial assets	20	113	279	292
Assets of operations held for sale		-	-	-
<b>Total assets</b>		<b>34,644</b>	<b>30,676</b>	<b>25,893</b>

**Liabilities and equity**

<i>(in millions of euros)</i>	Note	<b>December 31, 2008</b>	December 31, 2007	December 31, 2006
<b>Equity and minority interests</b>		<b>7,292</b>	<b>7,464</b>	<b>7,016</b>
Share capital	21	1,347	1,347	1,347
Consolidated premiums and reserves		4,455	3,925	3,619
Deferred unrealized gains and losses on financial instruments		287	1,117	1,131
Currency translation reserves		(131)	(138)	(25)
Net income attributable to equity holders of the parent		589	743	649
Minority interests	22	745	470	294
<b>Non-current liabilities</b>		<b>11,795</b>	<b>11,951</b>	<b>8,352</b>
Employee benefits	23	1,268	1,175	1,122
Provisions for end-of-life-cycle operations	13	5,674	5,075	4,585
Other non-current provisions	24	123	121	113
Long-term borrowings	25	3,969	4,302	1,407
Deferred tax liabilities	8	760	1,277	1,124
<b>Current liabilities</b>		<b>15,558</b>	<b>11,261</b>	<b>10,526</b>
Current provisions	24	2,081	1,823	1,788
Short-term borrowings	25	2,693	613	712
Advances and prepayments received	26	4,752	4,172	4,185
Trade accounts payable and related accounts		2,991	2,565	2,093
Other operating liabilities	27	2,884	1,921	1,650
Current tax liabilities	8	104	127	74
Other non-operating liabilities	27	53	41	23
Liabilities of operations held for sale		-	-	-
<b>Total liabilities and equity</b>		<b>34,644</b>	<b>30,676</b>	<b>25,893</b>

## 20.1.4. Consolidated cash flow statement

<i>(in millions of euros)</i>	Note	2008	2007	2006
<b>Net income before minority interests</b>		<b>498</b>	<b>882</b>	<b>672</b>
Less: income from discontinued operations		-	-	-
<b>Net income from continuing operations</b>		<b>498</b>	<b>882</b>	<b>672</b>
Share in net income of associates		(156)	(148)	(220)
Net amortization, depreciation and impairment of PP&E and intangible assets and marketable securities maturing in more than 3 months		565	553	500
Goodwill impairment losses		-	-	-
Net increase in provisions		271	9	314
Net effect of reverse discounting of assets and provisions		272	147	178
Income tax expense (current and deferred)		46	81	50
Net interest included in borrowing costs		108	55	7
Loss (gain) on disposals of fixed assets and marketable securities maturing in more than 3 months; change in fair value		(347)	(160)	(259)
Other non-cash items		(353)	(125)	(15)
<b>Cash flow from operations before interest and taxes</b>		<b>904</b>	<b>1,294</b>	<b>1,231</b>
Net interest received (paid)		(82)	(26)	0
Income tax paid		(295)	(130)	(90)
<b>Cash flow from operations after interest and tax</b>		<b>527</b>	<b>1,138</b>	<b>1,141</b>
Change in working capital requirement	28	(446)	(416)	(344)
<b>Net cash from operating activities</b>		<b>81</b>	<b>722</b>	<b>797</b>
Investment in PP&E and intangible assets		(1,623)	(1,112)	(1,134)
Loans granted and acquisitions of non-current financial assets		(1,648)	(1,127)	(2,318)
Acquisitions of shares of consolidated companies, net of acquired cash		(133)	(1,853)	(240)
Disposals of PP&E and intangible assets		41	40	42
Loan repayments and disposals of non-current financial assets		1,530	1,204	2,650
Disposals of shares of consolidated companies, net of disposed cash		495	-	21
Dividends from equity associates		80	52	27
<b>Net cash used in investing activities</b>		<b>(1,259)</b>	<b>(2,796)</b>	<b>(953)</b>
Share issues subscribed by minority shareholders in consolidated subsidiaries		268	5	-
Dividends paid to shareholders of the parent company		(240)	(300)	(350)
Dividends paid to minority shareholders of consolidated companies		(86)	(45)	(79)
Increase (decrease) in borrowings		1,574	1,862	64
<b>Net cash used in financing activities</b>		<b>1,516</b>	<b>1,522</b>	<b>(364)</b>
Increase (decrease) in securities recognized at fair value through profit and loss		42	178	(1)
Impact of foreign exchange movements		(22)	(7)	2
<b>Net cash flow from discontinued operations</b>	28	<b>-</b>	<b>-</b>	<b>-</b>
<b>Increase (decrease) in net cash</b>		<b>357</b>	<b>(381)</b>	<b>(518)</b>
<b>Net cash at the beginning of the year</b>		<b>520</b>	<b>901</b>	<b>1,419</b>
Cash at the end of the year	19	1,050	634	962
Less: short-term bank facilities and non-trade current accounts (credit balances)	25	(172)	(113)	(61)
<b>Net cash at the end of the year</b>		<b>877</b>	<b>520</b>	<b>901</b>

“Net Cash” taken into account in establishing the cash flow statement consists of:

- “Cash and cash equivalents” (see note 19, “Cash and cash equivalents”), which includes:
  - cash balances and non-trade current accounts, and
  - risk-free marketable securities initially maturing in less than three months, and money market funds;

- after deduction of short-term bank facilities and non-trade current accounts included in short-term borrowings (see note 25, “Borrowings”).



## 20.1.5. Consolidated statement of changes in equity

<i>(in millions of euros)</i>	Number of shares and investment certificates	Share capital	Premiums and consolidated reserves	Currency translation reserves	Deferred unrealized gains and losses on financial instruments	Equity attributable to equity holders of the parent	Minority interests	Total equity
<b>December 31, 2006</b>	<b>35,442,701</b>	<b>1,347</b>	<b>4,268</b>	<b>(25)</b>	<b>1,131</b>	<b>6,721</b>	<b>294</b>	<b>7,016</b>
Net income for 2007			743			743	139	882
Change in deferred unrealized gains and losses (after tax):								
• on cash flow hedging instruments					(10)	(10)	1	(9)
• change in value of available- for-sale securities					(4)	(4)	(1)	(5)
<b>Total income and expenses recognized</b>			<b>743</b>		<b>(14)</b>	<b>729</b>	<b>139</b>	<b>868</b>
Dividends paid *			(300)			(300)	(45)	(345)
Change in consolidated group								
Change in accounting method and other adjustments **			(43)			(43)	97	54
Currency translation adjustments				(113)		(113)	(15)	(128)
<b>December 31, 2007</b>	<b>35,442,701</b>	<b>1,347</b>	<b>4,668</b>	<b>(138)</b>	<b>1,117</b>	<b>6,994</b>	<b>470</b>	<b>7,464</b>
Net income for 2008			589			589	(91)	498
Change in deferred unrealized gains and losses (after tax):								
• on cash flow hedging instruments					(30)	(30)		(30)
• change in value of available- for-sale securities					(800)	(800)	(22)	(822)
<b>Total income and expenses recognized</b>			<b>589</b>		<b>(830)</b>	<b>(241)</b>	<b>(113)</b>	<b>(354)</b>
Dividends paid *			(240)			(240)	(85)	(325)
Change in consolidated group								
Change in accounting method and other adjustments **			27			27	460	487
Currency translation adjustments				7		7	13	20
<b>December 31, 2008</b>	<b>35,442,701</b>	<b>1,347</b>	<b>5,044</b>	<b>(131)</b>	<b>287</b>	<b>6,547</b>	<b>745</b>	<b>7,292</b>

\* Dividend paid per share (in  
euros):

• in 2007 from 2006 net  
income

8.46

• in 2008 from 2007 net  
income

6.77

\*\* Other adjustments relate to associates whose financial statements were not available when AREVA closed its records for the years ended December 31, 2007 and December 31, 2008. These adjustments include fair value adjustments in associates' equity positions.

## 20.1.6. Segment reporting

### Data by division

#### 2008

#### Income statement

<i>(in millions of euros)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate	Eliminations	Total Group
<b>Gross revenue</b>	<b>3,411</b>	<b>3,220</b>	<b>1,987</b>	<b>5,071</b>	<b>303</b>	<b>(832)</b>	<b>13,160</b>
Inter-company sales *	(48)	(183)	(295)	(7)	(300)	832	0
Contribution to consolidated revenue	3,363	3,037	1,692	5,065	3	0	13,160
<b>Operating income</b>	<b>453</b>	<b>(687)</b>	<b>270</b>	<b>561</b>	<b>(170)</b>	<b>(10)</b>	<b>417</b>
% of gross revenue	13.3%	(21.3)%	13.6%	11.1%	n.a.		3.2%
Depreciation and amortization of PP&E and intangible assets	(215)	(133)	(133)	(85)	(12)		(578)
Impairment of PP&E and intangible assets	0	0	91	(1)	0		91
Reversal (increase) in provisions	(108)	(210)	(10)	58	(1)		(270)
Gain (loss) on asset disposals recognized in operating income	189	1	1	8	(3)		195

\* Transfer prices used in inter-company transactions are determined at arm's length.

#### Balance sheet

<i>(in millions of euros, except personnel data)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate	Eliminations	Total Group
PP&E and intangible assets (including goodwill)	5,595	1,436	1,947	1,308	2,539	(19)	12,806
Assets earmarked for end-of-life-cycle operations	718	38	4,468				5,224
Other non-current assets					4,810		4,810
<b>Subtotal: Non-current assets</b>	<b>6,313</b>	<b>1,474</b>	<b>6,415</b>	<b>1,308</b>	<b>7,350</b>	<b>(19)</b>	<b>22,841</b>
Inventories and receivables (excluding tax receivables)	3,055	2,015	1,708	3,709	665	(674)	10,477
Other current assets					1,327		1,327
<b>Subtotal: Current assets</b>	<b>3,055</b>	<b>2,015</b>	<b>1,708</b>	<b>3,709</b>	<b>1,992</b>	<b>(674)</b>	<b>11,804</b>
<b>Total assets</b>	<b>9,368</b>	<b>3,488</b>	<b>8,123</b>	<b>5,017</b>	<b>9,332</b>	<b>(694)</b>	<b>34,644</b>
Employee benefits and non-current provisions	1,430	228	5,097	258	52		7,065
Other non-current liabilities					4,730		4,730
<b>Subtotal: Non-current liabilities</b>	<b>1,430</b>	<b>228</b>	<b>5,097</b>	<b>258</b>	<b>4,782</b>		<b>11,795</b>
Current provisions	383	874	374	355	97		2,081
Advances, down payments and other debt, excluding tax liabilities	1,742	2,251	3,718	3,076	581	(689)	10,680
Other current liabilities					2,797		2,797
<b>Subtotal: Current liabilities</b>	<b>2,125</b>	<b>3,125</b>	<b>4,092</b>	<b>3,431</b>	<b>3,474</b>	<b>(689)</b>	<b>15,558</b>
<b>Total liabilities</b>	<b>3,555</b>	<b>3,353</b>	<b>9,189</b>	<b>3,689</b>	<b>8,257</b>	<b>(689)</b>	<b>27,353</b>
Workforce	14,240	19,477	10,906	29,966	825		75,414

## 2007

## Income statement

<i>(in millions of euros)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate	Eliminations	Total Group
<b>Gross revenue</b>	<b>3,181</b>	<b>2,870</b>	<b>1,978</b>	<b>4,340</b>	<b>280</b>	<b>(726)</b>	<b>11,923</b>
Inter-company sales *	(42)	(152)	(240)	(12)	(280)	726	0
Contribution to consolidated revenue	3,140	2,717	1,738	4,327	1	0	11,923
<b>Operating income</b>	<b>496</b>	<b>(178)</b>	<b>207</b>	<b>406</b>	<b>(166)</b>	<b>(14)</b>	<b>751</b>
% of gross revenue	15.6%	(6.2)%	10.5%	9.3%	n.a.		6.3%
Depreciation and amortization of PP&E and intangible assets	(191)	(88)	(143)	(76)	(4)		(503)
Impairment of PP&E and intangible assets	-	-	-	-	-		0
Reversal (increase) in provisions	(41)	29	(22)	47	(25)		(12)
Gain (loss) on asset disposals recognized in operating income	3	0	1	-	-		4

\* Transfer prices used in inter-company transactions are determined at arm's length.

## Balance sheet

<i>(in millions of euros, except personnel data)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate	Eliminations	Total Group
PP&E and intangible assets (including goodwill)	4,894	1,141	1,897	1,053	2,332	(7)	11,310
Assets earmarked for end-of-life-cycle operations	697	46	4,621				5,365
Other non-current assets					4,750		4,750
<b>Subtotal: Non-current assets</b>	<b>5,591</b>	<b>1,187</b>	<b>6,518</b>	<b>1,053</b>	<b>7,082</b>	<b>(7)</b>	<b>21,425</b>
Inventories and receivables (excluding tax receivables)	2,308	1,687	1,383	2,909	419	(461)	8,244
Other current assets					1,007		1,007
<b>Subtotal: Current assets</b>	<b>2,308</b>	<b>1,687</b>	<b>1,383</b>	<b>2,909</b>	<b>1,426</b>	<b>(461)</b>	<b>9,251</b>
<b>Total assets</b>	<b>7,899</b>	<b>2,874</b>	<b>7,900</b>	<b>3,961</b>	<b>8,508</b>	<b>(468)</b>	<b>30,676</b>
Employee benefits and non-current provisions	1,324	273	4,479	272	22		6,371
Other non-current liabilities					5,580	0	5,580
<b>Subtotal: Non-current liabilities</b>	<b>1,324</b>	<b>273</b>	<b>4,479</b>	<b>272</b>	<b>5,602</b>	<b>0</b>	<b>11,951</b>
Current provisions	259	637	419	378	130		1,823
Advances, down payments and other debt, excluding tax liabilities	1,416	1,815	3,113	2,513	308	(466)	8,699
Other current liabilities					740		740
<b>Subtotal: Current liabilities</b>	<b>1,675</b>	<b>2,452</b>	<b>3,532</b>	<b>2,891</b>	<b>1,178</b>	<b>(467)</b>	<b>11,261</b>
<b>Total liabilities</b>	<b>2,999</b>	<b>2,725</b>	<b>8,012</b>	<b>3,163</b>	<b>6,779</b>	<b>(467)</b>	<b>23,212</b>
Workforce	12,577	16,500	10,638	25,248	620		65,583

## 2006

## Income statement

<i>(in millions of euros)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate	Eliminations	Total Group
<b>Gross revenue</b>	<b>2,971</b>	<b>2,441</b>	<b>2,203</b>	<b>3,725</b>	<b>255</b>	<b>(732)</b>	<b>10,863</b>
Inter-company sales *	(52)	(129)	(295)	(1)	(254)	732	0
Contribution to consolidated revenue	2,919	2,312	1,908	3,724			10,863
<b>Operating income</b>	<b>456</b>	<b>(420)</b>	<b>273</b>	<b>191</b>	<b>(93)</b>	<b>(1)</b>	<b>407</b>
% of gross revenue	15.4%	(17.2)%	12.4%	5.1%	n.a.		3.7%
Depreciation and amortization of PP&E and intangible assets	(180)	(68)	(153)	(76)	(2)		(479)
Impairment of PP&E and intangible assets	(17)						(17)
Reversal (increase) in provisions	33	(358)	40	10	(45)		(320)
Gain (loss) on asset disposals recognized in operating income	34	(5)	1	2	20		51

\* Transfer prices used in inter-company transactions are recorded at arm's length.

## Balance sheet

<i>(in millions of euros, except personnel data)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate	Eliminations	Total Group
PP&E and intangible assets (including goodwill)	2,321	918	1,954	961	1,344	3	7,502
Assets earmarked for end-of-life-cycle operations	429	70	4,581				5,080
Other non-current assets					4,769		4,769
<b>Subtotal: Non-current assets</b>	<b>2,750</b>	<b>988</b>	<b>6,535</b>	<b>961</b>	<b>6,113</b>	<b>3</b>	<b>17,350</b>
Inventories and receivables (excluding tax receivables)	1,890	1,494	1,326	2,513	375	(426)	7,172
Other current assets					1,370		1,370
<b>Subtotal: Current assets</b>	<b>1,890</b>	<b>1,494</b>	<b>1,326</b>	<b>2,513</b>	<b>1,745</b>	<b>(426)</b>	<b>8,542</b>
<b>Total assets</b>	<b>4,640</b>	<b>2,482</b>	<b>7,861</b>	<b>3,474</b>	<b>7,858</b>	<b>(423)</b>	<b>25,893</b>
Employee benefits and non-current provisions	1,153	197	4,154	279	38		5,821
Other non-current liabilities					2,531		2,531
<b>Subtotal: Non-current liabilities</b>	<b>1,153</b>	<b>197</b>	<b>4,154</b>	<b>279</b>	<b>2,569</b>		<b>8,352</b>
Current provisions	204	670	413	408	95	(2)	1,788
Advances, down payments and other debt, excluding tax liabilities	1,131	1,676	3,248	2,089	232	(425)	7,952
Other current liabilities					786		786
<b>Subtotal: Current liabilities</b>	<b>1,335</b>	<b>2,346</b>	<b>3,661</b>	<b>2,498</b>	<b>1,114</b>	<b>(427)</b>	<b>10,526</b>
<b>Total liabilities</b>	<b>2,488</b>	<b>2,543</b>	<b>7,815</b>	<b>2,776</b>	<b>3,682</b>	<b>(427)</b>	<b>18,878</b>
Workforce	11,995	14,936	10,697	22,988	495		61,111

## Data by geographical area

## 2008

## Contribution to consolidated revenue by business division and customer location

<i>(in millions of euros)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate	Total Group
France	1,159	1,135	977	371	3	3,645
Europe (excluding France)	921	849	362	1,721		3,854
North & South America	475	696	114	648		1,934
Asia-Pacific	731	299	237	1,297		2,564
Africa / Middle East	77	58	1	1,027		1,163
Other countries	-	-	-	-		
<b>Total</b>	<b>3,363</b>	<b>3,037</b>	<b>1,692</b>	<b>5,065</b>	<b>3</b>	<b>13,160</b>

## Closing balances of property, plant and equipment and intangible net assets (excluding goodwill) as of December 31, 2008 by geographical area and by division

<i>(in millions of euros)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate	Total Group
France	1,460	487	1,934	158	102	4,142
Europe (excluding France)	377	229		237	9	852
North & South America	790	196	11	65	32	1,095
Asia-Pacific	22	4		220	1	247
Africa / Middle East	1,665	1		2		1,668
<b>Total</b>	<b>4,314</b>	<b>917</b>	<b>1,945</b>	<b>683</b>	<b>143</b>	<b>8,003</b>

## Acquisitions of property, plant and equipment and intangible net assets (excluding goodwill) as of December 31, 2008 by geographical area and by division

<i>(in millions of euros)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate	Total Group
France	416	191	103	58	27	795
Europe (excluding France)	110	66		91		266
North & South America	135	73	2	20	1	230
Asia-Pacific	9	1		120		130
Africa / Middle East	287	1		2		290
<b>Total</b>	<b>958</b>	<b>331</b>	<b>105</b>	<b>290</b>	<b>27</b>	<b>1,711</b>

## 2007

## Contribution to consolidated revenue by business division and customer location

<i>(in millions of euros)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate	Total Group
France	1,018	946	1,000	348	1	3,313
Europe (excluding France)	779	814	341	1,473		3,407
North & South America	678	638	86	570		1,972
Asia-Pacific	631	238	310	1,052		2,231
Africa / Middle East	34	81	1	884		1,000
Other countries						
<b>Total</b>	<b>3,140</b>	<b>2,717</b>	<b>1,738</b>	<b>4,327</b>	<b>1</b>	<b>11,923</b>

Closing balances of property, plant and equipment and intangible net assets (excluding goodwill) as of December 31, 2007  
by geographical area and by division

<i>(in millions of euros)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate	Total Group
France	1,154	351	1,880	131	82	3,598
Europe (excluding France)	295	156	0	186	7	644
North & South America	824	157	10	63	32	1,086
Asia-Pacific	17	3	0	124	1	146
Africa / Middle East	1,458	0	0	1	0	1,460
<b>Total</b>	<b>3,748</b>	<b>667</b>	<b>1,890</b>	<b>505</b>	<b>122</b>	<b>6,933</b>

Acquisitions of property, plant and equipment and intangible net assets (excluding goodwill) as of December 31, 2007  
by geographical area and by division

<i>(in millions of euros)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate	Total Group
France	303	127	99	39	36	604
Europe (excluding France)	81	55	0	42	0	177
North & South America	128	82	3	17	0	230
Asia-Pacific	10	2	0	45	0	57
Africa / Middle East	64	0	0	1	0	65
<b>Total</b>	<b>586</b>	<b>266</b>	<b>102</b>	<b>144</b>	<b>36</b>	<b>1,133</b>

## 2006

## Contribution to consolidated revenue by business division and customer location

<i>(in millions of euros)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate	Total Group
France	1,203	886	1,125	316		3,530
Europe (excluding France)	708	687	489	1,279	1	3,164
North & South America	643	522	78	603		1,846
Asia-Pacific	330	183	215	817		1,545
Africa / Middle East	35	34	1	708		778
Other countries						
<b>Total</b>	<b>2,919</b>	<b>2,312</b>	<b>1,908</b>	<b>3,723</b>	<b>1</b>	<b>10,863</b>

## Closing balances of property, plant and equipment and intangible net assets (excluding goodwill) as of December 31, 2006 by geographical area and by division

<i>(in millions of euros)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate	Total Group
France	931	290	1,938	129	53	3,341
Europe (excluding France)	246	117	0	175	8	546
North & South America	732	120	10	54	28	944
Asia-Pacific	8	1	0	95	1	106
Africa / Middle East	51	0	0	1	0	51
<b>Total</b>	<b>1,967</b>	<b>528</b>	<b>1,948</b>	<b>455</b>	<b>90</b>	<b>4,988</b>

## Acquisitions of property, plant and equipment and intangible net assets (excluding goodwill) as of December 31, 2006 by geographical area and by division

<i>(in millions of euros)</i>	Front End	Reactors and Services	Back End	Transmission & Distribution	Corporate	Total Group
France	536	87	87	29	14	752
Europe (excluding France)	67	57	0	26	0	149
North & South America	134	62	3	13	1	213
Asia-Pacific	5	1	0	19	0	25
Africa / Middle East	17	0	0	0	0	18
<b>Total</b>	<b>759</b>	<b>207</b>	<b>89</b>	<b>87</b>	<b>15</b>	<b>1,157</b>



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All amounts are presented in millions of euros unless otherwise indicated. Certain totals may include rounding differences.

## Introduction

AREVA's consolidated financial statements for the period January 1, 2008 through December 31, 2008 were approved by the Executive Board on February 10, 2009 and reviewed by the Supervisory Board on February 25, 2009. The financial statements will be presented to the Annual General Meeting of Shareholders for approval on April 30, 2009.

The AREVA group is fully consolidated by the Commissariat à l'Énergie Atomique (see note 21, "Equity").

## Note 1. Accounting principles

Pursuant to European Regulation 1606/2002 of July 19, 2002, AREVA's consolidated financial statements for the year ended December 31, 2008 were prepared in accordance with International Financial Reporting Standards (IFRS), as adopted by the European Union as of December 31, 2008. They reflect IAS and IFRS standards and interpretations issued by the International Financial Reporting Interpretations Committee (IFRIC) and the former Standing Interpretation Committee (SIC).

In accordance with the stable platform introduced by the IASB, no new IFRS standard and no revised IFRS or IAS standard became mandatory for the 2008 financial statements, except for amendments to the standards applicable to financial instruments (IAS 39 and IFRS 7) adopted at the end of the year in response to the global financial crisis. These amendments concern the reclassification of certain categories of financial assets, none of which was held by the AREVA group. Accordingly, these amendments had no impact on the group's financial statements as of December 31, 2008.

In addition, the European Union adopted a new standard and two revised IAS standards in 2007 and 2008 whose application will be mandatory for accounting years beginning on or after January 1, 2009. These standards and amendments could have been applied on an optional basis in the financial statements for accounting years beginning before December 31, 2008. AREVA did not elect this option and therefore did not apply them in its financial statements for 2008.

■ IFRS 8, *segment reporting*, which replaces IAS 14: in accordance with this new standard, information on operating segments will be provided based on management's vision and no longer on homogeneous risk and profitability criteria. Moreover, data reported for each segment may be established according to rules other than IFRS if consistent with the methods used by management to evaluate their performance. In this instance, the company must provide a global reconciliation with consolidated data.

■ IAS 1 revised, *Presentation of the financial statements*: the main change in this revised standard concerns the creation of an option to:

- either recognize through profit and loss income or expense items currently recognized directly in equity in accordance with other standards (currency translation adjustments, change in fair value of financial assets available for sale, change in fair value of cash flow hedges);
- or present these items in a new statement (statement of other income and expenses) distinct from the statement of change in equity.

■ IAS 23 revised, *Borrowing Costs*. Under this standard, interest expenses must be included:

- in the cost of property, plant and equipment and intangible assets; and
- in income to completion from contracts recognized according to the percentage of completion method, as provided in IAS 11, when the contracts generate a cash loss.

The IAS standard applies to new projects initiated on or after January 1, 2009.

The quantified impact of application of this standard and these standard amendments on AREVA's financial statements for the years beginning on or after January 1, 2009 is being evaluated.

The European Union also approved several IFRIC interpretations. Among them, IFRIC 14 is likely to have an impact on AREVA's future financial statements. This interpretation of IAS 19 (*Employee benefits*) specifies in particular:

- the conditions required for an entity to recognize an asset on its balance sheet when retirement plan assets exceed the actuarial value of the corresponding commitments; and
- the circumstances under which an entity must recognize a liability when minimum funding requirements in the country of the plan are not met.

### 1.1. Estimates and assumptions

To prepare its financial statements, AREVA must make estimates, assumptions and judgments impacting the net carrying amount of certain assets and liabilities, income and expense items, or information provided in some notes to the financial statements. AREVA updates its estimates and judgments on a regular basis to take into account past experience and other factors deemed relevant, based on business circumstances. To prepare the financial statements as of December 31, 2008, AREVA performed an extensive review of its estimates and judgments, taking into account the global financial crisis.

Depending on changes in these assumptions or in circumstances, the group's future financial statements may or may not be consistent with current estimates, particularly in the following areas:

- anticipated margins on contracts accounted for according to the percentage of completion method (see note 1.8, "Revenue recognized according to the percentage of completion method" and note 24, "Other provisions"): these estimates are developed by the project teams in accordance with the group's procedures;
- anticipated cash flows, discount rates and growth assumptions used in impairment tests for goodwill and other plant, property and equipment and intangible assets (see note 1.10, "Impairment of property, plant and equipment, intangible assets and goodwill" and note 10, "Goodwill");
- anticipated cash flows, discount rates and growth assumptions used to assess the value of put options held by minority shareholders of certain fully consolidated AREVA subsidiaries (see note 1.19, "Borrowings" and note 25, "Borrowings");
- all assumptions used to assess the value of pension obligations and other employee benefits, including future payroll escalation, discount rates, retirement age, employee turnover and the expected return on plan assets (see note 1.16, "Employee benefits" and note 23, "Employee benefits");
- all assumptions used to calculate provisions for end-of-life-cycle operations and the assets corresponding to the third party share, including:
  - estimated costs of future end-of-life-cycle operations,
  - inflation and discount rates,
  - the schedule of future disbursements,
  - the service life of facilities (see note 1.18, "Provisions for end-of-life-cycle operations" and note 13, "End-of-life-cycle operations");
- estimates and judgments regarding the outcome of ongoing litigation and, more generally, estimates regarding all provisions and contingent liabilities of the AREVA group (see note 1.17, "Provisions", note 24, "Other provisions", and note 33, "Commitments given and received");
- the price to be paid by AREVA to buy back Siemens' minority interest in AREVA NP; following Siemens' announcement on January 27, 2009 of its decision to exercise its put option for this shareholding and given the uncertainty concerning the price to be paid for that option, which will be decided according to the procedure provided in the shareholders' agreement,

AREVA decided to maintain the same amount in its balance sheet at December 31, 2008 as at December 31, 2007 (see note 25, "Borrowings");

- estimates and judgments regarding the recoverable amount of trade accounts receivable and other accounts receivable (see note 1.12, "Accounts receivable" and note 1.13.3, "Loans, advances and deposits");
- estimates and judgments regarding the durable nature of the impairment of "available-for-sale" financial assets (see note 1.13, "Financial assets" note 13, "End-of-life-cycle operations", and note 15, "Other non-current financial assets");
- estimates of future taxable income used to calculate deferred tax assets (see note 1.22, "Income tax" and note 8, "Income taxes");
- the share in equity and net income of equity associates for companies that had not published their year-end financial statements as of the date of AREVA's financial statements.

### 1.2. Presentation of the financial statements

AREVA's financial statements are presented in accordance with IAS 1.

#### 1.2.1. Presentation of the balance sheet

The balance sheet makes a distinction between current and non-current assets, and current and non-current liabilities, in accordance with IAS 1.

Current assets and liabilities include assets held for sale or for use in connection with the operating cycle or expected to be sold or settled within 12 months of the balance sheet date.

Financial liabilities are reported as current or non-current liabilities based on their residual maturity at year-end.

To simplify the presentation of the balance sheet, AREVA presents all headings relating to end-of-life-cycle operations, as defined in note 13, on separate lines under non-current assets or liabilities, for their full amount. Thus, provisions for end-of-life-cycle operations are presented as non-current liabilities; the end-of-life-cycle asset corresponding to the share of third parties in the financing of these operations is presented under non-current assets. Financial assets earmarked to cover these operations are presented in a separate heading under non-current assets, including all equities and shares of equity and bond funds held in the portfolio, together with cash held on a short-term basis.

Provisions for employee benefits are also presented under non-current liabilities for their full amount.

Deferred tax assets and liabilities are reported as "non-current".

Assets and liabilities of discontinued operations are presented under separate headings of the balance sheet, as required under IFRS 5.

### 1.2.2. Presentation of the income statement

In the absence of detailed guidance in IAS 1, the income statement is presented in accordance with recommendation 2004-R.02 of the Conseil National de la Comptabilité (French national accounting board).

- Operating expenses are presented by function and are split among the following categories:
  - the cost of sales;
  - research and development expenses;
  - marketing and sales expenses;
  - general and administrative expenses;
  - the costs of restructuring and early employee retirement plans;
  - other operating income, mainly comprising:
    - gains/losses from disposals or dilutions associated with new or increased minority interests in the share capital of fully consolidated subsidiaries,
    - gains/losses on disposals of PP&E and intangible assets,
    - income from the deconsolidation of subsidiaries (except when qualified as discontinued operations in accordance with IFRS 5, in which instance they are presented on a separate line in the income statement),
    - reversals of impairment of property, plant and equipment and intangible assets;
  - other operating expenses, mainly comprising:
    - goodwill impairment losses,
    - impairment of and losses on disposals of plant, property and equipment and intangible assets,
    - losses from the deconsolidation of subsidiaries (except when they are qualified as discontinued operations in accordance with IFRS 5).
- Net financial income comprises:
  - gross borrowing costs;
  - income from cash and cash equivalents;
  - other financial expenses, most notably:
    - lasting impairment and gains or losses on sales of available-for-sale securities,
    - negative changes in value and losses on disposals of securities held for trading,
    - reverse discounting of provisions for end-of-life-cycle operations and employee benefits;
  - other financial income, most notably:
    - dividends received and other income from financial assets other than cash and cash equivalents,
    - gains on disposals of available-for-sale securities,
    - positive changes in value and gains on disposals of securities held for trading,
    - reverse discounting of end-of-life-cycle assets (third party share),
    - returns on retirement plan assets and other employee benefits.
- Net income after tax from discontinued operations, as defined in IFRS 5, is presented under a separate heading in the income statement.

This item includes net income from these operations during the year up to the date of their disposal, and net income from the disposal itself.

### 1.2.3. Cash flow data

The cash flow statement is presented in accordance with IAS 7. AREVA has adopted the indirect method of presentation, which starts with consolidated net income for the period.

Cash flows from operating activities include income taxes paid, interest paid or received, and dividends received, except for dividends received from equity associates, which are reported in cash flows from investing activities.

Cash flow from operations is presented before income tax, dividends and interest.

In accordance with IFRS 5, net cash flow from discontinued operations is presented under a separate heading in the cash flow statement.

This heading includes net cash flows from operations during the year up to the date of their disposal and cash flows after tax from the disposal itself.

## 1.3. Consolidation methods

The consolidated statements combine the financial statements as of December 31, 2008 of AREVA and the subsidiaries which it controls or in which it exercises either joint control or a significant influence over financial policy and management.

- The companies controlled by AREVA are consolidated using the full consolidation method (including special purpose entities). Control is defined as the direct or indirect power to govern a company's financial and operating policies in order to benefit from its activities. Control is assumed when more than 50% of the voting rights are held, directly or indirectly. Determination of control takes into account the existence and effect of potential voting rights that may be exercised or converted immediately.
- The companies in which AREVA exercises joint control are consolidated using the proportionate consolidation method.
- The companies in which AREVA exercises a significant influence over financial policy and management ("associates") are accounted for using the equity method. Significant influence is deemed to exist if the group's investment is 20% or higher.

Minority interests in consolidated subsidiaries with negative equity are borne in full by the group for accounting purposes, unless there is an explicit agreement for such minority shareholders to bear their share of the deficit.

Intercompany transactions are eliminated.

#### 1.4. Translation of financial statements of foreign companies

The AREVA group's financial statements are presented in euros.

The functional currency of an entity is the currency of the economic environment in which that entity primarily operates. The functional currency of foreign subsidiaries and associates is generally the local currency. However, another currency may be designated for this purpose when most of a company's transactions are in another currency.

The financial statements of foreign companies belonging to the AREVA group are prepared in the local functional currency and translated into euros for consolidation purposes in accordance with the following principles:

- balance sheet items (including goodwill) are translated at the rates applicable at the end of the period, with the exception of equity components, which are kept at their historic rates;
- income statement transactions and cash flow statements are translated at average annual rates;
- the group's share of currency translation differences impacting the income statement and equity is recognized directly in equity under the heading "Currency translation reserves". When a foreign company is sold, currency translation differences in respect of the company recorded in equity after January 1, 2004 (date of first-time adoption of IFRS) are recognized in income.

#### 1.5. Segment reporting

Segment reporting is presented at two levels:

- level one: information by business sector, corresponding to the group's four operating divisions: Front End, Reactors and Services, Back End, and Transmission & Distribution, in addition to a Corporate division.

Information by division includes only personnel data and operating data included in the balance sheet and the income statement: revenue, operating income, goodwill, non-current property, plant and equipment and intangible assets, other operating assets, and liabilities. Financial assets and liabilities and the group's tax position are managed at the corporate level. The corresponding balance sheet and income statement items are not allocated to the group's operating divisions, but rather presented on a consolidated basis under the heading "Corporate division";

- level two: information by geographical area.

AREVA's consolidated sales are broken down by geographical area, depending on the destination of the goods and services, as follows:

- France,
- Europe (excluding France),
- North and South America,
- Asia-Pacific,
- Africa / Middle East.

#### 1.6. Business combinations – Goodwill

Acquisitions of companies and operations are recorded at cost, as provided in IFRS 3 for business combinations subsequent to January 1, 2004. In accordance with the option provided under IFRS 1 for the first-time adoption of IFRS, business combinations prior to that date were not restated.

Under the "acquisition cost method", the acquired company's assets, liabilities and contingent liabilities meeting the definition of identifiable assets and liabilities are recognized at fair value on the date of acquisition. However, the acquired entity's operations held for sale, as provided in IFRS 5, are recognized at the lower of fair value less costs to sell and the net carrying amount of the corresponding assets. For consolidation purposes, the date of consolidation of the acquired company is the date at which AREVA acquires effective control.

Restructuring and other costs incurred by the acquired company as a result of the business combination are included in the liabilities acquired, as long as IAS 37 criteria for provisions are met at the date of acquisition. Costs incurred after the date of acquisition are recognized in operating income during the year in which such costs are incurred or when meeting IAS 37 criteria.

The acquired company's contingent liabilities are recognized as identifiable liabilities and recorded at fair value on the date of acquisition. These liabilities reflect a potential obligation whose existence will only be confirmed if one or several uncertain future events which are not completely under the company's control were to occur.

The difference, on the acquisition date, between the acquisition cost of a company's shares and the fair value of corresponding assets, liabilities and contingent liabilities is recognized in goodwill when positive and in the income statement of the year of acquisition when negative.

Minority interests are recognized initially based on the fair value of assets, liabilities and contingent liabilities on the date of acquisition, prorated for the percentage interest held by minority shareholders.

The valuation of the acquired company's assets, liabilities and contingent liabilities may be adjusted within twelve months of the date of acquisition. After expiration of this period, the goodwill may only be adjusted under very specific circumstances: price adjustment, correction of errors, or subsequent recognition of a deferred tax asset that did not meet the criteria for recognition at the date of acquisition.

Goodwill is not amortized. It is subject to impairment tests that are systematically performed at least once a year, or more often if there are signs of impairment. Impairment is recognized if the outcome of these tests indicates that it is necessary. Significant loss of market share, loss of administrative permits or licenses required to operate a business, or significant financial losses are examples of signs of impairment.



To perform impairment tests, all goodwill is allocated to cash-generating units (CGUs) reflecting the group's structure. CGUs and the methodology used for impairment tests are described in note 1.10. When the recoverable value of the cash-generating unit is less than the net carrying amount of its assets, the impairment is allocated first to goodwill and then to other non-current assets of the CGU (property, plant and equipment and intangible assets), prorated based on their net carrying amount. The recoverable value of a CGU is the higher of (1) its value in use measured in accordance with the discounted cash flow method, or (2) its fair value less disposal costs. Impairment allocated to goodwill cannot be reversed. Upon the sale of a consolidated unit, goodwill allocated to the unit is included in its net carrying amount and taken into consideration to determine the gain or loss on disposal.

### 1.7. Revenue recognition

Revenue is recognized at the fair value of the consideration received or to be received.

It is recognized net of rebates and sales taxes.

Revenue is recognized during the transfer to the buyer of the principal risks and rewards of ownership, which generally coincides with the transfer of title or the performance of the service.

Revenue includes:

- revenue recognized according to the percentage of completion method (see note 1.8 "Revenue recognized according to the percentage of completion method" below);
- revenue other than according to the percentage of completion method, including:
  - sales of goods (products and merchandise), and
  - services performed.

Revenue in respect of transactions where the unit only acts as broker, without bearing the risks and rewards attached to the goods, consists of the margin obtained by the unit. The same is true for commodity trading activities, which primarily concern uranium trading.

No revenue is recognized when materials or products are exchanged for materials or products of a similar nature and value.

### 1.8. Revenue recognized according to the percentage of completion method

Revenue and margins on construction contracts and certain services are recognized according to the percentage of completion method (PCM), as provided in IAS 11 for construction contracts and in IAS 18 for services.

As required by this method, revenue and income from long-term contracts are recognized over the period of performance of the contract. Depending on the contract terms, the percentage of completion may be based on costs incurred or the stage of physical completion.

- Under the cost-based PCM formula, the stage of completion is equal to the ratio of costs incurred (*i.e.* costs of work or services performed and confirmed as of the end of the accounting period) to the total anticipated cost of the contract. This ratio may not exceed the percentage of physical or technical completion as of the end of the accounting period.
- Under the physical completion PCM formula, a predetermined percentage of completion is assigned to each stage of completion of the contract. The revenue and costs recognized at the end of the period are equal to the percentage of revenue and anticipated costs for the stage of completion achieved at that date.

When contract terms generate significant cash surpluses during all or part of the contract's performance, the resulting financial income is included in contract revenue and recognized in revenue based on the percentage of completion.

However, AREVA elected not to include financial expenses in the cost of contracts generating a cash loss, as allowed under IAS 11.

When the gain or loss at the end of the contract cannot be estimated reliably, the costs are recorded as expenses when incurred and the revenue recognized may not exceed the costs incurred and recoverable. The net margin recognized is therefore nil.

When a contract is expected to generate a loss at completion, the total projected loss is recorded immediately, after deduction of any already recognized partial loss, and a provision is set up accordingly.

## 1.9. Valuation of property, plant and equipment and intangible assets

### 1.9.1. Initial recognition

Property, plant and equipment and intangible assets are recognized at amortized cost.

AREVA did not elect to recognize certain PP&E and intangible assets at fair value, as allowed under IFRS 1 for the first-time adoption of IFRS on January 1, 2004.



### 1.9.2. Borrowing costs

AREVA has not made an IAS 23 election to include borrowing costs in the valuation of property, plant and equipment and intangible assets.

### 1.9.3. Intangible assets

#### > RESEARCH AND DEVELOPMENT EXPENSES

Research and development expenses incurred by AREVA for its own account are expensed as they are incurred.

Research and development expenses funded by customers under contracts are included in the production cost of these contracts and recorded under cost of sales when the corresponding revenue is recognized in income.

As provided in IAS 38, expenses relating to development projects are recorded as intangible assets if the project meets the following six criteria:

- it is technically feasible;
- the company intends to complete the asset, use it or sell it;
- the company is able to use or sell the asset;
- future economic benefits are generated (existence of a market or internal use);
- adequate resources are available to complete the project; and
- costs attributable to the asset can be measured reliably.

Capitalized development costs are amortized over the expected life of the intangible asset, from the commissioning date. They are depreciated on a straight-line basis over a minimum period of time.

Costs expensed in a year prior to the decision to capitalize may not be capitalized subsequently.

#### > MINERAL EXPLORATION

Exploration and geological work are assessed in accordance with the following rules:

- Exploration expenses incurred to identify new mineral resources and expenses related to studies and pre-development work to evaluate a deposit before project profitability is confirmed are recognized as research and development expenses through profit and loss for the period.
- Mining pre-development expenses relating to reserves presenting technical and economic characteristics that indicate a strong probability of profitable mining development may be capitalized at year-end. Indirect costs, excluding overhead expenses, are included in the valuation of these costs. Capitalized pre-mining expenses are amortized in proportion to the number of tons mined from the reserves they helped identify.

#### > GREENHOUSE GAS EMISSION ALLOWANCES

Following the withdrawal by the IASB of IFRIC 3, and pending a decision by regulators on accounting for greenhouse gas emission allowances, AREVA does not record an asset or provision as long as the group's emissions are lower than the allowances it has received.

AREVA does not trade speculatively on emission allowance markets. The group's only transactions in 2007 and 2008 were sales of rights corresponding to allowances allocated to it in excess of actual CO<sub>2</sub> emissions. Proceeds from these sales were recognized in the income statement under the heading "Other operating income".

#### > OTHER INTANGIBLE ASSETS

An intangible asset is recorded when it is likely that future economic benefits therefrom will accrue to the company and if the cost of this asset can be estimated reliably, based on reasonable and documented assumptions.

Intangible assets are recorded at acquisition or production cost.

Goodwill and trademarks produced internally are not capitalized.

Amortization of intangible assets is calculated using the most appropriate method for the asset category, starting on the date of commissioning and over the shorter of their probable period of use and, when applicable, the length of their legal protection.

Intangible assets without indefinite useful lives, such as brands, are not amortized, but are subject to impairment tests (see note 1.10, "Impairment of property, plant and equipment, intangible assets and goodwill").

### 1.9.4. Property, plant and equipment

Property, plant and equipment are recognized at acquisition or production cost, including startup expenses, less cumulative depreciation and impairment.

The cost of nuclear facilities includes AREVA's share of provisions for end-of-life-cycle operations, estimated as of the startup date (see note 1.18, "Provisions for end-of-life-cycle operations").

They are depreciated based on the approach most representative of the loss of economic value of each component, with each component depreciated based on its own useful life.

Mining land is depreciated over the life of the deposit; site layout and preparation expenses are depreciated over 10 years; buildings over 10 to 45 years; production facilities, equipment and tooling other than nuclear facilities over 5 to 10 years; general facilities and miscellaneous fixtures over 10 to 20 years; and transportation equipment, office equipment, computer equipment and furniture over 3 to 10 years.

Assets financed under leasing arrangements, which transfer, in substance, nearly all the risks and rewards inherent in ownership of the asset to AREVA, are recognized in the balance sheet as property, plant and equipment assets and depreciated as indicated above. Assets financed by customers are depreciated over the term of the corresponding contracts.

The group's nuclear facilities are depreciated on a straight line over their useful lives based on firm contracts to be performed by these facilities, including reasonable expectations for contract renewals.

Depreciation periods are revised if the group's backlog changes significantly.

### 1.10. Impairment of property, plant and equipment, intangible assets and goodwill

#### > GOODWILL AND INTANGIBLE ASSETS WITH AN INDEFINITE USEFUL LIFE

Impairment tests are performed systematically at least once a year for goodwill and intangible assets with indefinite useful lives. These tests are performed at the level of the cash generating units (CGU) to which such goodwill and intangible assets belong.

A CGU is the smallest identifiable group of assets generating cash inflows which are largely independent of the cash inflows from other assets or groups of assets.

Impairment is recognized when the recoverable amount of a CGU is less than the net carrying amount of all assets belonging to it. The recoverable amount of a CGU is the higher of:

- its fair value net of disposal expenses;
- its value in use, equal to the present value of the estimated future cash flows it generates, as projected in the budget and the Strategic Action Plans approved by the Supervisory Board, plus, if applicable, its residual value at the end of its projected service life.

To determine an asset's useful value, cash flows are discounted based on a discount rate consistent with a current assessment of the time value of money and the specific risk of the asset or the CGU.

For goodwill impairment tests, AREVA's CGUs generally represent business units. A business unit is comprised of set of reporting entities managed by a single operating manager. The business unit is the elementary unit of the group's management structure.

However, a CGU may include several interdependent business units.

#### > OTHER PROPERTY, PLANT AND EQUIPMENT AND INTANGIBLE ASSETS

Impairment tests are performed as soon as there is an indication that property, plant and equipment or intangible assets with finite useful lives may be impaired.

When no estimate of an individual asset's recoverable amount may be established, the group determines the recoverable amount of the cash-generating unit (CGU) to which the asset belongs.

### 1.11. Inventories and work-in-process

Inventories and work-in-process are valued at production cost in the case of goods produced by the group and at acquisition cost in the case of goods acquired for consideration. Items are valued according to the first-in first-out method (FIFO) or at weighted average cost, depending on the type of inventory or work-in-process.

Impairment is recognized when the likely recoverable amount of inventory or work-in-process is less than its net carrying amount.

Financial expenses and research and development costs funded by AREVA are not taken into account in the valuation of inventories and work-in-process. However, the cost of research and development programs funded by customers is recognized in inventories and work-in-process.

### 1.12. Accounts receivable

Accounts receivable, generally due in less than one year, are recognized at book value at amortized cost.

An impairment charge is recognized to reflect the likely recovery value when collection is not assured.

### 1.13. Financial assets

Financial assets consist of:

- assets earmarked to finance end-of-life-cycle operations;
- other available-for-sale securities;
- loans, advances and deposits;
- securities held for trading;
- put and call options on securities;
- derivative hedging instruments (see note 1.21, "Derivative instruments and hedge accountings");
- cash and cash equivalents.

They are valued in accordance with IAS 39.

Regular purchases and sales of financial assets are recognized as of the date of transaction.

### 1.13.1. Assets earmarked to finance end-of-life-cycle operations

This heading includes all investments dedicated by AREVA to the funding of its operations for future end-of-life-cycle operations in the Nuclear business, including facility dismantling and waste retrieval and packaging. The portfolio includes directly-held publicly traded shares, dedicated equity mutual funds, dedicated bond and money market funds, and cash.

■ Publicly traded shares and dedicated mutual funds are recognized as “Available-for-sale securities”, as provided in IAS 39. They are recognized at fair value corresponding to the last traded price of the year or the liquidation value at year-end. Changes in value are recognized directly in equity under the heading “Deferred unrealized gains and losses”, on an after-tax basis, except for lasting impairment, which is recognized in financial expenses for the year.

A significant or durable drop in the price or liquidation value of identical shares below their initial value is an indication of impairment. In that instance, impairment may be recognized based on an analysis of the risk of loss performed by AREVA, taking into account market circumstances and the likelihood of a recovery in the value of the shares by the time of their use in connection with regulations related to nuclear facility dismantling. The impairment is calculated as the difference between the price traded on the stock market or the liquidation value of the shares on the last day of the period and the initial fair value of the shares.

Impairment of available-for-sale securities is irreversible and may only be released to the income statement on sale of the securities. An increase in market prices or liquidation value subsequent to recognition of impairment is recorded as a change of fair value recognized directly in equity under the heading “Deferred unrealized gains and losses”. Any additional loss of value impacting previously impaired shares is recognized as additional impairment in the net financial income for the year.

■ AREVA does not consolidate its dedicated mutual funds on an individual basis, since the company is not involved in their management, which is under the responsibility of first-rate management firms that are independent from the group. These mutual funds are benchmarked to the MSCI index of large European capitalizations, with strict limits on risk. The funds are regulated by the French stock market authority and therefore subject to regulations governing investment and concentration of risk. Moreover, AREVA complies with the conditions established in the August 2005 interim report of the French national accounting board regarding accounting for dedicated mutual fund investments. This method was adopted as of December 31, 2006, December 31, 2007, and December 31, 2008, pending the issuance of an opinion by IFRIC on the French national accounting board's interim report. In addition:

- AREVA does not have control over the mutual funds' management firms;
- AREVA does not hold voting rights in the mutual funds;

- the funds do not trade directly or indirectly in financial instruments issued by AREVA;
- none of the financial investments made by the funds are strategic to AREVA;
- AREVA receives no benefit and bears no risk, directly or indirectly, other than that normally associated with investments in mutual funds and in proportion to its holding;
- the funds have no debt or liabilities other than those resulting from normal trading.

Accordingly, the dedicated mutual funds are recognized on the balance sheet under a single heading corresponding to AREVA's share of their net asset value as of the end of the year.

Irrespective of their long-term investment objective, the funds dedicated to financing end-of-life-cycle operations are recognized as available-for-sale securities. Accordingly, the accounting treatment of changes in fair value and impairment measurement and recognition methods are identical to those applicable to directly-held shares.

### 1.13.2. Other available-for-sale securities

This heading includes all shares held by AREVA in publicly traded companies, except shares in equity associates and shares held for trading.

These shares are valued in the same manner as shares held in the dedicated portfolio:

- fair value equal to the last traded price of the year;
- changes in fair value recognized directly in equity, except for lasting impairment, which is recognized through profit and loss in net financial income.

This heading also includes the group's investments in the share capital of unconsolidated companies, either because AREVA does not have control and has no significant influence over them or because of immateriality. These shares are valued at cost when the fair value cannot be estimated reliably. This is particularly the case for privately held companies.

Impairment due to a long-term decrease in value is recognized as a financial expense, based on financial criteria relevant to each individual company, such as AREVA's share of the company's equity or its profitability outlook.

### 1.13.3. Loans, advances and deposits

This heading mainly includes loans related to unconsolidated equity interests, advances for acquisitions of equity interests, and security deposits.

These assets are valued at amortized cost. Impairment is recognized when the recoverable amount is less than the net carrying amount.

**1.13.4. Securities held for trading**

This heading includes investments in equities, bonds and shares of funds held to generate a profit based on market opportunities.

These assets are recognized at fair value based on their stock market price or their net asset value at the end of the period. Changes in fair value are recognized under financial income for the period.

**1.13.5. Put/call options on securities**

AREVA holds put and call options on traded securities. These options are recognized at fair value on the date of closing using the Black-Scholes pricing model; changes in value are recognized through profit and loss in the current year.

The price of an option consists of intrinsic value and time value. Intrinsic value is the difference between the strike price of an option and the market price of the underlying security. Time value is based on the security's volatility and the date on which the option may be exercised.

**1.13.6. Cash and cash equivalents**

Cash includes bank balances and non-trade current accounts with unconsolidated entities.

Cash and cash equivalents include risk-free marketable securities with an initial maturity of three months or less, or which may be converted into cash almost immediately. In particular, these assets include marketable debt instruments and shares of money market funds in euros, valued at amortized cost.

**1.14. Treasury shares**

Treasury shares are not recognized on the balance sheet but deducted from equity, at cost.

Accordingly, treasury shares held by associates are deducted from the equity taken into account by AREVA when recognizing these companies under the equity method.

**1.15. Operations held for sale and income from discontinued operations**

As provided in IFRS 5, discontinued operations include specific business lines where management has initiated a disposal program and an active search for buyers, when disposal is highly probable during the 12-month period following the end of the accounting year.

Assets from discontinued operations are recognized at the lower of their net carrying amount before reclassification and their fair

value, less costs to sell. They are presented under a specific heading of the balance sheet and depreciation is discontinued upon transfer to this category.

Net income from discontinued operations or operations in the process of being sold, which includes net income from these operations until the date of disposal and the net after-tax gain on the disposal, is reported on a separate line in the income statement.

Net cash flows from discontinued operations, which include cash flows from these operations until the date of disposal and the net cash flow after tax on the disposal, are reported on a separate line in the cash flow statement.

**1.16. Employee benefits**

The group recognizes a provision for all of its commitments for retirement, early retirement, severance pay, medical insurance, job-related awards, accident and disability insurance, and other related commitments, whether for active personnel or for retired personnel, net of assets in the plans and unrecognized gains as provided in IAS 19 (actuarial gains and losses and cost of plan amendments).

In the case of defined contribution plans, the group's payments are recognized as expenses for the period to which they relate.

In the case of defined benefit plans, benefit costs are estimated using the projected unit credit method. Under this method, accrued pension benefits are allocated to service periods based on the plan vesting formula. If service in subsequent years results in accrued benefit levels that are substantially higher than those of previous years, the company must allocate the accrued benefits on a straight-line basis.

The amount of future benefit payments to employees is determined based on salary trend assumptions, retirement age and probability of payment. The net present value of future payments is calculated using a discount rate specific to each geographic and currency area, determined based on:

- the interest rate of bonds issued by prime corporate borrowers for a duration equivalent to that of AREVA's liability;
- the interest rate of government bonds issued for the same duration and with a risk premium similar to that observed for bonds issued by prime corporate borrowers.

However, as a result of the global financial crisis, very few bonds were issued during the second half of 2008 for durations equivalent to the duration of AREVA's benefit liabilities. Consequently, discount rates used at December 31, 2008 were calculated using data observed for bonds issued for other maturities.

Actuarial gains and losses (change in the valuation of the commitment due to changes in assumptions and experience differences) are spread out over the average expected remaining working life of personnel taking part in these plans for the portion exceeding the largest of the following values by more than 10%:

- the present value of the defined benefit obligation at the balance sheet date;
- the fair value of plan assets at the balance sheet date.

The cost of plan changes are spread over the vesting period.

In accordance with the option provided under IFRS 1 for first-time adoption of IFRS, AREVA elected to record in equity as of January 1, 2004, all actuarial gains and losses not recognized in the balance sheet as of December 31, 2003.

The costs relating to employee benefits (pensions and other similar benefits) are split into three categories:

- the provision discount reversal, net of returns on plan assets, is recognized in "Net financial expenses";
- the current service cost and the amortization of past services are split between the different operating expense items by destination: Cost of sales, Research and development expenses, Marketing and sales expenses, and General and administrative expenses;
- the amortization of actuarial gains and losses is recognized in operating income under the heading "Other operating income and expenses".

French Social Security laws for 2008 and 2009 have modified retirement eligibility criteria in France as follows:

- effective January 1, 2010, employers may not require employees to retire before age 70;
- retirement severance payments are henceforth subject to a 25% tax in 2008 and 50% thereafter.

The financial impact of the new laws was estimated and integrated into the 2007 and 2008 financial statements as follows:

- if the rate schedule applicable to involuntary retirement severance pay is the same as the rate schedule applicable to voluntary retirement severance pay, the impact is considered an actuarial gain or loss;
- it is considered a cost for past services in other instances.

AREVA considers that the administrative order of July 23, 2008 expanding the national inter-professional agreement of January 11, 2008 will not result in additional liabilities upon employees' retirement; consequently, no actuarial debt was recognized on account of that agreement.

As provided in recommendation 2004-F dated October 13, 2004 of the Emergency Committee set up by the French national accounting Board (CNC), the AREVA group recognizes the cost of individual training entitlements (DIF) in accordance with French GAAP. Accordingly, no provision was set up for DIF expenses, which constitute expenses of the period.

### 1.17. Provisions

As provided in IAS 37, a provision is recognized when the group has an obligation towards a third party at the end of the period, whether legally, contractually or implicitly, and it is probable that a net outflow of resources will be required after the end of the period to settle this obligation, without receiving consideration at least equal to the outflow. A reasonably reliable estimate of net outflow must be determined in order to recognize a provision.

Provisions for restructuring are recognized when the restructuring has been announced and a detailed plan has been presented or the restructuring has begun.

When the outflow of resources is expected to occur in more than two years, provisions are discounted to net present value if the impact of discounting is material.

### 1.18. Provisions for end-of-life-cycle operations

Provisions for end-of-life-cycle operations are discounted by applying an inflation rate and a discount rate, determined based on the economic situation of the country in which the particular facility is located, to estimated future cash flows by maturity.

The share of provisions for end-of-life-cycle operations corresponding to funding expected from third parties is recognized in a non-current asset account, "End-of-life-cycle asset – third party share", which is discounted in exactly the same way as the related provisions.

The AREVA group's share of provisions for end-of-life-cycle operations is valued at the startup date of the nuclear facilities in question and is an integral component of the cost basis of those facilities; it is recognized in property, plant and equipment (see note 1.9.4, "Property, plant and equipment"), except provisions for waste retrieval and packaging, which are recognized as operating expenses through profit and loss.

#### > TREATMENT OF INCOME AND EXPENSES FROM DISCOUNTING REVERSALS

The discounting of the provision is partially reversed at the end of each period. The discounting reversal corresponds to the increase in the provision due to the passage of time. This increase is recorded as a financial expense.

Similarly, the discounting of the provision corresponding to the third party share is partially reversed rather than amortized.

The resulting increase in the third party share is recognized as financial income.

The share financed by third parties is reduced for the value of work done on their behalf, with recognition of a receivable from these third parties in the same amount.



**> TREATMENT OF AMORTIZATION**

AREVA's share of each end-of-life-cycle asset (share of provisions for end-of-life-cycle operations to be borne by the group) is amortized over the same period as the facilities to which it relates.

The corresponding amortization expense is not considered as part of the cost of inventories or the cost of contracts, and is not taken into account in the calculation of their percentage of completion. However, it is included in the income statement under the heading "Cost of sales" and is therefore deducted from the gross margin.

**> INFLATION AND DISCOUNT RATES USED TO DISCOUNT THE COST OF END-OF-LIFE-CYCLE OPERATIONS**

Inflation and discount rates used to discount the cost of end-of-life-cycle operations are determined as follows:

The inflation rate reflects the long-term objectives of the European Central Bank.

The discount rate is determined taking into account:

- the sliding four-year average of 30-year, constant maturity French treasury bonds (OATs); and
- the average of sliding four-year averages of spreads applicable to AA, A and BBB rated corporate borrowers.

For facilities in France, AREVA adopted an inflation rate of 2% and a discount rate of 5% as of December 31, 2006, December 31, 2007, and December 31, 2008.

**> TREATMENT OF CHANGES IN ASSUMPTIONS**

Changes in assumptions relate to changes in cost estimates, discount rates and disbursement schedules.

As provided in IFRS, the group uses the prospective method:

- end-of-life-cycle assets/AREVA share and third party share are adjusted for the same amount as the provision;
- the end-of-life-cycle asset (AREVA share) is amortized over the residual useful life of the facilities;
- if operation of the facility is discontinued, the impact is recognized during the year of the change. Impacts from changes in cost estimates are recognized under operating income. Impacts from changes in discount rates and disbursement schedules are recognized under financial income.

Provisions for waste retrieval and packaging funded by the group have no corresponding end-of-life-cycle asset. Consequently, changes in assumptions concerning the group's share of these provisions are recognized immediately in the income statement. Impacts from changes in cost estimates are recognized under operating income. Impacts from changes in discount rates and disbursement schedules are recognized under financial income.

**1.19. Borrowings**

Borrowings include:

- put options held by minority shareholders of AREVA group subsidiaries;
- obligations under finance leases; and
- other interest-bearing debt.

**1.19.1. Put options held by minority shareholders of group subsidiaries**

As provided in IAS 32, unconditional put options held by minority shareholders of AREVA group subsidiaries are recognized as borrowings.

In the event that the agreements establishing these options stipulate that their exercise price shall be equal to the fair value of the minority interest in question at the exercise date, the amount recognized on AREVA's balance sheet corresponds to the fair value of those minority interests at the balance sheet date, calculated in accordance with the discounted cash flow method. This value is revised annually.

On January 27, 2009, Siemens announced its decision to exercise the option to sell its stake in AREVA NP. The procedure to determine the exercise price for this option was set in motion in early February 2009, as provided in the shareholders' agreement signed by AREVA and Siemens on January 30, 2001 (see note 25, "Borrowings"). In view of the uncertainty regarding the exercise price, the value of the option recognized on AREVA's balance sheet at December 31, 2008 is identical to the amount recognized at December 31, 2007.

The difference between the amount recognized in borrowings and the amount of minority interests correspond to the difference between the fair value of these interests and their net carrying amount. Accordingly, considering the lack of guidance from regulators regarding accounting for options of this kind, AREVA has decided to report these options as borrowings through the following offsetting entries:

- first, the corresponding minority interests are canceled;
- secondly, the excess above the value of the minority interests is treated as an increase in the goodwill of the companies involved.

Minority interests are allocated their share of income in the income statement. In the balance sheet, the share of income allocated to minority interests reduces the amount of goodwill, or increases it in the case of a loss.

Dividends paid to minority interest holders translate into an increase in goodwill.

Subsequent changes in the fair value of these options are also recognized in goodwill.

**1.19.2. Obligations under finance leases**

As provided in IAS 17, leasing arrangements are considered finance leases when all of the risks and rewards inherent in ownership are, in substance, transferred to the lessee. At inception, finance leases are recognized as a debt offsetting an asset in the identical amount, corresponding to the lower of the fair value of the property and the discounted net present value (NPV) of future minimum payments due under the contract.

Lease payments made subsequently are treated as debt service and allocated to repayment of the principal and interest, based on the rate stipulated in the contract or the discount rate used to value the debt.

**1.19.3. Other interest-bearing debt**

This heading includes:

- interest-bearing advances from customers; interest-bearing advances from customers are accounted for as borrowings, while non interest-bearing advances are considered operating liabilities;
- loans from financial institutions;
- short-term bank facilities.

Interest-bearing debt is recognized at amortized cost based on the effective interest rate method.

**1.20. Translation of foreign currency denominated transactions**

Foreign currency denominated transactions are translated by group companies into their functional currency at the exchange rate prevailing at the transaction date.

Monetary assets and liabilities denominated in foreign currencies are revalued at the exchange rate prevailing on the last day of the period. Foreign exchange gains and losses are then recognized:

- in operating income when related to operating activities: trade accounts receivable, trade accounts payable, etc.;
- in financial income when related to loans or borrowings.

However, currency translation differences relating to the long-term financing of foreign subsidiaries are not recognized in income, but rather directly in translation reserves in consolidated equity until the subsidiary concerned is divested.

**1.21. Derivative instruments and hedge accounting****1.21.1. Risks hedged and financial instruments**

The AREVA group uses derivative instruments to hedge foreign exchange risks, interest rate risks and the price of commodities. The derivative instruments used include mostly forward exchange contracts, currency and interest rate swaps, currency options and commodity options.

The risks hedged relate to receivables, borrowings and firm commitments in foreign currencies, planned transactions in foreign currencies, and planned sales and purchases of commodities.

**1.21.2. Accounting for derivative instruments**

As provided in IAS 39, derivative instruments are initially recognized at fair value and subsequently revalued at the end of each period until settled.

Accounting methods vary depending on whether the derivative instruments are designated as fair value hedges or cash flow hedges or do not qualify for hedge accounting.

**> FAIR VALUE HEDGES**

This designation covers hedges for firm commitments in foreign currencies: procurement, sales, receivables and debt. The hedged item and the derivative instrument are revalued simultaneously through the income statement.

**> CASH FLOW HEDGES**

This designation covers hedges of probable future cash flows: planned procurement and sales in foreign currencies, planned purchases of commodities, etc.

The highly probable hedged item is not valued in the balance sheet. Only the derivative hedge is revalued at the end of each accounting period. The portion of the gain or loss that is considered effective is recognized directly in equity under the heading "Deferred unrealized gains and losses", on an after-tax basis. Only the ineffective portion of the hedge impacts income for the period.

The amount accumulated in equity is transferred to income when the hedged item impacts the income statement, *i.e.* when the hedged transaction is settled and recognized in the financial statements.



### > HEDGES OF NET INVESTMENTS IN FOREIGN OPERATIONS

This heading relates to borrowings in a foreign currency to finance the acquisition of a subsidiary using the same functional currency. Currency translation adjustments on these borrowings are recognized in equity for their net amount after tax; only the ineffective portion is recognized through profit and loss.

The amount accumulated in equity is released to profit and loss when the subsidiary is sold.

### > DERIVATIVE INSTRUMENTS NOT QUALIFYING FOR HEDGE ACCOUNTING

When derivative instruments do not qualify for hedge accounting, fair value gains and losses are recognized immediately in the income statement.

#### 1.21.3. Presentation of derivative instruments in the balance sheet and the income statement

##### > PRESENTATION IN THE BALANCE SHEET

Derivative instruments used to hedge risks on commercial transactions are reported under operating assets and liabilities. Derivative instruments used to hedge risks related to loans, borrowings and current accounts are reported under the heading "Financial assets" or "Borrowings".

##### > PRESENTATION IN THE INCOME STATEMENT

The spot component of fair value gains and losses on derivative instruments and hedged items relating to operating activities is recognized under the heading "Other operating income and expenses". The discount/premium component is recognized under the heading "Financial income".

For loans and borrowings denominated in foreign currencies, fair value gains and losses on hedging instruments and hedged items are reported under the heading "Financial income".

#### 1.22. Income tax

Since January 1, 1983, AREVA has had regulatory approval to submit a consolidated tax return under article 209-5 of the French tax code. The consolidated tax amount is reported under the heading Income tax, whether a tax expense or a tax credit (except for tax related to discontinued operations). AREVA did not request renewal of this approval, which expired on December 31, 2007.

Tax related to operations discontinued or sold during the year, if any, is reported under the heading "Net income from discontinued operations".

As provided in IAS 12, deferred taxes are determined according to the liability method. The current tax rate or the rate known at the balance sheet date as applicable at the time of anticipated reversal of temporary differences between the net carrying amount and the tax basis of assets and liabilities is applied to all such differences. Deferred taxes are not discounted to net present value.

Temporary taxable differences generate a deferred tax liability.

Temporary deductible differences, tax loss carry-forwards, and unused tax credits generate a deferred tax asset equal to the probable amounts recoverable in the future. Deferred tax assets are analyzed case by case, based on income projections for the next three to five years.

Deferred tax assets and liabilities are netted for each taxable entity if the entity is allowed to offset its current tax receivables against its current tax liabilities.

Deferred tax liabilities are recorded for all taxable temporary differences of subsidiaries, associates and partnerships, unless AREVA is in a position to control the timing of reversal of the temporary differences and it is probable that such reversal will not take place in the near future.

Tax accounts are reviewed at the end of each accounting year, in particular to take into account changes in tax laws and the possibility that amounts recognized will be recovered.

Deferred taxes are recognized through profit and loss, unless they concern items recognized directly in equity *i.e.* changes in the value of available-for-sale securities and derivative instruments considered as cash flow hedges, or currency translation adjustments on borrowings considered as hedges of net investments in foreign operations. Deferred taxes related to these items are also recognized directly in equity.

## Note 2. Consolidation scope

### 2.1. Consolidated companies (french / foreign)

Consolidation method (number of companies)	2008		2007		2006	
	Foreign	French	Foreign	French	Foreign	French
Full consolidation	150	88	134	83	127	82
Equity method	3	8	4	8	4	8
Proportionate consolidation	21	3	19	2	19	1
<b>Sub-total</b>	<b>174</b>	<b>99</b>	<b>157</b>	<b>93</b>	<b>150</b>	<b>91</b>
<b>Total</b>	<b>273</b>		<b>250</b>		<b>241</b>	

Note 36 provides a list of the main consolidated companies.

#### 2.1.1. 2008 transactions

Goodwill recognized for 2008 acquisitions is provisional and may be adjusted in 2009.

The main changes in the scope of consolidation in 2008 are described hereunder.

##### > KOBLITZ

In early January 2008, AREVA acquired 70% of Koblitz, a Brazilian supplier of integrated solutions for energy production and heat/electricity cogeneration from renewable sources.

Koblitz employs 575 people and had 2007 revenue of 52 million euros.

This transaction generated 30 million euros in goodwill, based on an acquisition price of 40 million euros.

##### > NOKIAN

AREVA's Transmission and Distribution division (T&D) entered into an agreement to acquire Finnish company Nokian Capacitors Ltd. This strategic acquisition allows AREVA to strengthen its position on the booming ultra high voltage market.

Nokian Capacitors Ltd. brings fifty years of experience in the design and manufacture of components for power grids, particularly capacitors. Koblitz employs 290 people and had 2007 revenue of 61 million euros. It is represented in 70 countries.

This transaction generated 29 million euros in goodwill, based on an acquisition price of 35 million euros.

##### > STMICROELECTRONICS

In March 2008, the Commissariat à l'Énergie Atomique (CEA) acquired a 2.9% share of STMicroelectronics through FT1CI, the holding company that owns AREVA's indirect interest in STMicroelectronics.

The CEA thus became a minority interest holder in FT1CI. AREVA's interest in STMicroelectronics did not change as a result of this transaction.

##### > GEORGES BESSE II PLANT

In early June 2008, the GDF-SUEZ group acquired a 5% interest in SET Holding, which owns the Georges Besse II enrichment plant.

##### > REPOWER

AREVA sold its 29.95% interest in REpower to Suzlon in early June 2008.

##### > WALTEC

In early October, AREVA T&D acquired Waltec Equipamentos Electricos Ltda, a Brazilian company specialized in medium voltage switchgear and dry-type transformers.

Waltec employs 450 employees and generates 32.5 million euros in revenue.

This transaction generated 30 million euros in goodwill, based on an acquisition price of 42 million euros.

#### 2.1.2. 2007 transactions

Goodwill recognized on 2007 transactions was adjusted in 2008 insofar as more accurate estimates of the assets and liabilities acquired were obtained within a year of the acquisition (see note 10, "goodwill").

The main changes in the scope of consolidation during the year are described hereunder.

#### > URAMIN INC.

On June 25, 2007, AREVA made a friendly takeover bid to acquire control of UraMin Inc., a junior mining company. The transaction was completed on July 31, 2007 for a total acquisition price of 1.742 billion euros (2.4 billion US dollars).

Cash acquired in connection with the transaction amounted to 148 million euros.

Of the initial goodwill of 1.564 billion euros (net of equity acquired), 1.323 billion euros were allocated to exploration and mining permits held by UraMin Inc. using the discounted cash flow method.

Location	Country	Discount rate	Discounted value of future cash flows (100%)	Discounted value of future cash flows (AREVA share)	Deferred taxes
Trekkopje	Namibia	8%	932	932	350
Bakouma	Central African Republic	10%	97	88	26
Ryst Kuil	South Africa	8%	409	303	98
<b>Total</b>			<b>1,437</b>	<b>1,323</b>	<b>474</b>

No other items were identified for purchase price allocation during the evaluation of the company's assets and liabilities.

Work performed in 2008 to allocate the purchase price of UraMin Inc. resulted in the following changes, mainly regarding mineral rights:

#### Value by project (AREVA share)

Location	Country	Discount rate	2007 estimates		2008 value	
			Mineral rights	Deferred taxes	Mineral rights	Deferred taxes
Trekkopje	Namibia	8%	932	350	650	244
Bakouma	Central African Republic	10%	88	26	297	89
RystKuיל	South Africa	8%	303	98	246	80
<b>Total</b>			<b>1,323</b>	<b>474</b>	<b>1,193</b>	<b>413</b>

Residual goodwill amounts to 806 million euros.

#### > PASSONI & VILLA

AREVA's Transmission and Distribution division (T&D) signed an agreement with Passoni & Villa of Italy concerning the legal and financial terms for the acquisition of this business.

Passoni & Villa is one of the world's leading manufacturers of high voltage bushings, which are used to connect power transformer coils to high voltage lines. The company employed about 150 people and posted revenue of 26 million euros in 2006.

Passoni & Villa is active in more than 60 countries. With this acquisition, AREVA T&D greatly increases its bushings production capacity and becomes the world's third largest player on this market segment. The acquisition is consistent with AREVA T&D's acquisition strategy aimed at broadening its offering and strengthening its market position.

This transaction generated 17 million euros in goodwill, based on an acquisition price of 19 million euros.

#### > VEI POWER DISTRIBUTION S.p.A.

AREVA's T&D division concluded an agreement with VEI Power Distribution S.p.A. to acquire its operations in Italy and Malaysia.

VEI has 216 employees and generated 46 million euros in revenue in 2006. The company manufactures medium voltage equipment. Its product lines supplement AREVA T&D's offering and broaden the division's customer base. With this acquisition, AREVA T&D increases its international presence on the distribution market and becomes one of the leaders of this segment in Italy and Malaysia.

VEI's ability to innovate will also allow AREVA T&D to offer ever more advanced solutions meeting the specific needs of its customers. Every year, VEI patents a number of innovations such as its tri-function equipment integrating a circuit-breaker, a disconnecting switch and a ground disconnecter.

This transaction generated 14 million euros in goodwill, based on an acquisition price of 12 million euros.

#### > MULTIBRID

In September 2007, AREVA acquired 51% of Multibrid, a wind turbine designer and manufacturer based in Germany which specializes in large capacity offshore equipment. In doing so, AREVA becomes a joint venture partner of Prokon Nord, a German company that develops wind farms and biomass projects and is the current owner of Multibrid.

This transaction generated initial goodwill of 79 million euros, based on an acquisition price of 76 million euros. The fair value assessment of Multibrid's assets and liabilities was completed in 2008.

#### > EAST ASIA MINERAL

On September 21, 2007, AREVA acquired all of the share capital of East Asia Mineral, the Mongolian subsidiary of a junior Canadian company based in Ontario. East Asia Mineral's portfolio includes uranium mining permits in the Sainshand area. The acquisition price was set at 83 million Canadian dollars, of which 60 million euros were recognized as goodwill.

#### > AREVA EST CANADA / URANOR / AREVA QUEBEC

In June 2007, AREVA Est Canada, a subsidiary of CFMM, acquired the remaining shares of the Canadian firm Uranor, which holds mining permits and 100% of Omegalpa (now AREVA Quebec), which operates the mining permits. AREVA has conducted exploration in this region of Quebec since 1998. The deposits in question are in the exploration phase. A total of 34 million euros was recognized as goodwill.

### 2.1.3. 2006 transactions

The main changes in the scope of consolidation during the year were as follows:

#### > ENRICHMENT TECHNOLOGY COMPANY (ETC)

On July 3, 2006, AREVA acquired a 50% interest in the Enrichment Technology Company (ETC) from URENCO and consolidated it on a proportionate basis as of that date. The European Union competition authorities had approved the deal beforehand, and a multilateral agreement to control the uranium centrifuge enrichment technology had been ratified by France, Germany, the Netherlands and the United Kingdom.

ETC combines URENCO's activities in the design and construction of uranium centrifuge enrichment equipment and facilities, along with related R&D. ETC will have sole responsibility for the partners' operations in this area. However, the partners will continue to compete with each other on the enrichment services market.

The acquisition of a 50% interest in ETC secures AREVA's access to the centrifuge equipment needed to build the new Georges Besse II uranium enrichment plant. In so doing, AREVA will be able to meet its long term commitments to customers by ensuring a smooth transition from the Georges Besse gaseous diffusion enrichment plant to the Georges Besse II centrifuge enrichment plant.

ETC reported 2005 revenue of 236 million euros and employs around 1,000 people, chiefly in its facilities in Capenhurst (United Kingdom), Almelo (the Netherlands), and Jülich and Gronau (Germany).

This transaction generated initial goodwill of 161 million euros, based on an acquisition price of 200 million euros.

#### > LA MANCHA

On May 19, 2006, AREVA NC and La Mancha Resources Inc. signed a final agreement to combine their gold mining and exploration operations. The transaction closed on September 28, 2006.

La Mancha Resources Inc. is a Canadian company traded on the TSX/V stock exchange in Toronto. AREVA contributed its gold operations to La Mancha Resources Inc., including Cominor, SMI (Côte d'Ivoire), AMC (Sudan) and Mineraus (Australia). In exchange for its contributions, AREVA received a 63.55% equity interest in La Mancha.

This transaction generated 15 million euros in goodwill and a dilution gain of 17 million euros.

#### > SFARSTEEL

On September 8, 2006, AREVA NP acquired all of the share capital of Sfarsteel, a group specialized in forgings, machining, mechanics and welding, with plants near Le Creusot, France. Sfarsteel reported 2006 revenue of 41 million euros. With the worldwide nuclear industry revival gaining momentum, AREVA seeks to consolidate its procurement capabilities in heavy components, especially forgings.

This transaction generated goodwill of 101 million euros, based on an acquisition price of 170 million euros after revaluation of production assets, buildings and intangible assets.

#### > RITZ HIGH VOLTAGE

AREVA T&D entered into an agreement with the German group Ritz setting financial and legal terms for the acquisition of its high voltage instrument transformer operations.

Ritz High Voltage is a world leader in instrument transformers, with revenue of some 50 million euros and a workforce of close to 500 people.

The group will capitalize on product and regional synergies with AREVA T&D's instrument transformer business, particularly in strategic countries such as China and the United States, to become the world leader in this business.

The acquisition is consistent with AREVA T&D's targeted acquisition strategy, aimed at strengthening each of its product lines.

This transaction generated goodwill of 6 million euros, based on an acquisition price of 34 million euros.

#### > REPOWER

AREVA increased its equity interest in REpower by subscribing to a capital increase for that company and by acquiring shares on the market. These transactions bring AREVA's holding to 29.99%.

## 2.2. Impact on the financial statements of changes in consolidation scope and methods

In 2008, 2007 and 2006, changes in consolidation scope and methods had the following impacts on consolidated revenue and operating income:

### Deconsolidated companies

<i>(in millions of euros)</i>	2008	2007	2006
Revenue	1	-	6
Operating income	0	-	0

### Newly consolidated companies and change in consolidation method

<i>(in millions of euros)</i>	2008	2007	2006
Revenue	173	36	102
Operating income	5	(7)	7

The impact on revenue of newly consolidated companies, either as a result of an acquisition or a move to full or proportionate consolidation, is presented below:

<i>(in millions of euros)</i>	2008 *	2007 *	2006 *
KOBLITZ	61		
NOKIAN	68		
MULTIBRID		12	
PASSONI & VILLA		20	
ETC			44
SFARSTEEL			30
RITZ			12
Other	44	4	16
<b>Total</b>	<b>173</b>	<b>36</b>	<b>102</b>

\* Revenue recognized by the group for the year.

### Note 3. Revenue

<i>(in millions of euros)</i>	2008	2007	2006
Contracts accounted for according to the percentage of completion method	4,268	3,637	3,613
Other sales of products and services			
• Sales of goods	5,063	4,749	3,982
• Sales of services	3,828	3,537	3,268
<b>Total</b>	<b>13,160</b>	<b>11,923</b>	<b>10,863</b>

Revenue for 2008, 2007 and 2006 do not include any significant revenue from exchanges of goods or services for current or future consideration other than cash.

The table below reports data on contracts recognized according to the percentage of completion method, as of December 31, 2008, December 31, 2007, and December 31, 2006:

<i>(in millions of euros)</i>	2008	2007	2006
Amount of costs incurred and profits recognized, net of losses recognized, through December 31	22,242	19,967	17,078
Customer advances	4,565	4,117	3,571
Amounts withheld by customers	34	39	20

### Note 4. Additional information by type of expense

The group has elected to present its income statement based on the destination of income and expense items. Additional information is provided in notes 4 below and 5, "Depreciation, amortization and impairment of property, plant and equipment and intangible assets and provisions impacting net income".

<i>(in millions of euros, except workforce)</i>	2008	2007	2006
Payroll expenses	(4,048)	(3,548)	(3,245)
Employees at the end of the year	75,414	65,583	61,111
Operating leases	(169)	(139)	(114)

Payroll expenses include salaries and related social security contributions, excluding retirement benefits.

<i>(in thousands of euros)</i>	2008	2007	2006
Audit fees	(11,764)	(10,091)	(10,080)
Deloitte	(6,009)	(5,133)	(4,960)
Mazars	(4,445)	(3,295)	(2,210)
Other	(1,310)	(1,663)	(2,910)
Other reviews and services directly linked to the Statutory Auditors' mission	(163)	(342)	(1,007)
Deloitte	(82)	(116)	(839)
Mazars	(81)	(204)	(38)
Other	-	(22)	(130)
<b>Total cost of audits and other reviews and services</b>	<b>(11,928)</b>	<b>(10,433)</b>	<b>(11,087)</b>

## Note 5. Depreciation, amortization and impairment of property, plant and equipment and intangible assets and provisions impacting net income

<i>(in millions of euros)</i>	<b>2008</b>	2007	2006
Net amortization of intangible assets	(160)	(113)	(103)
Net depreciation of property, plant and equipment	(419)	(390)	(377)
Net impairment of intangible assets	1	-	(17)
Net impairment of property, plant and equipment	90	-	-
Impairment of goodwill	-	-	-

<i>(in millions of euros)</i>	<b>2008</b>	2007	2006
Provisions, net of reversals	(270)	(12)	(320)

The Back End division reversed 91 million euros in impairment at December 31, 2008.

## Note 6. Restructuring, early retirement and other operating income and expenses

### Other operating expenses

<i>(in millions of euros)</i>	<b>2008</b>	2007	2006
Restructuring and early retirement costs	(43)	(57)	(131)
Including Nuclear divisions	(27)	(26)	(70)
Including Transmission & Distribution division	(16)	(31)	(61)
Goodwill impairment losses	-	-	-
Impairment of other assets	(1)	-	(17)
Other operating expenses	(158)	(186)	(164)
<b>Total other operating expenses</b>	<b>(202)</b>	<b>(243)</b>	<b>(312)</b>

### Other operating income

<i>(in millions of euros)</i>	<b>2008</b>	2007	2006
Dilution income and gains on disposals of assets other than financial assets	195	4	51
Other operating income	178	60	74
<b>Total other operating income</b>	<b>373</b>	<b>64</b>	<b>125</b>

As of December 31, 2008, dilution income and gains on disposals of assets other than financial assets includes income resulting from third-party acquisitions of minority interests in fully consolidated AREVA group companies.

As of December 31, 2007, operating expenses include, among others, the impact of revised cost estimates for end-of-life-cycle operations.



## Note 7. Net financial income

<i>(in millions of euros)</i>	2008 *	2007 *	2006 *
<b>Net borrowing costs</b>	<b>(111)</b>	<b>(73)</b>	<b>(29)</b>
Income from cash and cash equivalents	38	37	50
Gross borrowing costs	(148)	(110)	(78)
<b>Other financial income and expenses</b>	<b>82</b>	<b>138</b>	<b>126</b>
<b>Share related to end-of-life-cycle operations</b>	<b>(57)</b>	<b>107</b>	<b>17</b>
Income from disposal of securities earmarked for end-of-life-cycle operations	96	154	107
Dividends received	26	21	16
Income from receivables related to dismantling and from discount reversal on earmarked assets	182	113	105
Impairment of securities	(35)	-	-
Impact of revised schedules	-	38	(1)
Discounting reversal expenses on end-of-life-cycle operations	(327)	(219)	(210)
<b>Share not related to end-of-life-cycle operations</b>	<b>139</b>	<b>31</b>	<b>109</b>
Foreign exchange gain (loss)	(13)	(4)	10
Income from disposals of securities and change in value of securities held for trading	370	3	118
Dividends received	96	63	73
Impairment of financial assets	(37)	(45)	8
Interest income on prepayments received (Back End contracts)	(49)	(50)	(41)
Other financial expenses	(173)	(36)	(22)
Other financial income	16	154	18
Financial income from pensions and other employee benefits	(72)	(55)	(56)
<b>Net financial income (expense)</b>	<b>(29)</b>	<b>64</b>	<b>97</b>

\* In 2008, the discount/premium was recognized in "Other financial expenses". It was recognized in "Gross borrowings" in 2006 and 2007.

As of December 31, 2008, income from disposals of securities not related to end-of-life-cycle operations includes a gain on the disposal of REpower shares. Other financial expenses include 121 million euros from the reversal of a gain recognized in 2007 on the put option held by the group on REpower shares.

As of December 31, 2008, the net gain on sales of securities included in the share related to end-of-life-cycle operations includes 41 million euros, corresponding to the recapture of lasting impairment of securities sold, compared with 17 million euros as of December 31, 2007, and 27 million euros as of December 31, 2006.

The GDF-SUEZ merger had no impact on the group's net financial income for 2008.

Income from the disposal of securities not related to end-of-life-cycle operations at December 31, 2006 includes the disposal of Société Générale shares for 112 million euros.

## Note 8. Income taxes

### Analysis of income tax expense

<i>(in millions of euros)</i>	2008	2007	2006
Current taxes (France)	(19)	(34)	(11)
Current taxes (other countries)	(193)	(186)	(98)
<b>Total current taxes</b>	<b>(212)</b>	<b>(220)</b>	<b>(109)</b>
Deferred taxes	166	139	58
<b>Total income tax expense</b>	<b>(46)</b>	<b>(81)</b>	<b>(51)</b>

### Reconciliation of income tax expense and income before taxes

<i>(in millions of euros)</i>	2008	2007	2006
Net income attributable to equity holders of the parent	589	743	649
Less: income from discontinued operations	-	-	-
Minority interests	(91)	139	24
Share in net income of equity associates	(156)	(148)	(220)
Tax expense (income)	46	81	51
Income before tax	388	815	504
<b>Theoretical tax income (expense)</b>	<b>(134)</b>	<b>(281)</b>	<b>(173)</b>
<i>Reconciliation:</i>			
Impact of tax consolidation	33	108	(69)
Transactions taxed at a reduced rate	129	83	51
Permanent differences	(74)	9	140
<b>Effective tax income (expense)</b>	<b>(46)</b>	<b>(81)</b>	<b>(51)</b>

### Tax rates used in France

<i>(in percent)</i>	2008	2007	2006
Tax rate	34.43	34.43	34.43

### Permanent differences

<i>(in millions of euros)</i>	2008	2007	2006
Parent / subsidiary tax treatment and inter-company dividends	(4)	(4)	(4)
Impact of permanent differences for tax purposes	14	22	(14)
Impact of internal/inter-company transactions	66	(1)	(5)
Other permanent differences <sup>(1)</sup>	(150)	(8)	163
<b>Total permanent differences</b>	<b>(74)</b>	<b>9</b>	<b>140</b>
<i>(1) Other permanent differences for 2006 include mainly:</i>			
- the impact of the 2006 amended Finance Law:			75
- recognition of deferred tax assets related to prior year losses:			68

### Effective tax rate

<i>(in millions of euros)</i>	2008	2007	2006
Operating income	417	751	407
Net financial income (expense)	(29)	64	97
Other income	-	-	-
<b>Total income subject to tax</b>	<b>388</b>	<b>815</b>	<b>504</b>
Tax expense	(46)	(81)	(51)
<b>Effective tax rate</b>	<b>11.8%</b>	<b>9.9%</b>	<b>10.1%</b>

### Deferred tax assets and liabilities

<i>(in millions of euros)</i>	December 31, 2008	December 31, 2007	December 31, 2006
Deferred tax assets	900	604	873
Deferred tax liabilities	760	1,277	1,124
<b>Net deferred tax assets and liabilities</b>	<b>140</b>	<b>(673)</b>	<b>(251)</b>

### Main categories of deferred tax assets and liabilities

<i>(in millions of euros)</i>	December 31, 2008	December 31, 2007	December 31, 2006
Tax impact of temporary differences related to:			
Property, plant and equipment, intangible assets and non-current financial assets	(387)	(1,005)	(391)
Working capital assets	8	61	(114)
Employee benefits	311	268	262
Provisions for restructuring	23	27	42
Tax-driven provisions	(355)	(354)	(355)
Provisions for end-of-life-cycle operations	39	58	(372)
Valuation differences	(12)	(10)	(7)
Impact of loss carry-forwards	340	126	570
Other temporary differences	173	156	114
<b>Net deferred tax assets and liabilities</b>	<b>140</b>	<b>(673)</b>	<b>(251)</b>

## Deferred tax asset and liability reversal schedule

<i>(in millions of euros)</i>	<b>December 31, 2008</b>	December 31, 2007	December 31, 2006
Reversal after more than 12 months	(68)	(963)	(286)
Reversal in 12 months or less	207	290	35

## Change in consolidated deferred tax assets and liabilities

<i>(in millions of euros)</i>	<b>2008</b>	2007
<b>As of January 1</b>	<b>(673)</b>	<b>(251)</b>
Tax on continuing operations, recognized in the income statement	166	139
Tax on discontinued operations	-	-
Tax recognized directly in equity	623	(92)
Change in consolidated group	11	(498)
Currency translation adjustments	(46)	26
Other	59	3
<b>As of December 31</b>	<b>140</b>	<b>(673)</b>

## Deferred tax income and expenses by category of temporary difference

<i>(in millions of euros)</i>	<b>2008</b>	2007
Tax impact of temporary differences related to:		
Property, plant and equipment, intangible assets and non-current financial assets	1	(76)
Working capital assets	(35)	165
Employee benefits	40	8
Provisions for restructuring	(3)	(16)
Tax-driven provisions	(1)	(1)
Provisions for end-of-life-cycle operations	9	436
Valuation differences	(3)	11
Net loss carry forwards	217	(442)
Other temporary differences	(59)	54
<b>Net deferred tax income (expenses)</b>	<b>166</b>	<b>139</b>

## Deferred taxes recognized directly in equity

<i>(in millions of euros)</i>	<b>2008</b>	2007	2006
IAS 32-39 impacts	623	(92)	(308)
Change in method			1
<b>Net deferred taxes recognized directly in equity</b>	<b>623</b>	<b>(92)</b>	<b>(307)</b>

## Deferred tax assets not recognized

<i>(in millions of euros)</i>	2008	2007	2006
Tax credits		-	113
Tax losses	194	53	128
Other temporary differences	100	57	-
<b>Total deferred tax assets not recognized</b>	<b>294</b>	<b>110</b>	<b>241</b>

## Note 9. Net income from discontinued operations

There were no significant disposals in 2008, 2007 or 2006.

## Note 10. Goodwill

The change in goodwill from December 31, 2007 to December 31, 2008 was as follows:

<i>(in millions of euros)</i>	December 31, 2007	Acquisitions	Disposals	Minority interest put options	Currency translation adjustments and other	December 31, 2008
<b>Nuclear divisions</b>	<b>3,830</b>	<b>47</b>		<b>203</b>	<b>98</b>	<b>4,178</b>
Front End	1,135	-		-	118	1,252
Reactors and Services	482	47		18	(20)	527
Back End	-	-		-	-	-
Other nuclear – AREVA	2,213	-		185	-	2,398
<b>Transmission &amp; Distribution division</b>	<b>547</b>	<b>80</b>		-	<b>(2)</b>	<b>625</b>
<b>Total</b>	<b>4,377</b>	<b>126</b>		<b>203</b>	<b>96</b>	<b>4,803</b>

The increase in goodwill comes mainly from:

■ in the Nuclear divisions:

- Front End sector: the impact of the change of goodwill for UraMin Inc. after correction of the purchase price allocation, in the amount of 83 million euros,
- Reactors and Services sector: the acquisition of Koblitz (Renewable Energies business unit). This goodwill includes 30 million euros for the difference between the acquisition price and the adjusted amount, and 18 million euros for the put option held by minority shareholders. The goodwill from Multibrid was cut by 15 million euros after the purchase price allocation,
- Recognition of an additional 185 million euros in goodwill to reflect the valuation of put options held by minority shareholders in AREVA NP as of December 31, 2008 (see note 25, “Borrowings”);

■ in the Transmission & Distribution division: the acquisitions of Nokian (29 million euros) and Waltec (30 million euros).

The heading “Other nuclear – AREVA” corresponds, firstly, to goodwill recognized when AREVA was established in 2001 (394 million euros) and, secondly, to the difference between the value of put options held by minority interests in AREVA NP and the value of the corresponding minority interests (2.005 billion euros – see note 25, “Borrowings”).

As provided in IFRS 3, the fair value of identifiable assets and liabilities acquired during business combinations may be adjusted during a 12-month period following the date of acquisition.

Consequently, goodwill recognized on 2008 acquisitions is provisional and may be adjusted in 2009.

The change in goodwill from December 31, 2006 to December 31, 2007 was as follows:

<i>(in millions of euros)</i>	December 31, 2006	Acquisitions	Disposals	Minority interest put options	Currency translation adjustments and other	December 31, 2007
<b>Nuclear divisions</b>	<b>2,008</b>	<b>905</b>	<b>-</b>	<b>956</b>	<b>(40)</b>	<b>3,830</b>
Front End	352	827	-	-	(45)	1,135
Reactors and Services	399	79	-	-	5	482
Back End	-	-	-	-	-	-
Other nuclear – AREVA	1,257	-	-	956	-	2,213
<b>Transmission &amp; Distribution division</b>	<b>507</b>	<b>31</b>		<b>-</b>	<b>10</b>	<b>547</b>
<b>Total</b>	<b>2,515</b>	<b>936</b>	<b>-</b>	<b>956</b>	<b>(30)</b>	<b>4,377</b>

The increase in goodwill comes mainly from:

■ in the Nuclear divisions:

- Front End sector: the acquisitions of the mining company UraMin Inc. (715 million euros), of East Asia Mineral (60 million euros), and of additional shares of Uranor (31 million euros),
- Reactors and Services sector: the acquisition of 51% of the share capital of Multibrid (79 million euros) and adjustment of the goodwill related to the 2006 acquisition of Sfarsteel (15 million euros),
- Recognition of an additional 956 million euros in goodwill to reflect the change in valuation of put options held by minority interests in AREVA NP as of December 31, 2007 (see note 25, “Borrowings”);

■ in the Transmission & Distribution division: The acquisitions of Passoni & Villa (17 million euros) and of VEI Power Distribution (14 million euros).

- goodwill from acquisitions completed in 2008 for which the purchase price allocation was not completed at year-end and the corresponding final goodwill was therefore not final at December 31, 2008.

As indicated in note 1.10, “Impairment of property, plant and equipment, intangible assets and goodwill”, these tests compare the net carrying amount of cash generating unit (CGU) assets with the recoverable amount, determined using the discounted cash flow method (value in use).

The discount rates used for these tests are based on the calculation of the average cost of capital for each business sector. They are calculated with market data and evaluations prepared by specialized firms (10-year risk-free rates, risk premiums, volatility indices, credit spreads and debt ratios of comparable businesses for each sector). In view of the global financial crisis that began mid-2008 and the extreme volatility of indices it provoked, discount rates used for impairment tests at December 31, 2008 were based on data evaluated over a longer period than in previous years.

### Goodwill impairment tests

The group performed goodwill impairment tests as of December 31, 2006, December 31, 2007 and December 31, 2008 for all cash-generating units with goodwill balances, except for:

- goodwill resulting from the recognition of put options held by minority shareholders of AREVA NP, since the options themselves are valued based on the recoverable value of the company;

The following assumptions were used to determine the net present value of the cash flows to be generated by the CGUs:

	Discount rate after tax	Growth rate pro forma year	Number of years of forecast data
<b>As of December 31, 2008</b>			
Front End division:			
• Mining	10.5%	Not applicable	10 to 24
• Enrichment, Fuel	8.5%	2%	10 to 12
Reactors and Services division	9.75%	2 to 2.5%	5 to 12
Back End division	7.5%	2%	10
Transmission & Distribution division	9.25%	2%	4
Renewable Energies	11%	2%	5
<b>As of December 31, 2007</b>			
Front End division:			
• Mining	10%	Not applicable	9
• Enrichment, Fuel	8.75%	2%	10
Reactors and Services division	9.5%	2 to 2.5%	5 to 10
Back End division	7.75%	2%	10
Transmission & Distribution division	9.75%	2%	3
<b>As of December 31, 2006</b>			
Front End division:			
• Mining	10.25%	Not applicable	8
• Fuel	8.25%	2%	5
Reactors and Services division	7.75%	2 to 2.5%	5
Back End division	8%	2%	10
Transmission & Distribution division	10%	2%	3

Impairment tests for mining operations are based on forecast data for the entire period, from mining at existing mines to marketing of the corresponding products (*i.e.* through 2018 for gold mining and 2032 for uranium mining), rather than on a pro forma year.

Impairment tests on goodwill allocated to AREVA NC and AREVA NC are performed by comparing:

- the consolidated net carrying value of these companies' assets, including goodwill; and
- the cumulated projected cash flows from their cash generating units, discounted using the rates indicated above.

These tests did not lead to the recognition of impairment.

In addition, sensitivity analyses showed that a discount rate of 1% higher or a growth rate for the pro forma year of 1% lower than the abovementioned rates would not have led to the recognition of impairment, since the recoverable value of the cash generating units is greater than the net carrying amount of their assets in all instances.

However, the results of impairment tests in Renewable Energies are contingent on the group's ability to demonstrate the efficiency of offshore wind turbine installation techniques and to obtain the expected orders.



## Note 11. Intangible assets

	December 31, 2008			December 31, 2007	December 31, 2006
(in millions of euros)	Gross	Amortization and impairment	Net	Net	Net
Pre-mining expenses	1,021	(256)	765	565	419
Research and development expenses	444	(101)	343	253	169
Mineral rights	1,307	(11)	1,296	1,346	-
Other	1,312	(627)	685	564	587
<b>Total</b>	<b>4,083</b>	<b>(995)</b>	<b>3,089</b>	<b>2,729</b>	<b>1,175</b>

### 2008

(in millions of euros)	Pre-mining expenses	R&D expenses	Mineral rights	Other	Total
<b>Gross amount as of December 31, 2007</b>	<b>830</b>	<b>298</b>	<b>1,358</b>	<b>1,138</b>	<b>3,624</b>
Internally generated assets	60	101	0	59	220
Acquired assets	225	35	0	45	305
Disposals	(15)	0	0	(15)	(29)
Currency translation adjustments	(91)	9	80	(3)	(4)
Change in consolidated group	0	1	0	0	1
Other changes	11	0	(131)	87	(34)
<b>Gross amount as of December 31, 2008</b>	<b>1,021</b>	<b>444</b>	<b>1,307</b>	<b>1,312</b>	<b>4,083</b>
<b>Depreciation, depletion, amortization and provisions as of December 31, 2007</b>	<b>(265)</b>	<b>(45)</b>	<b>(12)</b>	<b>(574)</b>	<b>(896)</b>
Net increase in depreciation / impairment <sup>(1)</sup>	(42)	(53)	0	(64)	(159)
Disposals	15	0	0	13	27
Currency translation adjustment	37	(2)	0	2	36
Change in consolidated group	0	(1)	0	(1)	(1)
Other changes	0	0	1	(2)	(2)
<b>Depreciation, depletion, amortization and provisions as of December 31, 2008</b>	<b>(256)</b>	<b>(101)</b>	<b>(11)</b>	<b>(627)</b>	<b>(995)</b>
<b>Net carrying amount as of December 31, 2007</b>	<b>565</b>	<b>253</b>	<b>1,346</b>	<b>564</b>	<b>2,729</b>
<b>Net carrying amount as of December 31, 2008</b>	<b>765</b>	<b>343</b>	<b>1,296</b>	<b>685</b>	<b>3,089</b>

(1) 1 million euros of impairment on intangible assets was reversed at December 31, 2008.

As of December 31, 2008, mineral rights linked to UraMin Inc. entities were adjusted after changes in the purchase price allocation. Assets were reduced by 158 million euros. However, the agreement concluded with the government of the Central African Republic in connection with the UraMin Inc. acquisition led to the recognition of 27 million euros in additional assets.

Other changes for the year include, for the most part, capitalized development costs for future EPR™ projects in China and in the United States, for 105 million euros.

## 2007

<i>(in millions of euros)</i>	Pre-mining expenses	R&D expenses	Mineral rights	Other	Total
<b>Gross amount as of December 31, 2006</b>	<b>650</b>	<b>189</b>	<b>12</b>	<b>1,114</b>	<b>1,966</b>
Internally generated assets	30	100	-	19	149
Acquired assets	125	17	-	32	174
Disposals	(1)	-	-	(10)	(11)
Currency translation adjustments	25	(10)	(92)	(9)	(86)
Change in consolidated group	(1)	2	1,438	1	1,441
Other changes	2	-	-	(9)	(8)
<b>Gross amount as of December 31, 2007</b>	<b>830</b>	<b>298</b>	<b>1,358</b>	<b>1,138</b>	<b>3,624</b>
<b>Depreciation, depletion, amortization and provisions as of December 31, 2006</b>	<b>(231)</b>	<b>(20)</b>	<b>(12)</b>	<b>(528)</b>	<b>(791)</b>
Net increase in depreciation / impairment <sup>(1)</sup>	(28)	(25)	-	(59)	(113)
Disposals	-	-	0	9	10
Currency translation adjustments	(8)	1	-	3	(4)
Change in consolidated group	2	-	-	-	2
Other changes	-	-	-	-	-
<b>Depreciation, depletion, amortization and provisions as of December 31, 2007</b>	<b>(265)</b>	<b>(45)</b>	<b>(12)</b>	<b>(574)</b>	<b>(896)</b>
<b>Net carrying amount as of December 31, 2006</b>	<b>419</b>	<b>169</b>	<b>-</b>	<b>587</b>	<b>1,175</b>
<b>Net carrying amount as of December 31, 2007</b>	<b>565</b>	<b>253</b>	<b>1,346</b>	<b>564</b>	<b>2,729</b>

(1) No impairment of intangible assets was recognized as of December 31, 2007.

As a result of the acquisition of UraMin Inc., the balance sheet as of December 31, 2007 includes 1.438 billion euros for new mineral rights in Namibia (Trekopje), South Africa (Ryst Kuil) and the Central African Republic (Bakouma). The fair value of these assets was established during the purchase price allocation (see note 2, "Consolidation scope").

New investments include capitalized mineral exploration expenses of 155 million euros, in particular for pre-development expenses relating to Canadian uranium assets.

Other intangible assets mainly include assets in progress (369 million euros), concessions and patents (93 million euros) and software (42 million euros).

## Capitalized pre-mining expenses

<i>(in millions of euros)</i>	NCA as of December 31, 2007	Additions	Disposals	Amortization / Impairment	Currency translation adjustments	Other changes	NCA as of December 31, 2008
Uranium	540	278	0	(40)	(50)	14	742
Gold	25	7	0	(1)	(4)	(4)	23
<b>Total</b>	<b>565</b>	<b>285</b>	<b>0</b>	<b>(42)</b>	<b>(54)</b>	<b>11</b>	<b>765</b>

(in millions of euros)	NCA as of December 31, 2006	Additions	Disposals	Amortization / Impairment	Currency translation adjustments	Other changes	NCA as of December 31, 2007
Uranium	397	148	-	(27)	17	5	540
Gold	22	7	-	(1)	-	(3)	25
<b>Total</b>	<b>419</b>	<b>155</b>	<b>-</b>	<b>(28)</b>	<b>17</b>	<b>2</b>	<b>565</b>

### Exploration expenses (included in research and development expenses in the income statement)

(in millions of euros)	2008	2007	2006
Uranium	56	43	27
Gold	4	4	3
<b>Total</b>	<b>60</b>	<b>47</b>	<b>30</b>

## Note 12. Property, plant and equipment

### 2008

(in millions of euros)	Land	Buildings	Plant, equipment and tooling	End-of-life- cycle assets – AREVA share	Other	In process	Total
<b>Gross amount as of December 31, 2007</b>	<b>217</b>	<b>1,851</b>	<b>16,333</b>	<b>675</b>	<b>856</b>	<b>722</b>	<b>20,652</b>
Additions	21	77	154	0	73	834	1,159
Disposals	(10)	(23)	(189)	0	(59)	(7)	(345)
Currency translation adjustments	(8)	(15)	(45)	1	(7)	(15)	(89)
Change in consolidated group	1	7	10	0	2	1	22
Other changes	13	80	149	41	67	(394)	11
<b>Gross amount as of December 31, 2008</b>	<b>233</b>	<b>1,976</b>	<b>16,413</b>	<b>716</b>	<b>931</b>	<b>1,141</b>	<b>21,410</b>
<b>Depreciation and provisions as of December 31, 2007</b>	<b>(75)</b>	<b>(1,113)</b>	<b>(14,161)</b>	<b>(501)</b>	<b>(595)</b>	<b>(4)</b>	<b>(16,447)</b>
Depreciation / Impairment <sup>(1)</sup>	(2)	(63)	(254)	(25)	(75)	0	(419)
Disposals	1	17	183	0	51	0	253
Currency translation adjustments	1	6	20	0	4	0	30
Change in consolidated group	0	(1)	(5)	0	(1)	0	(7)
Other changes	0	(2)	94	0	1	2	95
<b>Depreciation and provisions as of December 31, 2008</b>	<b>(76)</b>	<b>(1,156)</b>	<b>(14,122)</b>	<b>(526)</b>	<b>(614)</b>	<b>(2)</b>	<b>(16,496)</b>
<b>Net carrying amount as of December 31, 2007</b>	<b>142</b>	<b>737</b>	<b>2,172</b>	<b>174</b>	<b>261</b>	<b>718</b>	<b>4,204</b>
<b>Net carrying amount as of December 31, 2008</b>	<b>157</b>	<b>819</b>	<b>2,291</b>	<b>190</b>	<b>317</b>	<b>1,139</b>	<b>4,913</b>

(1) A reversal in impairment of property, plant and equipment in the amount of 91 million euros was recognized as of December 31, 2008.

In 2008, the net value of finance lease contracts capitalized was 37 million euros (40 million euros in 2007).

## 2007

<i>(in millions of euros)</i>	Land	Buildings	Plant, equipment and tooling	End-of-life- cycle assets – AREVA share	Other	In process	Total
<b>Gross amount as of December 31, 2006</b>	<b>205</b>	<b>1,795</b>	<b>16,171</b>	<b>674</b>	<b>766</b>	<b>477</b>	<b>20,086</b>
Additions	8	40	161	0	70	531	811
Disposals	(3)	(39)	(137)	(0)	(58)	(4)	(242)
Currency translation adjustments	1	(11)	(14)	(2)	(8)	(0)	(35)
Change in consolidated group	2	7	17	0	13	4	42
Other changes	5	59	135	3	73	(286)	(12)
<b>Gross amount as of December 31, 2007</b>	<b>217</b>	<b>1,851</b>	<b>16,333</b>	<b>675</b>	<b>856</b>	<b>722</b>	<b>20,652</b>
<b>Depreciation and provisions as of December 31, 2006</b>	<b>(75)</b>	<b>(1,089)</b>	<b>(14,052)</b>	<b>(476)</b>	<b>(577)</b>	<b>(2)</b>	<b>(16,271)</b>
Depreciation / Impairment <sup>(1)</sup>	(0)	(58)	(238)	(27)	(66)	0	(390)
Disposals	1	30	131	0	52	0	215
Currency translation adjustments	(0)	4	12	0	4	(0)	21
Change in consolidated group	0	0	(13)	0	(3)	0	(16)
Other changes	(0)	(1)	(0)	2	(5)	(1)	(6)
<b>Depreciation and provisions as of December 31, 2007</b>	<b>(75)</b>	<b>(1,113)</b>	<b>(14,161)</b>	<b>(501)</b>	<b>(595)</b>	<b>(4)</b>	<b>(16,447)</b>
<b>Net carrying amount as of December 31, 2006</b>	<b>130</b>	<b>706</b>	<b>2,118</b>	<b>198</b>	<b>188</b>	<b>474</b>	<b>3,814</b>
<b>Net carrying amount as of December 31, 2007</b>	<b>142</b>	<b>737</b>	<b>2,172</b>	<b>174</b>	<b>261</b>	<b>718</b>	<b>4,204</b>

(1) No impairment of PP&E was recognized as of December 31, 2007.

In 2007, the net value of finance lease contracts capitalized was 40 million euros (33 million euros in 2006).

## Note 13. End-of-life-cycle operations

The table below summarizes the AREVA balance sheet accounts affected by the treatment of end-of-life-cycle operations and their financing.

Assets (in millions of euros)	December 31, 2008	December 31, 2007	December 31, 2006	Liabilities	December 31, 2008	December 31, 2007	December 31, 2006
End-of-life-cycle assets – AREVA share <sup>(1)</sup>	189	174	198				
Assets earmarked for end-of-life-cycle operations	5,224	5,364	5,077	Provisions for end-of-life-cycle operations	5,674	5,075	4,585
• End-of-life-cycle assets – third party share <sup>(2)</sup>	270	2,491	2,091	• funded by third parties <sup>(2)</sup>	270	2,491	2,091
• Assets earmarked for end-of-life cycle operations <sup>(3)</sup>	4,954	2,873	2,986	• funded by AREVA	5,404	2,584	2,494

(1) Amount of total provision to be funded by AREVA still subject to amortization.

(2) Amount of the provision to be funded by third parties.

(3) Portfolio of financial assets and receivables earmarked to fund AREVA's share of the total provision.

### End-of-life-cycle asset

In addition to the value of its property, plant and equipment, AREVA recognizes the deferred portion of the group's share of end-of-life-cycle operations, such as nuclear facility dismantling, decontamination, etc. The group's share of this adjustment account asset is amortized according to the same schedule as

the underlying property, plant and equipment. An adjustment account asset is also recognized for the third party share of end-of-life-cycle operations, corresponding to the share of dismantling, waste retrieval and waste packaging operations to be financed by third parties. Conversely, a provision is recorded to cover its total estimated end-of-life-cycle costs as soon as a facility starts up, including any share funded by third parties.

(in millions of euros)	Group share			Third party share	December 31, 2008	December 31, 2007	December 31, 2006
	Gross	Amortization	Net				
Dismantling	716	(527)	189	270	459	2,186	1,786
Waste retrieval and packaging				0	0	479	503
<b>Total</b>	<b>716</b>	<b>(527)</b>	<b>189</b>	<b>270</b>	<b>459</b>	<b>2,665</b>	<b>2,289</b>

### 2008

(in millions of euros)	NCA as of December 31, 2007	Increases	Decreases	Increases in reversals of amortization and provisions	Discounting reversals	Other changes	NCA as of December 31, 2008
Group share	174	79	(40)	(25)		1	189
Third party share	2,491	0	(2,366)		145		270
<b>Total</b>	<b>2,665</b>	<b>79</b>	<b>(2,406)</b>	<b>(25)</b>	<b>145</b>	<b>1</b>	<b>459</b>

## 2007

<i>(in millions of euros)</i>	NCA as of December 31, 2006	Increases	Decreases	Increases in reversals of amortization and provisions	Discounting reversals	Other changes	NCA as of December 31, 2007
Group share	198	21	(18)	(27)	-	-	174
Third party share	2,091	294	0	-	107	-	2,491
<b>Total</b>	<b>2,289</b>	<b>315</b>	<b>(19)</b>	<b>(27)</b>	<b>107</b>	<b>-</b>	<b>2,665</b>

The net end-of-life-cycle asset represented 459 million euros as of December 31, 2008, compared with 2.665 billion euros as of December 31, 2007.

The reduction in the third-party share is the result of the signature in December 2008 of a memorandum of understanding with EDF on principles applicable to Back End contracts for the post-2007 period.

For end-of-life-cycle operations, this memorandum of understanding mainly provides that EDF shall pay a lump sum settlement to AREVA for the final shutdown and dismantling of the La Hague plants and for the retrieval and packaging of legacy waste.

The memorandum of understanding established governing principles but did not set forth the terms of payment of the lump sum settlement, the schedule of payment, or the offsets against prepayments received by AREVA under the 2001-2007 contract.

These aspects will be formalized in a contract to be finalized before December 31, 2009.

For accounting purposes, the memorandum of understanding was recognized as follows:

- the existing third-party share of liabilities was reduced, while the lump sum settlement to be paid by EDF was recognized as a receivable on end-of-life-cycle operations;
- the prepayment received from EDF remains on the balance sheet under borrowings pending contract signature (see note 25, "Borrowings").

The third party share remaining in the end-of-life-cycle assets mainly corresponds to the funding expected from CEA for its share of the commitment for the Pierrelatte site. This heading increases based on discounting reversals and decreases based on work performed.

## Provisions for end-of-life-cycle operations

<i>(in millions of euros)</i>	<b>December 31, 2008</b>	December 31, 2007	December 31, 2006
Dismantling of nuclear facilities	4,068	3,881	3,371
Waste retrieval and packaging	1,606	1,194	1,215
<b>Provisions for end-of-life-cycle operations</b>	<b>5,674</b>	<b>5,075</b>	<b>4,585</b>

<i>(in millions of euros)</i>	NCA as of December 31, 2007	Reversals (when risk has materialized): 2008 expenses covered by a provision	Discounting reversals	Change in assumptions, budgets, etc.	<b>NCA as of December 31, 2008</b>
Dismantling provision	3,881	(96)	235	48	4,068
Provision for waste retrieval and packaging	1,194	(31)	91	352	1,606
<b>Total</b>	<b>5,075</b>	<b>(127)</b>	<b>326</b>	<b>400</b>	<b>5,674</b>

The increase in provisions for end-of-life-cycle operations in 2008 comes principally from the recognition of a waste retrieval and packaging provision corresponding to the CEA's share of financing of legacy waste retrieval and packaging operations at La Hague's UP2-400 plant.

At the same time, the lump sum settlement to be paid by the CEA to AREVA was recognized as a receivable on end-of-life-cycle operations. The CEA share was previously treated as a contract.

After a review of the Law of June 28, 2006 on the sustainable management of nuclear materials and radioactive waste, the implementing decree of February 23, 2007, and the administrative order of March 21, 2007 on collateralization of nuclear cleanup funding, and of the comments on their application made in 2008 by the regulator, the group decided to recognize this settlement as a receivable and the resulting commitment in provisions for waste retrieval and packaging.

<i>(in millions of euros)</i>	NCA as of December 31, 2006	Reversals (when risk has materialized): expenses for the year	Discounting reversals	Change in assumptions, budgets, etc.	NCA as of December 31, 2007
Dismantling provision	3,371	(61)	168	404	3,881
Provision for waste retrieval and packaging	1,215	(14)	51	(58)	1,194
<b>Total</b>	<b>4,585</b>	<b>(75)</b>	<b>218</b>	<b>346</b>	<b>5,075</b>

Provisions for end-of-life-cycle operations of facilities covered by the Law of June 28, 2006 pertaining to the sustainable management of nuclear materials and nuclear waste were as follows as of December 31, 2008 and December 31, 2007:

<i>(in millions of euros)</i>	<b>December 31, 2008</b>	December 31, 2007
Dismantling of regulated nuclear facilities, excluding long-term radioactive waste management	3,464	3,321
Dismantling of used fuel, excluding long-term radioactive waste management	-	-
Retrieval and packaging of legacy waste, excluding long-term radioactive waste management	1,102	730
Long-term radioactive waste management	727	689
Post-closure disposal center monitoring costs	37	36
<b>Total provisions for end-of-life-cycle operations of facilities covered by the Law of June 28, 2006</b>	<b>5,330</b>	<b>4,776</b>
Provisions for end-of-life-cycle operations of facilities not covered by the Law of June 28, 2006	344	299
<b>Total provisions for end-of-life-cycle operations</b>	<b>5,674</b>	<b>5,075</b>

As of December 31, 2008, the use of a discount rate of 0.5% higher or 0.5% lower than the rate actually used changes the value of end-of-life-cycle provisions falling within the scope of the Law of June 28, 2006 by -438 million euros or +517 million euros respectively.

### Nature of the commitments

As a nuclear operator, the AREVA group has a legal obligation to secure and decommission its facilities when they are shut down permanently. The group must also retrieve and package, in accordance with prevailing standards, the various waste types generated by operating activities which could not be processed during treatment. Group facilities subject to these obligations include facilities in the front end of the fuel cycle, in particular the Pierrelatte plants and the fuel fabrication facilities, but they are predominantly facilities in the back end of the fuel cycle, including the treatment plants at La Hague and the MELOX and Cadarache MOX fuel fabrication plants.

In December 2004, the CEA, EDF and AREVA NC signed an agreement regarding the Marcoule plant. The CEA will assume the responsibilities of owner-operator of the site and will be responsible for funding the site cleanup effort. This agreement does not cover final disposal costs for long-lived high- and medium-level waste. Accordingly, provisions for the Marcoule site include only AREVA NC's share of waste removal and final waste disposal costs.

### Determination of provisions for end-of-life-cycle operations

#### > DISMANTLING AND WASTE RETRIEVAL AND PACKAGING

Dismantling obligations are calculated facility by facility as follows:

The group's dismantling standards correspond to the following final condition: buildings are decontaminated where they stand



and all nuclear waste areas are decommissioned to conventional waste status.

Detailed dismantling and waste management cost estimates for back-end facilities were prepared by SGN. As prime contractor for the construction of the majority of the group's treatment and recycling facilities, this engineering firm was judged to be the most qualified to select methods for the dismantling of these facilities. To do so, SGN developed software to estimate dismantling operations to be performed at back-end plants of AREVA and of the CEA. This software was certified by Veritas.

Eurodif prepared the dismantling cost estimates for the enrichment business.

The estimates are revised annually to take inflation into account. These expenses are then allocated by year, adjusted for inflation and discounted to present value, as explained in note 1.18, "Provisions for end-of-life-cycle operations". A provision is then recognized based on the present value. The discounting reversal is recognized in "Net financial expense".

As of December 31, 2008 and December 31, 2007, the estimated rates applied to facilities located in France were the following:

- inflation rate: 2%;
- discount rate: 5%.

Cost estimates will be updated if applicable regulations change or substantial technological developments are anticipated. As required by French Program Law no. 2006-739 of June 28, 2006 on the sustainable management of radioactive materials and waste, the group will submit a report every three years on cost estimates

and calculation methods for provisions, in addition to an annual report update.

Some waste from fuel treatment operations performed under older contracts could not be processed on site, as packaging facilities were not yet in service at that time. This waste must now be retrieved and packaged with methods and technologies approved by the French safety authorities.

#### > FINAL WASTE DISPOSAL

AREVA recognizes a provision for radioactive waste expenses for which the group is responsible.

These expenses include:

- the group's share of the cost of monitoring disposal facilities in the Manche and Aube regions, which receive or will receive low-level, short-lived waste;
- the shipment and underground disposal of low-level, long-lived waste (graphite) owned by the group;
- the shipment and disposal of medium- and high-level waste covered by the French Law of December 30, 1991 (now included in articles L. 542-1 *et seq.* of the French Environmental Code). The provision is based on the assumption that a deep geological repository will be built.

Concerning this last heading, a working group established in 2004 at the request of the Ministry of Industry's Department of Energy and the Climate issued its report during the second half of 2005. AREVA reviewed the report of the working group and adopted a reasonable cost estimate of 14.1 billion euros\* for the deep geological disposal repository, including allowances for contingencies.

#### > PROVISION FOR END-OF-LIFE-CYCLE OPERATIONS, BEFORE DISCOUNTING

Provisions for end-life-cycle operations before discounting (subject to escalation from the date of closing):

<i>(in millions of euros)</i>	<b>December 31, 2008</b>	December 31, 2007	December 31, 2006
Dismantling of nuclear facilities	8,372	7,990	7,290
Waste retrieval and packaging	2,573	2,075	1,982
<b>Total</b>	<b>10,945</b>	<b>10,065</b>	<b>9,272</b>

\* In 2003 economic conditions

## Assets earmarked for end-of-life-cycle operations

This heading consists of the following:

<i>(in millions of euros)</i>	<b>December 31, 2008</b>	December 31, 2007	December 31, 2006
Receivables related to end-of-life-cycle operations	2,991	119	113
<b>Earmarked assets</b>	<b>1,964</b>	<b>2,755</b>	<b>2,873</b>
<b>Total</b>	<b>4,954</b>	<b>2,873</b>	<b>2,986</b>

Receivables related to end-of-life-cycle operations at December 31, 2008 correspond chiefly to (i) receivables from the CEA resulting from the signature in December 2004 of an agreement confirming the CEA's responsibility for a share of the costs of dismantling the La Hague and Cadarache plants and of the costs to retrieve and package waste at the UP2-400 plant, and (ii) a receivable from EDF resulting from the signature in December 2008 of the memorandum of understanding between EDF and AREVA on the principles governing Back End contracts for the post-2007 period.

### Purpose of earmarked portfolio

To meet its share of end-of-life-cycle obligations, the group has voluntarily built up a segregated portfolio over the past 15 years to cover future facility dismantling and waste management expenses. This obligation has applied to all nuclear operators in France since the Law 2006-739 of June 28, 2006 and the implementing decree 2007-243 of February 23, 2007 came into force. This portfolio was constructed based on a budget of disbursements. These operations are scheduled to take place, for the most part, during the 2025-2060 timeframe. Accordingly, the portfolio is managed with long-term objectives. The portfolio is comprised of financial assets covering all of the group's commitments, whether related to obligations imposed by the Law of June 28, 2006 for regulated nuclear facilities located in France, or related to other end-of-life-cycle commitments for facilities located in France or abroad.

The group relies on independent consultants to study strategic target asset allocations to optimize the risk/return of the portfolio over the long term and to advise AREVA on the choice of asset classes and portfolio managers. These recommendations

are submitted to the Cleanup and Decommissioning Fund Monitoring Committee. Long term asset allocations indicate the target percentage of assets to cover liabilities (bonds and money market investments, including receivables from third parties) and the diversification of assets (shares of stock, etc.), subject to limitations stated in the decree of February 23, 2007, both in terms of risk exposure and concentration and in terms of type of investments.

After review, the group revised the portfolio's structure and the funds' management over the past three years.

In doing so, AREVA ensured that all AREVA NC and AREVA NP funds are held, registered and valued by a single custodian capable of performing the necessary control and valuation procedures independently, as required by the implementing order.

The equity component of the portfolio, which was initially invested in European equities *via* a limited number of direct holdings in publicly traded French companies and *via* independently managed mutual funds, was reorganized in 2007 and is now wholly independent. It consists of:

- a mandate for the management of Euro zone equities, with long term objectives and a slow rotation of assets;
- European equities mutual funds corresponding to three management categories and styles:
  - indexed management for large cap securities,
  - active quant management for large cap securities, and
  - small and mid-caps.

The fixed component, comprising bond funds and money market funds, remains unchanged.

The portfolio of assets earmarked to fund end-of-life-cycle expenses includes the following:

<i>(in millions of euros)</i>	<b>December 31, 2008</b>	December 31, 2007	December 31, 2006
<b>At market value</b>			
Publicly traded shares	479	846	718
Equity mutual funds	548	946	1,001
Bond and money market mutual funds	937	963	1,154
<b>Total</b>	<b>1,964</b>	<b>2,755</b>	<b>2,873</b>
<b>By region</b>			
Euro zone	1,753	2,358	2,381
Non-euro Europe	211	394	492
Other	-	3	-
<b>Total</b>	<b>1,964</b>	<b>2,755</b>	<b>2,873</b>

## Management mandate for publicly traded equities

### > COMPOSITION

The mandate was established at the beginning of 2007 with the contribution of three equity investments: Michelin, Saint-Gobain and Schneider. The manager's objective is to rotate the initial investments over time to diversify the portfolio over some 30 Euro zone equities to produce long-term gains, with a slow rotation of assets.

As of December 31, 2008, the mandate includes 27 companies with a market value of 479 million euros, with 63% of the value concentrated in the three initial investments, compared with 84% at the end of 2007.

### > RISK ASSESSMENT

Although it is not a management guideline, the mandate will be assessed over the long term by reference to the MSCI EMU index, net of dividends reinvested. The nature of the long-term mandate is not compatible with an evaluation against a benchmark.

## Dedicated equity funds (indexed management, active quant, small caps)

### > COMPOSITION

Other equity securities are held through mutual funds dedicated to AREVA with a net asset value of 548 million euros as of December 31, 2008.

Three management strategies were chosen for three specific investment universes:

- to duplicate the performance of the benchmarks, indexed management based on large Euro zone capitalizations (EMU + UK) forms the base of dedicated equity funds;

- active quant management is the second component of the equity portfolio, with investments chosen in the universe of MSCI EMU + UK companies. The manager's objective is to outperform the benchmark with a limited tracking error;

- the third universe of the portfolio consists of actively managed small and mid caps chosen exclusively from among companies in the MSCI Europe Small Cap universe.

### > RISK ASSESSMENT

The managers must follow strict rules of exposure, depending on the objectives of the fund involved, including limits on the amounts invested per issuer or in percentage of the net value of the portfolio, limits on exposures in currencies other than the euro, tracking error (relative risk compared with the benchmark), and limits on exposures to certain types of instruments. Together, these limits are designed to comply with investment rules established in the implementing order of the Law of June 28, 2006.

A single custodian was selected for all of the funds to verify that the managers apply the rules at all times and to perform independent valuations of the funds.

### > DERIVATIVES

Derivative instruments may be used for hedging or to acquire a limited exposure. They are subject to specific investment rules prohibiting leverage. Sales of puts and calls must be fully covered by underlying assets (and are prohibited on assets not included in the portfolio).

### > FUND VALUATION

The funds are valued based on their net asset value, corresponding to the market value of the securities held by each fund on the last day of the period.

**Dedicated bond funds****> COMPOSITION**

At least 80% of the bond funds held by AREVA NC consist of interest rate instruments in euros; no more than 20% of the managed funds may be comprised of interest rate instruments denominated in US dollars or in non-Euro zone European Union currencies, in which case the foreign exchange risk must be hedged. No equities may be held by bond mutual funds.

The funds' performance is measured against a composite FTSE benchmark of Euro zone government bonds.

Mandates and bond funds matching disbursement flows exactly have been established specifically for Eurodif, an AREVA NC subsidiary.

**> RISK ASSESSMENT**

Excluding Eurodif's mandates and bond funds, whose sensitivity essentially matches liabilities, the sensitivity of each fund to interest rate fluctuations is currently between a minimum of 0 and a maximum of 5.

The securities selected must be rated by Moody's and/or Standard & Poor's in accordance with the table below:

	Moody's	S&P
0 – 1 year	P1	A1
1 – 4 years	Aa3	AA-
4 – 7 years	Aa1	AA+
> 7 years	Aaa	AAA

**> DERIVATIVES**

The sole purpose of derivatives is to hedge existing positions. Total nominal commitments may not exceed the fund's net assets.

**> FUND VALUATION**

The bond funds' net asset value is determined by valuing the securities held by each fund at market value on the last day of the period.

**Performance of various asset classes (excluding receivables) used to cover liabilities governed by the order no. 2007-243 of February 23, 2007 implementing the Law of June 28, 2006**

	2008	2007	2006
<b>AREVA NC</b>			
I. 3° Euro zone equities	-43.4%	9.3%	29.3%
<b>AREVA NC</b>			
I. 4° EU equity funds <sup>(*)</sup>	-45.6%	2.4%	17.3%
I. 4° Euro bond funds <sup>(*)</sup>	7.1%	3.2%	1.6%
I. 4° Money market funds	4.2%	4.0%	2.9%
<b>AREVA NP</b>			
I. 4° Money market and equity funds	-13.9%	4.1%	3.0%
<b>Eurodif</b>			
I. 4° Money market, equity and bond funds and mandates	-6.1%	3.0%	10.1%

<sup>(\*)</sup> Performance reported for these asset classes includes that of mutual funds earmarked for end-of-life-cycle operations of regulated French and foreign nuclear facilities not subject to the Law of June 28, 2006.

### Performance of all earmarked assets

Financial assets held as securities or mutual funds represent only 40% of all earmarked assets as of December 31, 2008. Earmarked assets at year-end 2008 were allocated as follows: 21% equities, 19% bonds, 60% receivables. If interest on receivables is used to determine the performance of rate instruments, the overall performance of all earmarked assets would be approximately -11% in 2008.

### > RISK ASSESSMENT AND MANAGEMENT OF THE DEDICATED PORTFOLIO

The risks underlying the portfolios and funds holding assets under the management mandate for end-of-life-cycle operations are assessed every month. For each fund or earmarked asset, this assessment provides an estimate of the maximum total loss with a 95% level of confidence for different maturities of the portfolios, using the VaR method and volatility estimates. A second estimate is done using deterministic scenarios: an impact of 100 pbs on the rate curve and a 20% drop in the value of the shares.

Impacts related to the valuation of earmarked assets are presented in note 32, "Additional information on financial instruments".

## Note 14. Investments in associates

### Investments in equity associates (by associate)

<b>December 31, 2008</b> <i>(in millions of euros)</i>	<b>% of control</b>	<b>Share in net income of equity associates</b>	<b>Investment in associates, excluding goodwill</b>	<b>Goodwill</b>	<b>Investment in associates, including goodwill</b>
STMicroelectronics	14.34	(46)	897	43	940
Eramet	26.17	187	717	35	752
REpower	-	1	-	-	-
Other equity associates	-	14	65	-	65
<b>Total</b>		<b>156</b>	<b>1,679</b>	<b>78</b>	<b>1,757</b>

<b>December 31, 2007</b> <i>(in millions of euros)</i>	<b>% of control</b>	<b>Share in net income of equity associates</b>	<b>Investment in associates, excluding goodwill</b>	<b>Goodwill</b>	<b>Investment in associates, including goodwill</b>
STMicroelectronics	11.04	(25)	748	43	791
Eramet	26.24	153	552	35	587
REpower	29.95	7	97	26	123
Other equity associates	-	14	57	-	57
<b>Total</b>		<b>148</b>	<b>1,454</b>	<b>104</b>	<b>1,558</b>

December 31, 2006 (in millions of euros)	% of control	Share in net income of equity associates	Investment in associates, excluding goodwill	Goodwill	Investment in associates, including goodwill
STMicroelectronics	10.91	98	862	43	905
Eramet	26.20	106	454	35	489
REpower	29.99	2	56	23	79
Other equity associates	-	13	48	-	48
<b>Total</b>		<b>220</b>	<b>1,420</b>	<b>101</b>	<b>1,521</b>

The final impact of STMicroelectronics' first-time adoption of IFRS is included in the share in net income of the company in 2006 in the amount of 15 million euros (see note 1.2, "Presentation of the financial statements").

The shareholders' agreement renewed on March 17, 2008, among AREVA, FT1C1 and Finmeccanica establishes the rules governing relations between the parties and seeks to improve the liquidity of their indirect investments in the company and preserve a stable and balanced shareholders' base. It provides AREVA with significant influence over STMicroelectronics.

### Change in investments in equity associates

(in millions of euros)	2008	2007
<b>Investments in equity associates at January 1</b>	<b>1,558</b>	<b>1,521</b>
Share in net income of equity associates	156	148
Dividends	(79)	(52)
Currency translation adjustments	23	(52)
Acquisitions	-	1
Disposals	(125)	-
Other changes	225	(8)
<b>Investments in equity associates at December 31</b>	<b>1,757</b>	<b>1,558</b>

### Summary data on associates

(in millions of euros)	STMicroelectronics *	Eramet *
Total assets	11,039	4,874
Total liabilities	3,627	1,839
Shareholders' equity	7,412	3,035
Revenue	7,382	3,792
Net income	(321)	582

\* Information reported in accordance with IFRS (December 31, 2007).

## Fair value of investments in publicly traded equity associates

(en millions d'euros)	December 31, 2008			December 31, 2007			December 31, 2006		
	% of control	Investment in equity associates	Fair value at stock market price	% of control	Investment in equity associates	Fair value at stock market price	% of control	Investment in equity associates	Fair value at stock market price
STMicroelectronics	14.34	940	475	11.04	791	973	10.91	905	1,397
Eramet	26.17	752	932	26.24	587	2,365	26.20	489	820
REpower	-	-	-	29.95	123	336	29.99	79	190
<b>Total</b>		<b>1,692</b>	<b>1,407</b>		<b>1,501</b>	<b>3,674</b>		<b>1,473</b>	<b>2,407</b>

## Note 15. Other non-current financial assets

(in millions of euros)	December 31, 2008	December 31, 2007	December 31, 2006
Available-for-sale securities	1,744	2,269	2,096
Loans to equity associates	87	28	30
Other non-current financial assets	232	262	215
Derivatives on financing activities	89	29	34
<b>Total</b>	<b>2,152</b>	<b>2,588</b>	<b>2,376</b>

## Available-for-sale securities

Changes during the year were as follows:

(in millions of euros)	
<b>January 1, 2008</b>	<b>2,269</b>
Acquisitions	96
Disposals	(11)
Lasting impairment	(38)
Changes in fair value recognized directly in equity	(537)
Change in consolidation scope, currency translation and miscellaneous	(35)
<b>December 31, 2008</b>	<b>1,744</b>



Available-for-sale securities are as follows:

<i>(in millions of euros)</i>	<b>Number of shares as of December 31, 2008</b>	<b>December 31, 2008</b>	December 31, 2007	December 31, 2006
Publicly traded shares (at market value)				
• Total	7,350,064	286	418	402
• Alcatel	2,597,435	4	13	28
• GDF-SUEZ	26,371,233	932	1,287	1,084
• SUEZ Environnement	6,906,750	83	-	-
• Safran (formerly Sagem)	30,772,945	296	432	541
• Summit	21,108,268	18	38	-
• Japan Steel	4,830,000	47	-	-
• Other publicly traded shares	-	10	4	-
Investment in privately held companies	-	68	77	41
<b>Total</b>	<b>-</b>	<b>1,744</b>	<b>2,269</b>	<b>2,096</b>

In 2008, AREVA acquired shares in Japan Steel.

Changes in investments in Total, Alcatel and Safran correspond solely to changes in their market prices. AREVA did not buy or sell any shares in these companies during the reporting period.

The change in value of AREVA's investment in GDF-SUEZ reflects (i) the merger between Gaz de France and SUEZ and the public float of SUEZ Environnement, and (ii) changes in the share price during the year.

The shares of Société Générale were sold in 2006.

As of December 31, 2008, the heading "Investments in privately held companies" includes mostly investments in companies owning interests in mineral deposits.

Impacts related to the valuation of available-for-sale securities are presented in note 32, "Additional information on financial statements".

### Other non-current financial assets

As of December 31, 2008, this heading includes mostly deposits with the US Customs Service in connection with the USEC dispute in the amount of 153 million euros (compared with 145 million euros in 2007 and 141 million euros in 2006).

### USEC

In 2001, the United States Department of Commerce (DOC) ordered that countervailing duties be levied on enrichment services imported to the United States from France, Germany, the Netherlands and the United Kingdom. This action followed complaints filed in December 2000 by the United States Enrichment Corporation (USEC) against Eurodif and URENCO for dumping and unfair subsidies. The level of countervailing duties applied to Eurodif exports to the United States led to 213 million US dollars being deposited with the US Customs Service at the end of 2008. The USEC dispute is described in note 35, "Events subsequent to year end".

## Note 16. Inventories and in process

(in millions of euros)	December 31, 2008			December 31, 2007			December 31, 2006		
	Gross	Impairment	Net value	Gross	Impairment	Net value	Gross	Impairment	Net value
Raw materials and other supplies	923	(165)	758	855	(163)	691	713	(162)	551
Goods in process	791	(25)	765	711	(26)	685	655	(42)	613
Services in process	733	(31)	702	692	(110)	581	566	(100)	466
Intermediate and finished products	1,208	(30)	1,178	889	(29)	860	698	(22)	676
<b>Total</b>	<b>3,655</b>	<b>(251)</b>	<b>3,404</b>	<b>3,146</b>	<b>(329)</b>	<b>2,817</b>	<b>2,633</b>	<b>(326)</b>	<b>2,306</b>
Inventories and work-in-process									
• at cost			2,981			2,465			2,038
• at fair value net of disposal expenses			423			353			268
			<b>3,404</b>			<b>2,817</b>			<b>2,306</b>

## Note 17. Accounts receivable and related accounts

(in millions of euros)	December 31, 2008	December 31, 2007	December 31, 2006
Gross values	4,532	3,932	3,654
Impairment	(46)	(48)	(50)
<b>Net carrying amount</b>	<b>4,486</b>	<b>3,884</b>	<b>3,604</b>

### Change in impairment of accounts receivable and related accounts

<b>January 1, 2008</b>	<b>(48)</b>
Change in consolidated group	0
Charge	(11)
Reversal (when risk has materialized)	7
Reversal (when risk has not materialized)	6
Other (currency translation adjustments)	-
<b>December 31, 2008</b>	<b>(46)</b>

The gross value of "Trade accounts receivable and related accounts" includes 82 million euros in receivables maturing in more than one year.

As of December 31, 2008, "Trade accounts receivable and related accounts" include receivables in the amount of 1.437 billion euros on contracts recognized according to the percentage of completion method (1.121 billion euros as of December 31, 2007).

## Trade accounts receivable and related accounts (gross) \*

Accounts receivable and related accounts  (in millions of euros)	Gross	Including maturing in the future	Including impaired and past due	Including not impaired, maturing in the future					
				Less than 1 month	1 to 2 months	2 to 3 months	3 to 6 months	6 months to 1 year	More than 1 year
As of December 31, 2008	3,095	2,531	40	130	58	40	45	173	78
As of December 31, 2007	2,812	2,480	38	114	78	29	31	30	12
As of December 31, 2006	2,512	2,176	42	142	45	27	35	27	18

\* Excluding accounts receivable recognized according to the percentage of completion method.

## Note 18. Other operating receivables

(in millions of euros)	December 31, 2008	December 31, 2007	December 31, 2006
French State	508	426	323
Advances and down payments to suppliers	596	340	275
Miscellaneous accounts receivable	994	456	380
Financial instruments	306	153	122
Other	30	27	20
<b>Total</b>	<b>2,434</b>	<b>1,402</b>	<b>1,121</b>

"Miscellaneous accounts receivable" includes receivables from employees and benefit management organizations.

Other operating receivables include 293 million euros in receivables maturing in more than one year.

The heading "Financial instruments" includes the fair value of derivatives hedging commercial transactions and the fair value of firm commitments hedged.

## Note 19. Cash and cash equivalents

(in millions of euros)	December 31, 2008	December 31, 2007	December 31, 2006
Cash equivalents	632	346	690
Cash and current accounts	418	288	272
<b>Net value</b>	<b>1,050</b>	<b>634</b>	<b>962</b>

Cash equivalents consist chiefly of short-term marketable securities.

## Note 20. Other current financial assets

<i>(in millions of euros)</i>	<b>December 31, 2008</b>	December 31, 2007	December 31, 2006
Securities held for trading	6	69	248
Puts and calls	-	124	-
Other current financial assets and derivatives on financing activities	107	86	44
<b>Total</b>	<b>113</b>	<b>279</b>	<b>292</b>

Securities held for trading include bonds and negotiable mid-term instruments, some of which serve as security for expenses to be incurred under sales contracts for which customer advances have been received, and balanced equity/bond funds.

As of December 31, 2007, puts and calls mainly included the put option on REpower shares in the amount of 121 million euros.

Other current financial assets include 53 million euros for the Framépargne liquidity guarantee (see note 31, "Market Risk management").

## Note 21. Equity

### Share capital

As of December 31, AREVA's share capital was held as follows:

At December 31	<b>2008</b>	2007	2006
CEA	78.9%	78.9%	78.9%
French State	5.2%	5.2%	5.2%
Caisse des dépôts et consignations	3.6%	3.6%	3.6%
Erap	3.2%	3.2%	3.2%
Total	1.0%	1.0%	1.0%
Calyon and employee shareholders	1.6%	1.6%	1.6%
EDF	2.5%	2.5%	2.5%
<b>Holders of shares with voting rights</b>	<b>96.0%</b>	<b>96.0%</b>	<b>96.0%</b>
<b>Holders of investment certificates</b>	<b>4.0%</b>	<b>4.0%</b>	<b>4.0%</b>
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

The par value of the AREVA SA share and of the investment certificate is 38.00 euros.

### Currency translation reserves

Currency translation reserves totaled -131 million euros in 2008, -138 million euros in 2007, and -25 million euros in 2006. This decrease reflects changes in the US dollar exchange rate for the most part.

### Dilutive instruments

The group does not have a stock option plan and has not issued any instrument convertible into equity.

### Earnings per share

The average number of shares and investment certificates used to calculate earnings per share in 2008 was 35,442,701 (including 1,429,108 investment certificates), unchanged from previous years.

## Note 22. Minority interests

The largest minority interests were as follows:

<i>(in millions of euros)</i>	<b>December 31, 2008</b>	December 31, 2007	December 31, 2006
STMicroelectronics	194	-	-
Eurodif	187	233	166
SET Holding	70	-	-
UraMin Inc.	57	70	-
AREVA T&D India Ltd	34	30	20
Other	203	137	108
<b>Total</b>	<b>745</b>	<b>470</b>	<b>294</b>

As provided in IAS 32 and mentioned in note 1.19.1. "Put options held by minority shareholders of group subsidiaries", put options held by Siemens in respect of its investment in AREVA NP are recognized as borrowings (see note 25, "Borrowings"), and the

corresponding minority interests are canceled. The difference between the value of these options and the minority interests canceled is recognized as goodwill (see note 10, "Goodwill").

## Note 23. Employee benefits

Group companies, in accordance with laws and practices prevailing in the various countries where they operate, may pay retirement bonuses to their retiring employees based on their compensation and seniority. Long-service jubilee payments and early retirement pensions are sometimes due in France and in Germany, while supplemental pensions may contractually guarantee a given level of income to certain employees. Certain group companies also grant other post-retirement benefits, such as the reimbursement of medical expenses.

These defined benefit plans are recognized in accordance with the accounting method defined in note 1.16, "Employee benefits".

Each year, independent actuaries determine the group's commitments as of the year-end.

In some companies, these obligations are covered in whole or in part by insurance policies or external retirement funds. In such cases, the obligations and the covering assets are valued independently. The difference between the obligation and the assets is either a funding surplus or a deficit. A provision is recognized in the event of a deficit and an asset is recognized in the event of a surplus, subject to specific conditions.

## Provisions recognized on the balance sheet

<i>(in millions of euros)</i>	<b>December 31, 2008</b>	December 31, 2007	December 31, 2006
<b>Total provisions for pension obligations and other employee benefits</b>	<b>1,268</b>	<b>1,175</b>	<b>1,122</b>
Less pension plan assets	(1)	(0)	(0)
Less local pension plan assets	(8)	(24)	(28)
<b>Total plans reviewed by the group's actuaries</b>	<b>1,259</b>	<b>1,151</b>	<b>1,094</b>
Retirement benefits	256	207	179
Supplemental retirement benefits	165	179	180
Early retirement benefits	575	543	511
Medical expenses and accident/disability insurance	235	194	200
Job-related awards	28	28	24

The information below concerns plans reviewed by the group's actuaries.

CATS, CASA and CASAIC plans are included in early retirement plans.

The main actuarial assumptions used in determining the group's obligations are as follows:

	<b>2008</b>	2007
Inflation	2%	2%
Discount rate		
• Euro zone	5.50%	5%
• US dollar zone	6.00%	5.75%
• Canadian dollar zone	6.00%	5.25%
Expected average return on plan assets		
• Euro zone	5 to 6.25%	5 to 6.25%
• US dollar zone	7.5%	7.5%
• Canadian dollar zone	7.4%	7.4%
Pension benefit increases		
• Euro zone	1.95%	1.95%
• US dollar zone	0%	0%
Annual social security ceiling increase (before inflation)	+0.5%	+0.5%

■ Mortality tables.

	<b>2008</b>	2007
France		
• Annuity	Mortality tables	Mortality tables
• Lump sum payment	INSEE Men/Women 2000-2002	INSEE Men/Women 2000-2002
Germany	Heubeck 2005	Heubeck 2005
USA	IRS 2008	GAM 94

■ Retirement age: 63 for management personnel, 61 for non-management personnel (in France).

■ Average attrition is assumed to occur among employees in each group company at a declining rate reflecting age brackets.

■ Salary increase assumptions, net of inflation (weighted average based on the number of employees in each company).

France	Management personnel		Non-management personnel	
	2008	2007	2008	2007
< 30 years	2.16%	2.13%	1.35%	1.34%
30-39 years	1.82%	1.78%	1.31%	1.30%
40-49 years	1.36%	1.32%	1.08%	1.07%
50-54 years	0.92%	0.88%	0.95%	0.95%
55 years or more	0.65%	0.62%	0.68%	0.67%

Germany	2008	2007
< 35 years	1.61%	1.61%
> 35 years	1.23%	1.22%

USA	2008	2007
	1.75%	1.75%

*The assumed rate of salary increase reflects changes in the consolidated group.*

■ Assumed rate of increase in medical expenses in the United States.

Year	
2008	9%
2009	8.5%
2010	8%
2011	7.5%
2012	7%
2013	6.5%
2014+	6%

■ Contributions / benefits anticipated for defined benefit plans in 2009.

- The costs to be borne by the company for baseline contributions/benefits are estimated at 115 million euros;
- The minimum mandated coverage in certain countries – principally Germany and the United States – requires that the group make additional contributions in 2009 of approximately 45 million euros (this estimate is tentative, as minimum coverage evaluations are ongoing).

## Plan assets

### Europe

Type of asset	2008	2007
Cash	10%	10%
Bonds	65%	59%
Equities	21%	28%
Real estate	4%	3%



**United States**

Type of asset	2008	2007
Cash	3%	2%
Bonds	47%	41%
Equities	50%	57%
Real estate	0%	0%

Effective return on plan assets	2008	2007
Europe	-7.70%	1.90%
United States	-22.80%	11.20%

The returns expected on assets are calculated taking into account:

- financial asset allocations by type of investment;
- average future return assumptions by category of asset.

The group's pension assets do not include financial instruments of the AREVA group. The pension plans' real estate assets do not include real property owned by AREVA.

**Net carrying amount of retirement obligations**

	Retirement bonuses	Supplemental retirement benefits		Early retirement benefits		Medical expenses	Job- related awards	Total	Total	Total
Au 31 décembre 2008 (en millions d'euros)	Out- sourced	Out- sourced	In-house manage- ment	Out- sourced	In-house manage- ment	In-house manage- ment	In-house manage- ment	Out- sourced	In-house manage- ment	
Benefit obligation	398	809	130	776	317	214	28	1,983	689	2,672
Fair value of plan assets	(51)	(631)	-	(317)	-	-	-	(999)	-	(999)
Unrecognized actuarial gains/losses	(90)	(137)	(3)	(72)	(18)	12	-	(299)	(9)	(308)
Unrecognized past service cost	(1)	(2)	(1)	(81)	(30)	9	-	(84)	(22)	(106)
Plan assets recognition limit	-	-	-	-	-	-	-	-	-	-
<b>Total net obligation</b>	<b>256</b>	<b>39</b>	<b>126</b>	<b>306</b>	<b>269</b>	<b>235</b>	<b>28</b>	<b>601</b>	<b>658</b>	<b>1,259</b>

**Accord National Interprofessionnel (ANI):  
Administrative order of July 23, 2008 expanding the  
ANI agreement of January 11, 2008**

The actuarial value of obligations and provisions reported does not include the new retirement bonus schedules quoted in the ANI. The application of these schedules would increase the actuarial value of the liability by approximately 83 million euros.

**Sensitivity of the actuarial value of the obligation to  
changes in discount rates**

An across-the-board decrease in the discount rate of 0.5% increases the actuarial obligation by 5.1%.

**Historical data***(in millions of euros)*

	December 31, 2007	December 31, 2006	December 31, 2005	December 31, 2004
Benefit obligation	2,610	2,517	2,364	2,304
Fair value of plan assets	(1,161)	(978)	(875)	(874)
Unrecognized actuarial gains/losses	(222)	(331)	(309)	(291)
Unrecognized past service cost	(110)	(114)	(127)	(151)
Plan assets recognition limit	34	-	-	-
<b>Total net obligation</b>	<b>1,151</b>	<b>1,094</b>	<b>1,053</b>	<b>988</b>

**Actuarial experience gains and losses since IFRS adoption***Actuarial losses (gains) by year (in millions of euros)*

Cumulative 2004 to 2007	Benefit obligations	68
	Plan assets	21
	<b>Total</b>	<b>89</b>
<b>2008</b>	Benefit obligations	29
	Plan assets	225
	<b>Total</b>	<b>254</b>

**Total expense for the year**

<b>2008</b> <i>(in millions of euros)</i>	Retirement bonuses	Supplemental retirement benefits	Early retirement benefits	Medical expenses	Job-related awards	<b>Total</b>	2007
Current service cost	18	15	33	5	1	72	82
Interest on obligation	20	45	55	11	2	133	116
Expected return on plan assets	(3)	(45)	(18)	-	-	(66)	(65)
Actuarial gains or losses recognized in the year	4	6	16	-	(1)	25	30
Past service cost	3	2	13	26	-	44	15
Plan curtailment or termination	(1)	-	-	-	-	(1)	(1)
Impact of limit on recognition of assets	-	-	-	-	-	-	10
<b>Total expense for the year</b>	<b>41</b>	<b>23</b>	<b>99</b>	<b>42</b>	<b>2</b>	<b>207</b>	<b>187</b>

## Change in the defined benefit obligation

<b>At December 31, 2008</b> <i>(in millions of euros)</i>	Retirement bonuses	Supplemental retirement benefits	Early retirement benefits	Medical expenses	Job-related awards	<b>Total</b>	2007
<b>DBO as of December 31, 2007</b>	<b>363</b>	<b>917</b>	<b>1,114</b>	<b>188</b>	<b>28</b>	<b>2,610</b>	<b>2,517</b>
Current service cost	18	15	33	5	1	72	82
Cost escalation	20	45	55	11	2	133	116
Employee contributions	-	14	-	-	-	14	11
Past service cost	3	1	10	27	-	41	11
Acquisitions and disposals	-	-	-	-	-	-	1
Change in consolidation scope	15	-	3	-	-	18	148
Curtailments/terminations	-	-	-	-	-	-	-
Benefits paid during the year	(16)	(36)	(89)	(5)	(2)	(148)	(150)
Actuarial gains and losses	(3)	(30)	(33)	(15)	(1)	(82)	(93)
Currency translation adjustments	(2)	13	-	3	-	14	(33)
<b>DBO as of December 31, 2008</b>	<b>398</b>	<b>939</b>	<b>1,093</b>	<b>214</b>	<b>28</b>	<b>2,672</b>	<b>2,610</b>

## Changes in plan assets

<i>(in millions of euros)</i>	<b>2008</b>	2007
<b>Changes in asset values</b>		
Opening balance	1,161	978
Expected return	66	65
Actuarial differences	(225)	(14)
Employer contributions	118	128
Employee contributions	14	11
Benefits paid	(148)	(150)
Acquisitions and disposals	-	(1)
Change in consolidation scope	-	167
Currency translation adjustments	13	(23)
<b>Net carrying value at December 31</b>	<b>999</b>	<b>1,161</b>

## Change in provision estimated by the group's actuaries

<i>(in millions of euros)</i>	<b>2008</b>	2007
<b>Change in the provision</b>		
Restated balance	1,151	1,094
Currency translation adjustment	1	(11)
Change in consolidated group	18	9
Total expense	207	187
Contributions collected/benefits paid	(118)	(128)
<b>Benefit obligation as of December 31</b>	<b>1,259</b>	<b>1,151</b>

Changes in the consolidated group in 2008 mainly concern plans that were previously valued locally and are now consolidated by the actuaries.

## Note 24. Other provisions

<i>(in millions of euros)</i>	January 1, 2008	Charge *	Reversal (when risk has materialized)	Reversal (when risk has not materialized)	Reclassifications, changes in consolidated group/currency translation adjustments	December 31, 2008
Restoration of mining sites and mill decommissioning	71	9	(10)	0	7	76
Provision for site clean-up and reclamation of other industrial sites	50	9	(4)	(9)	0	47
<b>Other non-current provisions</b>	<b>121</b>	<b>18</b>	<b>(14)</b>	<b>(9)</b>	<b>7</b>	<b>123</b>
Restructuring and layoff plans	81	24	(32)	(10)	(1)	62
Provisions for ongoing cleanup	91	11	(6)	(1)	1	97
Provisions for customer warranties	241	124	(58)	(49)	(6)	252
Provisions for losses to completion	579	814	(594)	(7)	(1)	792
Accrued costs	497	113	(74)	(13)	0	523
Other	334	147	(74)	(65)	14	356
<b>Current provisions</b>	<b>1,823</b>	<b>1,234</b>	<b>(839)</b>	<b>(145)</b>	<b>7</b>	<b>2,081</b>
<b>Total provision</b>	<b>1,943</b>	<b>1,252</b>	<b>(852)</b>	<b>(154)</b>	<b>14</b>	<b>2,205</b>

\* Including a discount reversal of 19 million euros as of December 31, 2008.

<i>(in millions of euros)</i>	January 1, 2007	Charge *	Reversal (when risk has materialized)	Reversal (when risk has not materialized)	Reclassifications, changes in consolidated group/currency translation adjustments	December 31, 2007
Restoration of mining sites and mill decommissioning	63	9	(12)	0	10	71
Provision for site clean-up and reclamation of other industrial sites	49	7	0	(7)	1	50
<b>Other non-current provisions</b>	<b>112</b>	<b>16</b>	<b>(13)</b>	<b>(7)</b>	<b>11</b>	<b>121</b>
Restructuring and layoff plans	128	30	(60)	(14)	(3)	81
Provisions for ongoing cleanup	81	13	(6)	(1)	3	91
Provisions for customer warranties	241	109	(55)	(44)	(9)	241
Provisions for losses to completion	570	361	(331)	(26)	5	579
Accrued costs	455	118	(72)	(19)	14	497
Other	313	147	(80)	(45)	(1)	334
<b>Current provisions</b>	<b>1,788</b>	<b>777</b>	<b>(603)</b>	<b>(149)</b>	<b>10</b>	<b>1,823</b>
<b>Total provision</b>	<b>1,900</b>	<b>793</b>	<b>(616)</b>	<b>(156)</b>	<b>21</b>	<b>1,943</b>

\* Including a discount reversal of 17 million euros as of December 31, 2007.

At December 31, 2008, other provisions were as follows:

<i>(en millions d'euros)</i>	2008	2007	2006
Contingencies on contracts	16	16	21
Provisions for litigation	25	41	55
Provisions for tax risk	41	31	16
Provisions for fines and penalties	39	49	41
Other loss provisions	105	114	82
Other contingency provisions	129	84	98
<b>Total</b>	<b>356</b>	<b>334</b>	<b>313</b>

### Provisions for restructuring and layoff plans

The provisions for restructuring total 62 million euros in 2008. They include 43 million euros for layoff plans and 19 million euros for site closures and related expenses.

These provisions, including a layoff plan spending schedule and the personnel involved, are indicated below.

<i>(in millions of euros)</i>	Site closure and related costs	Layoff plan	Layoff plan spending forecast		
Division			2009	2010	2011
Front End division	5	1	-	-	1
Reactors and Services division	2	-	-	-	-
Back End division	-	12	2	2	9
AREVA T&D division	12	30	13	9	8
Corporate division	-	-	-	-	-
<b>Total</b>	<b>19</b>	<b>43</b>	<b>15</b>	<b>10</b>	<b>18</b>

Layoff provisions are generally recognized when plans are presented to employee representatives. Layoff plans may concern total or gradual activity terminations, changes in employee assignments or, to a lesser extent, negotiated departures.

### Provisions for losses to completion

This heading primarily includes losses to completion related to the OL3 EPR™ reactor construction contract.

#### Contract to build the Olkiluoto 3 EPR™ reactor

There was significant forward momentum on the OL3 project in 2008:

- completion of the primary coolant system piping and pressure tests for the first steam generator; delivery of the reactor vessel to the site;
- installation of the pool vault in the reactor building, while the reactor containment reached the +41 meter level;
- start of deliveries of auxiliary components;
- start of installation of all electro-mechanical systems.

In the spring of 2008, AREVA, Siemens and TVO jointly defined a series of immediately applicable measures to improve project control and overcome impediments. While some progress was achieved, these measures have not yet yielded all the intended benefits as TVO's *modus operandi* is still not suited to steady project implementation.

For instance, TVO has not yet provided an answer for approval of the documentation of certain auxiliary equipment needed to install piping on the critical path of construction. As a result of TVO's behavior, the schedule, which contemplates reactor startup in 2012, is not entirely in the hands of the consortium.

To assert its legal position, the AREVA-Siemens consortium initiated proceedings and submitted, as early as 2006, an important request for extension of the project's deadlines and compensation for additional costs caused by TVO. No agreement was reached and the consortium started arbitration proceedings on December 5. These proceedings may last several years.

TVO, meanwhile, made known its position in 2007, formally disagreeing with the consortium's 2006 claim and presenting its own claim. A supplement to the counterclaim was received in August 2008.

The consortium and its counsel consider the allegations made in the counterclaim to be unfounded and without merit under the contract terms and Finnish law; consequently, AREVA made no provision in this respect.

The accounting provision for the OL3 project was revised in 2008, particularly to recognize cost overruns generated by the mobilization of additional resources required to offset interruptions caused by the project circumstances and anticipated cost overruns for civil works and installation.

The total anticipated loss to completion was estimated at 1.704 billion at December 31, 2008.

Remaining uncertainties regarding the cost of the project relate chiefly to the client's cooperation, contractual risks, completion of engineering and civil works, and the potential difficulties during installation and testing of the first EPR™ reactor.

### Provisions for contract completion

Provisions for contract completion totaled 523 million euros as of December 31, 2008. These expenses relate to ancillary tasks yet to be performed, such as waste treatment and storage.

## Note 25. Borrowings

<i>(in millions of euros)</i>	Long-term borrowings	Short-term borrowings	December 31, 2008	December 31, 2007	December 31, 2006
Put options of minority shareholders	2,068	-	2,068	2,049	1,117
Interest-bearing advances **	78	649	727	652	548
Loans from financial institutions	1,777	1,805	3,582	2,009	316
Short-term bank facilities and non-trade current accounts (credit balances)	-	172	172	113	61
Derivative financial instruments	-	54	54	27	21
Miscellaneous debt *	46	13	59	65	56
<b>Total borrowings</b>	<b>3,969</b>	<b>2,693</b>	<b>6,662</b>	<b>4,915</b>	<b>2,119</b>
* Including finance lease obligations	35	8	43	48	42

\*\* Including 620 million euros in EDF prepayments, bearing interest at economic conditions set in 2007.

### Put options of minority shareholders

The shareholders' agreement signed in 2001 between Framatome SA (absorbed by AREVA in 2001) and Siemens provided for the exercise of a put option by Siemens in respect of shares it holds in AREVA NP, representing 34% of the share capital, and a call option by AREVA in respect of AREVA NP shares held by Siemens, under the following terms and conditions.

First, the put and call could be exercised after a deadlock, as defined in the shareholders' agreement, in particular if it becomes impossible to make certain decisions, such as shutting down a

site, changing the bylaws, etc., or if Siemens does not approve the financial statements for two consecutive years.

Secondly, the shareholders' agreement provided that after 11 years, *i.e.* from 2012, the parties may exercise the put and the call unconditionally with three years advance notice.

Commitments to purchase minority interests held by Siemens in AREVA NP SAS are included in borrowings at put option exercise price, estimated at the net present value of future cash flows. This value is adjusted on December 31 of each year.

The following assumptions had been used to value the option held by Siemens as of December 31, 2006 and December 31, 2007:

	After tax discount rate	Growth rate of pro forma year	Number of years of forecast data
<b>As of December 31, 2007</b>			
Fuel sector	8.50%	2%	13
Reactors and Services sector	9.75%	2%	13
<b>As of December 31, 2006</b>	<b>7.77%</b>	<b>2%</b>	<b>5</b>

The valuation at December 31, 2007 had been based on projected data derived from the Strategic Action Plan for the period 2008-2020 approved by the Supervisory Board on December 20, 2007 using discount rates specific to the Fuel sector and to the Reactors and Services sector.

Five-year year projections had been used for the valuations at December 31, 2006, with a single discount rate for all AREVA NP sectors.

The use of a discount rate of 0.5% higher or 0.5% lower than the rates actually used changes the option value by negative 224 million euros or positive 261 million euros respectively, compared with negative 118 million euros or positive 141 million euros as of December 31, 2006.

On January 27, 2009, Siemens announced its decision to exercise the option to sell its stake in AREVA NP. The procedure to determine the exercise price was set in motion in early February 2009, as provided in the shareholders' agreement. This procedure provided that, if the parties are unable to reach an agreement on the price for exercising the option, each party shall designate an investment bank to establish the value. If the two prices differ and the parties cannot reach an agreement, the Institute of Chartered Accountants in England and Wales shall designate an expert to determine the final exercise price of the option, to be paid by AREVA to Siemens on or before January 30, 2012. This obligation shall bear interest at a variable rate from January 30, 2009 to the date of final determination of the price, and then at a fixed rate until actual payment by AREVA.

In view of the uncertainty regarding the exercise price, the value of the option recognized on AREVA's balance sheet at December 31, 2008 is identical to the amount recognized at December 31, 2007.

Borrowings by maturity, currency and type of interest rate:

<i>(in millions of euros)</i>	<b>December 31, 2008</b>
Maturing in one year or less	2,693
Maturity 1-2 years	1,381
Maturity 2-3 years	233
Maturity 3-4 years	2,055
Maturity 4-5 years	5
Maturing in more than one year	294
<b>Total</b>	<b>6,662</b>

<i>(in millions of euros)</i>	<b>December 31, 2008</b>
Euro	4,457
US dollar	1,809
Canadian dollar	207
Other	189
<b>Total</b>	<b>6,662</b>



<i>(in millions of euros)</i>	December 31, 2008
Fixed rate borrowings	1,029
Floating rate borrowings	3,554
<b>Total</b>	<b>4,583</b>
Put options held by minority shareholders	2,068
Financial instruments	12
<b>Total</b>	<b>6,662</b>

The maturities of the group's financial assets and borrowings as of December 31, 2008 are presented in note 31, "Market Risk management".

### Payment schedule as of December 31, 2008

<i>(in millions of euros)</i>	Balance sheet value	Total payment flows	Less than 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	More than 5 years
Put options of minority shareholders	2,068	2,068	-	-	19	2,049	-	-
Interest-bearing advances	727	727	649	-	-	-	-	78
Loans from financial institutions	3,582	3,582	1,805	1,371	206	-	-	200
Short-term bank facilities and non-trade current accounts (credit balances)	172	172	172	-	-	-	-	-
Miscellaneous debt	59	59	12	12	8	6	5	16
Future interest on financial liabilities	-	195	92	37	13	7	8	38
<b>Total borrowings (excluding derivatives)</b>	<b>6,608</b>	<b>6,803</b>	<b>2,730</b>	<b>1,419</b>	<b>247</b>	<b>2,062</b>	<b>13</b>	<b>332</b>
Derivatives – assets	378	378	-	-	-	-	-	-
Derivatives – liabilities	(328)	(328)	-	-	-	-	-	-
<b>Total net derivatives</b>	<b>50</b>	<b>50</b>	<b>48</b>	<b>(5)</b>	<b>5</b>	<b>(2)</b>	<b>2</b>	<b>3</b>
<b>Total</b>	<b>6,658</b>	<b>6,853</b>	<b>2,778</b>	<b>1,414</b>	<b>252</b>	<b>2,060</b>	<b>15</b>	<b>335</b>

## Payment schedule as of December 31, 2007

<i>(in millions of euros)</i>	Balance sheet value	Total payment flows	Less than 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	More than 5 years
Put options of minority shareholders	2,049	2,049	-	-	-	-	2,049	-
Interest-bearing advances	652	652	1	605	-	-	-	46
Loans from financial institutions	2,009	2,009	467	14	1,291	237	-	-
Short-term bank facilities and non-trade current accounts (credit balances)	113	113	113	-	-	-	-	-
Miscellaneous debt	65	65	5	15	8	7	5	25
Future interest on financial liabilities		278	115	82	65	12	1	3
<b>Total borrowings (excluding derivatives)</b>	<b>4,888</b>	<b>5,166</b>	<b>701</b>	<b>716</b>	<b>1,364</b>	<b>256</b>	<b>2,055</b>	<b>74</b>
Derivatives – assets	(318)	-	-	-	-	-	-	-
Derivatives – liabilities	80	-	-	-	-	-	-	-
<b>Total net derivatives</b>	<b>(238)</b>	<b>(238)</b>	<b>(209)</b>	<b>(24)</b>	<b>(5)</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>4,650</b>	<b>4,928</b>	<b>492</b>	<b>692</b>	<b>1,359</b>	<b>256</b>	<b>2,055</b>	<b>74</b>

## Guarantees and covenants

No assets have been pledged to secure borrowings or debt, except for assets financed under finance lease arrangements.

## Covenants

There were no significant financial commitments with financial covenants as of December 31, 2008.

## Note 26. Advances and prepayments received

<i>(in millions of euros)</i>	December 31, 2008	December 31, 2007	December 31, 2006
Advances and prepayments on orders	3,930	3,311	3,248
Customer advances and prepayments invested in non-current assets	822	861	937
<b>Total</b>	<b>4,752</b>	<b>4,172</b>	<b>4,185</b>

This account comprises non-interest bearing operating and Capex advances received from customers pursuant to contractual commitments. The advances are reimbursed by deduction from sales invoiced under these contracts, which primarily concern sales of fuel, used fuel treatment and recycling services, reactors, and AREVA T&D's Systems operations. Interest-bearing advances are recognized in Borrowings.

Only advances and prepayments effectively collected are recognized as a liability.

Trade advances and prepayments comprise amounts received from customers under contracts which do not provide financing

for major non-current assets. In the case of long-term contracts, the amount recognized in the balance sheet represents the net balance of advances and prepayments received and sales invoiced or recognized on a percentage of completion basis; it also includes interest income calculated on cash surpluses generated by these advances and prepayments, the amount of which is determined on an individual contract basis.

Customer advances and prepayments invested in non-current assets comprise amounts received from customers and used to finance capital expenditures for the performance of long-term contracts to which they have subscribed.

## Note 27. Other liabilities

### Operating liabilities

<i>(in millions of euros)</i>	<b>December 31, 2008</b>	December 31, 2007	December 31, 2006
Taxes and social security liabilities (excluding income tax)	1,788	1,131	1,052
Financial instruments	367	156	107
Other operating liabilities	729	635	490
<b>Total</b>	<b>2,884</b>	<b>1,921</b>	<b>1,650</b>

The heading "Financial instruments" includes the fair value of derivatives hedging commercial transactions and the fair value of the firm commitments hedged.

As of December 31, 2008, operating liabilities by maturity were as follows:

- maturity < 1 year: 2.718 billion euros;
- maturity 1-5 years: 92 million euros;
- maturity > 5 years: 74 million euros.

### Non-operating liabilities

<i>(in millions of euros)</i>	<b>December 31, 2008</b>	December 31, 2007	December 31, 2006
<b>Total</b>	<b>53</b>	<b>41</b>	<b>23</b>

## Note 28. Net cash from operating activities and net cash flow from discontinued operations

### Change in working capital requirement (WCR)

<i>(in millions of euros)</i>	<b>2008</b>	2007	2006
Change in inventories and work-in-process	(612)	(522)	(14)
Change in accounts receivable and other receivables	(1,392)	(415)	(270)
Change in accounts payable and other liabilities	1,240	710	440
Change in customer advances and prepayments received	545	(123)	(383)
Change in advances and prepayments made	(250)	(64)	(61)
Change in Forex hedge of WCR	22	(2)	(55)
<b>Total</b>	<b>(446)</b>	<b>(416)</b>	<b>(344)</b>

## Note 29. Transactions with related parties

Transactions between the parent company and its subsidiaries, which are related parties, were eliminated on consolidation and are not presented in this note.

The CEA is the principal related party of the group and is also AREVA's main shareholder.

Transactions between the group and the CEA are as follows:

(in millions of euros)	December 31, 2008	CEA	
		December 31, 2007	December 31, 2006
Sales	604	609	543
Purchases	111	86	90
Loans to/receivables from related parties	761	346	529
Borrowings from related parties	119	103	381
Guarantees given to related parties	-	-	-
Guarantees received from related parties	-	-	-

There were no material transactions between the group and equity associates.

### Relations with government-owned companies

The group has business relationships with government-owned companies, in particular EDF. Transactions with EDF include sales of uranium, enrichment services and nuclear fuel, maintenance and sales of equipment for nuclear reactors, and used fuel transportation, storage, treatment and recycling services.

On December 19, 2008, AREVA and EDF signed an umbrella agreement for long term industrial cooperation (through 2040) relating to the removal of all EDF used fuel. The agreement addresses the technical and financial terms for fuel transportation, treatment and recycling over the 2008-2012 period and the amount of the lump sum settlement for dismantling AREVA's La Hague plant.

### Compensation of key executives

(in thousands of euros)	2008	2007	2006
Short term benefits	4,145	3,539	3,127
Termination benefits	-	847	-
Post-employment benefits	48	44	69
Other long-term benefits	-	-	-
<b>Total</b>	<b>4,193</b>	<b>4,431</b>	<b>3,196</b>

Key executives include members of the Executive Board and the Supervisory Board. Short-term benefits and termination allowances include compensation paid for the year by the group and by the

CEA (565 thousand euros in 2008, compared with 539 thousand euros in 2007 and 517 thousand euros in 2006).

## Note 30. Greenhouse gas emission allowances

The table below shows the CO<sub>2</sub> allowances received by AREVA group companies in 2008, actual emissions, and allowances sold on the Powernext market.

<i>(in metric tons of CO<sub>2</sub>)</i>	2008	2007	2006
Allowances received by AREVA	91,978	128,440	128,440
Actual emissions	53,610	92,877	97,765
Excess of allowances over emissions	38,368	35,563	30,675
Allowances sold on the Powernext market	29,978	10,000	23,000

## Note 31. Market risk management

### General objectives

The group has an organization dedicated to implementing market risk management policies approved by the Executive Committee for centralized management of exposure to foreign exchange, commodity, rate and liquidity risks.

In the Finance Department, the Department of Financial Operations and Treasury Management makes transactions on financial markets and acts as a central desk that provides services and manages the group's financial exposure. This department is organized with a front, middle and back office, ensuring the separation of duties, and has access to all the human, technical, and information system resources necessary to accomplish its mission. Transactions cover foreign exchange and commodities trading, centralized cash management, internal and external financing and interest rate management, bank borrowings, investments, and monitoring of outsourced asset management.

To report on financial risk and exposure limits, the Department of Financial Operations and Treasury Management prepares a monthly report presenting the group's positions and the performance of its financial transactions. This report is submitted to AREVA's top management and reviewed by the Treasury Management Committee on a monthly basis. The Committee includes the Group's CFO, the CFOs of the main subsidiaries and representatives of the Legal Department and the Department of Treasury Management. The control system also includes weekly reports submitted to the group's CFO, including a statement indicating the market value of all positions. Together, these reports and reviews allow AREVA to monitor the counterparty risk of the group.

### Foreign exchange risk management

The group trades currencies on forward markets and uses derivative instruments (foreign exchange swaps, currency swaps, exchange rate options, etc.) to hedge the following foreign exchange risks:

- **Balance sheet risk:** The group finances its subsidiaries in their accounting currencies to minimize the balance sheet foreign exchange risk from financial assets and liabilities. Loans and advances granted to subsidiaries by the Department of Treasury Management, which centralizes financing, are then systematically converted into euros through currency swaps.
- **Trade exposure:** The principal foreign exchange exposure concerns fluctuations in the euro/US dollar exchange rate. As a uranium producer in Canada, the group is also sensitive to fluctuations in the Canadian dollar against the US dollar, in which uranium prices are denominated. Exposure to other currencies (Chinese yuan, pound sterling, Swiss franc, Japanese yen and Southeast Asian and Middle Eastern currencies), mainly connected with the Transmission & Distribution business, is secondary in nature.

The group does not hedge the currency translation risk, *i.e.* the accounting impact on the group's financial statements of the translation into euros of the functional currencies of the subsidiaries, since this risk is not representative of a flow. Only dividends expected from the subsidiaries for the following year are hedged as soon as the amount is known.

The group's policy, which was approved by the Executive Committee, is thus to hedge all foreign exchange risk generated by the business, whether certain or potential (during the proposal phase), so as to minimize the impact of exchange rate fluctuations on consolidated net income.

The group acquires derivative instruments (mostly currency futures) or insurance contracts (issued by Coface) to hedge its foreign exchange exposure from trade, including accounts receivable and payable, confirmed off balance sheet commitments (orders received from customers or placed with suppliers), highly probable future cash flows (budgeted sales or purchases, anticipated margins on contracts) and proposals submitted in foreign currencies. These hedges are backed by underlying transactions for identical amounts and maturities and, generally, are documented and eligible for hedge accounting (except for hedges of proposals submitted in foreign currencies).

As provided by group policies, each operating entity responsible for identifying foreign exchange risk must hedge exposure to currencies other than its own accounting currency by initiating a transaction exclusively with the group's trading desk, except as otherwise required by specific circumstances or regulations. The Department of Financial Operations and Treasury Management centralizes the exposure of all entities and hedges the net position directly with banking counterparties. A rigorous system limits the foreign exchange positions that may be taken by the trading desk. The results are marked to market on a daily basis by specialized teams responsible for the valuation of the transactions. In addition, analyses of sensitivity to changes in exchange rates are periodically performed.

As of December 31, 2008, derivative financial instruments used by the group to manage foreign exchange risk were as follows:

Foreign exchange instruments <i>(in millions of euros)</i>	Notional amounts by maturity date at December 31, 2008, at par value						Total	Market value
	2009	2010	2011	2012	2013	> 5 ans		
Forward transactions								
USD/EUR	593	171	38	18	8	12	840	(3)
JPY/EUR	115	28	49	16	29	40	277	27
CNY/USD	250	-	-	-	-	0	250	(3)
CHF/EUR	145	21	20	1	-	0	187	5
CNY/EUR	132	4	5	13	3	1	157	(6)
QAR/EUR	98	29	3	9	-	0	139	(3)
Others	1,351	200	10	8	1	0	1,569	38
Total	2,684	452	124	65	41	53	3,420	55
Currency swaps								
USD/EUR	1,316	111	49	45	38	32	1,592	4
CAD/EUR	317	0	0	0	0	0	317	10
GBP/EUR	119	60	8	0	0	0	186	(2)
CNY/EUR	185	0	0	0	0	0	185	0
AUD/EUR	132	0	0	0	0	0	132	(2)
CHF/EUR	89	32	5	0	0	0	127	2
Others	497	82	2	0	0	0	581	(5)
Total	2,654	286	64	45	38	32	3,119	8
Currency options								
USD/EUR	88	-	-	-	-	-	88	(1)
JPY/EUR	-	-	-	8	28	40	76	0
Autres	1	-	-	-	-	-	1	0
Total	89			8	28	40	165	0
Cross currency swaps								
CAD/EUR	88	138	-	-	-	-	226	45
USD/EUR	70	-	-	-	-	-	70	3
Total	158	138	-	-	-	-	296	48
Grand total	5,585	876	188	118	108	125	7,000	111

Derivative financial instruments used by the group to hedge foreign currency exposure were as follows as of December 31, 2008, December 31, 2007, and December 31, 2006:

(in millions of euros)	2008		2007		2006	
	Nominal amounts	Market value	Nominal amounts	Market value	Nominal amounts	Market value
<b>Derivatives related to FVH strategies</b>	<b>5,053</b>	<b>121</b>	<b>3,490</b>	<b>74</b>	<b>2,471</b>	<b>49</b>
Currency swaps	2,287	20	1,271	9	896	3
Forwards	2,470	53	1,730	42	1,207	22
Cross currency swaps	296	48	489	24	368	24
<b>Derivatives related to CFH strategies</b>	<b>714</b>	<b>(12)</b>	<b>317</b>	<b>7</b>	<b>203</b>	<b>5</b>
Currency swaps	256	(17)	34	1	28	2
Forwards	383	6	121	4	133	3
Options	75	(1)	162	2	41	0
<b>Derivatives not eligible for hedge accounting</b>	<b>1,233</b>	<b>2</b>	<b>834</b>	<b>10</b>	<b>799</b>	<b>2</b>
Currency swaps	576	6	448	7	500	1
Forwards	567	(5)	386	3	299	1
Options	91	1	0	0	0	0
<b>Total</b>	<b>7,000</b>	<b>111</b>	<b>4,641</b>	<b>91</b>	<b>3,473</b>	<b>56</b>

A significant share of undocumented financial instruments in 2008, 2007 and 2006 relates to derivatives used to hedge foreign exchange risk on short-term financial assets and liabilities. Financial instruments transacted to hedge calls for tenders in foreign currencies comprise the bulk of the hedge positions reported as "Not formally documented" in accordance with IFRS.

Based on market data at the date of closing, the impact of undocumented currency hedging instruments on the group's consolidated income at year-end 2008 would be +10 million euros in the case of a 5% instantaneous increase in exchange rates against the euro, or minus 11 million euros in the case of a 5% decrease in exchange rates. Using these same assumptions, the impacts were +1 million euros and -2 million euros at year-end 2007.

Based on market data at the date of closing, the impact on AREVA's consolidated equity at year-end 2008 of currency derivative instruments qualified as cash flow hedges would be +2 million euros in the case of a 5% instantaneous increase in exchange rates against the euro, or minus 2 million euros in the case of a 5% decrease in exchange rates. Using these same assumptions, the impacts were +2 million euros and -3 million euros at year-end 2007.

In addition, taking into consideration AREVA's exposure to the following elements at year-end 2008 and 2007:

- first, financial assets and liabilities recognized on the balance sheet in a currency other than the functional currency of the entity holding such assets or liabilities, or assets or liabilities that are not hedged according to the criteria provided under IAS 39; and
- secondly, currency derivatives that do not qualify as hedges according to the criteria provided under IAS 39.

The sensitivity of consolidated income before tax to a +5% or -5% change in the exchange rates of the main foreign currencies to which AREVA is exposed against the euro is as follows:

- as of December 31, 2008:
  - US dollar: +6 million and -6 million euros,
  - Australian dollar: +1 million and -1 million euros,
  - Swiss franc: +3 million and -3 million euros,
  - UK pound sterling: -2 million and +2 million euros;
- as of December 31, 2007:
  - US dollar: +1 million and -1 million euros,
  - Australian dollar: +2 million and -2 million euros,
  - Swiss franc: +2 million and -2 million euros,
  - UK pound sterling: -2 million and +2 million euros;
- as of December 31, 2006:
  - US dollar: -3 million and +3 million euros,
  - Australian dollar: +1 million and -1 million euros,
  - Swiss franc: +1 million and -1 million euros,
  - UK pound sterling: -2 million and +2 million euros.



### Commodity risk management

The group is exposed to long term and short term changes in the prices of commodities used in its production processes, either as a result of the procurement of finished products or, more directly, when buying raw materials priced by reference to the trading price on a commodity market.

Aside from energy, commodities that may have a significant impact on the group's production costs primarily include copper and nickel; aluminum and silver play a lesser role. Most of the group's exposure is concentrated in the Transmission & Distribution and Reactors and Services divisions.

Each division implements policies to manage exposure to commodity risks which aim to limit the impact of price changes on consolidated net income by identifying and neutralizing the risk as soon as possible, in some instances as early as the proposal phase.

Hedges may be initiated based on a global budget (T&D division) with graduated coverage reflecting the likeliness of the exposure, or based on long-term sales contracts after a specific analysis of the commodities risk (Reactor and Services division).

As for currency exposure, commodity risk management is initiated by the operating entities and centralized with the group's Department of Treasury Management using derivatives, including options and firm contracts (forwards and swaps). The Department of Treasury Management hedges the subsidiaries' position with market counterparties without taking any speculative position.

Except for aluminum hedges, commodity hedges are eligible for accounting as cash flow hedges as of December 31, 2008. Accordingly, changes in the value of derivatives would impact the group's equity.

As of December 31, 2008, December 31, 2007, and December 31, 2006, derivative financial instruments used by the group to hedge future cash flows from commodities were as follows:

(in millions of euros)	Hedging instruments					
	2008		2007		2006	
	Nominal amounts	Market value	Nominal amounts	Market value	Nominal amounts	Market value
<b>Nickel</b>						
Forward transactions – buyer	12	(7)	2	0	-	-
Forward transactions – Seller	14	8	-	-	-	-
<b>Silver</b>						
Forward transactions – buyer	1	0	1	0	-	-
<b>Aluminum</b>						
Forward transactions – buyer	11	(4)	18	(1)	18	2
<b>Copper</b>						
Forward transactions – buyer	78	(40)	81	(11)	114	0
Forward transactions – Seller	3	1	3	0	24	4
<b>Total</b>	<b>118</b>	<b>(42)</b>	<b>105</b>	<b>(12)</b>	<b>156</b>	<b>6</b>

Based on market data at the date of closing, the impact on the group's consolidated equity at year-end 2008 of commodity derivatives qualifying as cash flow hedges would be +8 million euros in the case of a +20% instantaneous increase in commodity prices,

or minus 8 million euros in the case of a 20% decrease. The simulation of a change of +/-10% at the end of 2007 indicated an impact of + or -9 million euros on shareholders' equity.

### Interest rate risk management

Rate risk management is entirely centralized in the Department of Financial Operations and Treasury Management, which consolidates the subsidiaries' current or stable cash surpluses or requirements and arranges external financing as appropriate, except as otherwise required by regulations or specific circumstances.

The group uses several types of derivative instruments, as required by market conditions, to allocate its borrowings between fixed rates and floating rates and to manage its investment portfolio, with the

goal being mainly to reduce its borrowing costs while optimizing the management of its cash surpluses.

As of December 31, 2008, interest rate swaps were the main financial instruments used in the management of external debt.

The amount of the commitments and the sensitivity of the positions taken by the trading desk in the framework of AREVA's rate management policy are subject to limits based on the type of transaction involved.

As of December 31, 2008, the following financial instruments were used to hedge interest rate exposure:

Interest rate instruments  <i>(in millions of euros)</i>	Nominal value of contracts	Nominal amount of rate instruments as of December 31, 2008						Market value
		2009	2010	2011	2012	2013	> 5 years	
Interest rate swaps – fixed receiver								
USD fixed lender	510	0	510	0	0	0	0	(19)
Interest rate swaps – fixed lender								
EUR variable borrower	804	804	0	0	0	0	0	0
Total	1,315	804	510	0	0	0	0	(19)

As of December 31, 2008, the group used the following derivative financial instruments to hedge interest rate exposure:

Interest rate instruments	Market value of contracts as of December 31, 2008 <sup>(1)</sup>				
(in millions of euros)	Nominal value of contracts	Cash flow hedges	Fair value hedges	Not formally documented (Trading)	Total
Interest rate swaps – fixed receiver					
USD variable lender – standard	367	(14)	-	-	(14)
USD variable lender – cancellable	144	-	-	(5)	(5)
Interest rate swaps – fixed lender					
EUR variable borrower – standard	804	-	-	0	0
Total	1,315	(14)	0	0	(19)

(1) Gain / (loss).

Based on market data at the date of closing, the impact of interest rate derivatives qualified as cash flow hedges on AREVA's consolidated equity at year-end 2008 would be +6 million euros in the case of a 1% instantaneous increase in interest rates, or minus 6 million euros in the case of a 1% decrease.

Based on market data at the date of closing, the impact of undocummented interest rate derivatives (swaps) on the group's financial income at year-end 2008 would be +3 million euros in the case of a 1% instantaneous increase in interest rates, or minus 3 million euros in the case of a 1% decrease.

The following tables summarize the group's net rate risk exposure at the end of 2007 and 2008 before and after rate management transactions.

Based on the breakdown of fixed and floating rates at year-end 2008, the group is mainly exposed to the risk of a change in future cash flows related to floating rate borrowings.

Maturities of financial assets and borrowings as of December 31, 2008 <sup>(1)</sup>

	Less than 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	More than 5 years	Total
<b>Financial assets <sup>(2)</sup></b>	<b>1,163</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,163</b>
including fixed rate assets	12	0	0	0	0	0	12
including floating rate assets <sup>(3)</sup>	1,145	0	0	0	0	0	1,145
including non interest-bearing borrowings	6	0	0	0	0	0	6
<b>(Borrowings)</b>	<b>(2,693)</b>	<b>(1,381)</b>	<b>(233)</b>	<b>(2,055)</b>	<b>(5)</b>	<b>(294)</b>	<b>(6,662)</b>
including fixed rate borrowings	(919)	(14)	(8)	(5)	(3)	(90)	(1,040)
including floating rate borrowings	(1,774)	(1,367)	(206)	(1)	(2)	(205)	(3,554)
including non interest-bearing borrowings	0	0	(19)	(2,049)	0	0	(2,068)
<b>Net exposure before hedging</b>	<b>(1,530)</b>	<b>(1,381)</b>	<b>(233)</b>	<b>(2,055)</b>	<b>(5)</b>	<b>(294)</b>	<b>(5,499)</b>
share exposed to fixed rates	(908)	(14)	(8)	(5)	(3)	(90)	(1,028)
share exposed to floating rates	(629)	(1,367)	(206)	(1)	(2)	(205)	(2,409)
Non-interest-bearing share	6	0	(19)	(2,049)	0	0	(2,062)
<b>Off-balance sheet hedging</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
on borrowings: fixed rate swaps	(804)	510	0	0	0	0	(294)
on borrowings: floating rate swaps	804	(510)	0	0	0	0	294
<b>Exposure after hedging</b>	<b>(1,530)</b>	<b>(1,381)</b>	<b>(214)</b>	<b>(2,055)</b>	<b>(5)</b>	<b>(294)</b>	<b>(5,499)</b>
share exposed to fixed rates	(104)	(524)	(8)	(5)	(3)	(90)	(734)
share exposed to floating rates	(1,433)	(857)	(206)	(1)	(2)	(205)	(2,703)
non-interest-bearing share	6	0	(19)	(2,049)	0	0	(2,062)

(1) Nominal amounts converted into euros.

(2) Cash and other current financial assets.

(3) Maturities of less than 3 months are considered floating rate.

Maturities of financial assets and borrowings as of December 31, 2007 <sup>(1)</sup>

	Less than 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	More than 5 years	Total
<b>Financial assets <sup>(2)</sup></b>	<b>913</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>913</b>
including fixed rate assets	1	0	0	0	0	0	1
including floating rate assets <sup>(3)</sup>	733	0	0	0	0	0	733
including non-interest-bearing borrowings	180	0	0	0	0	0	180
<b>(Borrowings)</b>	<b>(613)</b>	<b>(634)</b>	<b>(1,299)</b>	<b>(244)</b>	<b>(2,054)</b>	<b>(71)</b>	<b>(4,915)</b>
including fixed rate borrowings	(96)	(23)	(7)	(7)	(4)	(65)	(202)
including floating rate borrowings	(514)	(611)	(1,291)	(237)	(1)	(6)	(2,661)
including non interest-bearing borrowings	(3)	0	0	0	(2,049)	0	(2,052)
<b>Net exposure before hedging</b>	<b>300</b>	<b>(634)</b>	<b>(1,299)</b>	<b>(244)</b>	<b>(2,054)</b>	<b>(71)</b>	<b>(4,002)</b>
share exposed to fixed rates	(95)	(23)	(7)	(7)	(4)	(65)	(201)
share exposed to floating rates	218	(611)	(1,291)	(237)	(1)	(6)	(1,928)
non-interest-bearing free share	177	0	0	0	(2,049)	0	(1,872)
<b>Off-balance sheet hedging</b>	<b>276</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>276</b>
on borrowings: fixed rate swaps	68	-	272	-	-	-	340
on borrowings: variable rate swaps	(68)	-	(272)	-	-	-	(340)
on borrowings: futures on fixed rate exp.	276	-	-	-	-	-	276
<b>Exposure after hedging</b>	<b>576</b>	<b>(634)</b>	<b>(1,299)</b>	<b>(244)</b>	<b>(2,054)</b>	<b>(71)</b>	<b>(3,726)</b>
share exposed to fixed rates	(27)	(23)	265	(7)	(4)	(65)	139
share exposed to floating rates	150	(611)	(1,563)	(237)	(1)	(6)	(2,268)
non-interest-bearing share	453	0	0	0	(2,049)	0	(1,596)

(1) Nominal amounts converted into euros.

(2) Cash and other current financial assets.

(3) Maturities of less than 3 months are considered floating rate.

Based on the group's exposure at year-end 2008, we estimate that a 1% increase in interest rates would have a negative impact of 27 million euros on borrowing costs on a full-year basis and, therefore, on the group's consolidated income. The impact of a similar increase was -23 million euros at year-end 2007.

As of December 31, 2008, the group had limited exposure related to fixed rate financial assets or liabilities recognized at fair value through profit and loss. Accordingly, we estimate that the impact of a change in interest rates on the fair value of financial assets and liabilities would not result in a material change in financial income.

### Risk from equity investments

AREVA holds publicly traded shares that are exposed to the volatility inherent in equity markets.

These include:

- investments in associates: these are currently primarily STMicroelectronics and Eramet (see note 14, "Investments in associates");

- equities held in the portfolio of financial assets earmarked for future end-of-life-cycle operations (see note 13, "End-of-life-cycle operations"); and

- other long-term investments: this concerns AREVA's 7.38% equity interest in Safran, a 1.2% equity interest in GDF-SUEZ, a 1.4% interest in SUEZ Environnement and equity interests in other publicly traded companies, including Total and Alcatel (see note 15, "Other non-current financial assets").

The risk of a decrease in the price of shares of equity associates and other non-current financial assets is not hedged.

The risk on shares held in the portfolio of assets earmarked to fund end-of-life-cycle operations is an integral component of AREVA's asset management program, which includes equities to increase long-term returns as part of a program to allocate assets between bonds and equities (see note 13, "End-of-life-cycle operations"). Exposure to European equities is managed either through a mandate given to an investment firm or through dedicated mutual funds, with management guidelines limiting the tracking error compared with an index.

The sensitivity of the value of equity investments to variations in the equity markets and/or interest rates is as follows:

#### Upper scenario (10% increase in the value of equity investments)

<b>December 31, 2008</b> <i>(in millions of euros)</i>	<b>Available-for-sale securities</b>	<b>Securities recognized at fair value through profit and loss</b>
Balance sheet position	2,703	6
Income statement impact	-	1
Impact on shareholders' equity	270	-

#### Lower scenario (10% decrease in the value of equity investments)

<b>December 31, 2008</b> <i>(in millions of euros)</i>	<b>Available-for-sale securities</b>	<b>Securities recognized at fair value through profit and loss</b>
Balance sheet position	2,703	6
Income statement impact	(2)	(1)
Impact on shareholders' equity	(268)	-

#### Upper scenario (10% increase in the value of equity investments)

<b>December 31, 2007</b> <i>(in millions of euros)</i>	<b>Available-for-sale securities</b>	<b>Securities recognized at fair value through profit and loss</b>
Balance sheet position	4,061	55
Income statement impact	-	5
Impact on shareholders' equity	406	-

#### Lower scenario (10% decrease in the value of equity investments)

<b>December 31, 2007</b> <i>(in millions of euros)</i>	<b>Available-for-sale securities</b>	<b>Securities recognized at fair value through profit and loss</b>
Balance sheet position	4,061	55
Income statement impact	-	(5)
Impact on shareholders' equity	(406)	-

#### Counterparty risk

The group uses different types of financial instruments to manage its exposure to foreign exchange and interest rate risks, and its exposure to risks on commodities and publicly traded equities. The group primarily uses forward buy/sell currency and commodity contracts and rate derivative instruments such as swaps, futures or options to cover these types of risk. These transactions involve

exposure to counterparty risk when the contracts are concluded over the counter.

To minimize this risk, the group's trading desk deals only with diversified, top quality counterparties rated A1/P1 or higher for short term maturities or A/A2 for long term maturities in the Standard & Poor's and Moody's rating systems. A legal framework agreement is always signed with the counterparties.

The limits allowed for each counterparty are determined based on its rating and the type and maturity of the instruments traded. Assuming the rating of the counterparty is not downgraded earlier, the limits are reviewed at least once a year and validated by the Chief Financial Officer. The limits are verified in a specific report produced by the internal control team of the Department of Treasury Management. During periods of significant financial instability that may involve an increased risk of bank default, which may be underestimated by ratings agencies, the group may monitor advanced indicators such as the value of the credit default swaps (CDS) of the eligible counterparties to determine if positions should be reduced.

### Liquidity risk

The group's Department of Treasury Management is in charge of liquidity risk management and provides the subsidiaries with appropriate long term and short term financing resources.

Cash management optimization is based on a centralized system to provide liquidity and manage the cash surpluses of the subsidiaries, regardless of AREVA's equity stake. Management is provided by the group's Department of Treasury Management, chiefly through cash pooling agreements and intercompany loans, subject to local regulations. The group's consolidated cash surpluses are managed to optimize financial returns while ensuring that the financial instruments used are liquid.

Borrowings are centralized by the Department of Treasury Management to optimize borrowing costs and facilitate access to the banking system.

The group set up two confirmed syndicated lines of credit in 2007:

- a 7-year syndicated credit facility for a total amount of 2 billion euros, which may be drawn in euros or in US dollars. One billion euros (or the equivalent in USD) had been drawn as of December 31, 2008. This credit facility represents a significant liquidity reserve;
- a 3-year syndicated loan for a total of 2.5 billion dollars, including 600 million dollars repayable in November 2008, to finance AREVA's acquisition of UraMin Inc. It was fully drawn as of the end of December 2008.

In 2008, the group set up:

- a commercial paper program for 2 billion euros, with 700 million euros outstanding at the end of 2008. AREVA's S&P rating (A1) was published in connection with this program;
- a seven-year line of credit opened with the EIB for 400 million euros, 200 million euros of which had been drawn by the end of 2008.

No financial covenant attaches to these credit facilities, and there was no other significant financial commitment with covenants as of December 31, 2008.

The commercial paper program strengthens the group's financial flexibility and offers a competitive alternative to bank financing. To meet investor demand, AREVA initially issued commercial paper in excess of the group's actual cash needs. This surplus was invested temporarily in marketable securities, consistent with the group's limits of exposure. The commercial paper program should eventually replace the 2-billion euro syndicated credit program.

### Credit risk

AREVA's only exposure to credit risk relates to investments of cash surpluses in marketable securities. Investment in the securities selected is subject to limits of exposure reflecting the issuer's rating (short term rating of at least A1 for S&P/P1 for Moody's). The Executive Committee approves these limits. The group does not invest cash surpluses in mutual funds or money market funds.

### Market value of financial instruments

The market value of financial instruments pertaining to currency, rate and commodity transactions are calculated based on market data as of the closing date, on discounted future cash flows, or on prices provided by financial institutions. The use of different market assumptions could have a significant impact on estimated market values.

### Framépargne liquidity guarantee

The Framépargne mutual fund included in the AREVA group savings plan held 220,751 shares of the company as of December 31, 2008. These shares are not publicly traded. An independent financial institution provides a guarantee of liquidity to Framépargne, as provided by the law on employee savings plans. To allow this commitment to take effect, AREVA gave a value guarantee to the financial institution. As of December 31, 2008, this guarantee covers 339,824 shares sold by Framépargne to the financial institution.

As required by IAS 32 and 39 on financial instruments, this commitment is recognized as a derivative on treasury shares and revalued to fair value at the balance sheet date. A financial asset of 53 million euros was recognized for this purpose under the heading "Other current financial assets" in the financial statements for the year ended December 31, 2008. This derivative does not qualify for hedge accounting and, accordingly, all changes in value are recognized through the income statement. This financial asset is equal to the difference between the average revalued purchase price of the shares acquired by the independent financial institution and the sale price, estimated based on the latest available market price determined by the expert, less 25% to account for market conditions.

As authorized by the Law of December 30, 2006 (article 23) and the implementing order of October 26, 2007, AREVA will substitute for the financial institution as guarantor of the mutual fund invested in non-traded shares of the company, effective January 1, 2009, having received approval to purchase its own shares from the General Meeting of Shareholders held on December 18, 2008

and approval of the change in the bylaws of the Framépargne fund from the French market authority AMF on January 23, 2009.

The guarantee of value given to the financial institution for the 339,824 AREVA shares it holds remains in effect.

## Note 32. Additional information on financial instruments

### Financial assets and liabilities by category

2008

#### Assets

(en millions d'euros)	Balance sheet value	Non financial assets and liabilities	Loans and receivables	Including		Assets available for sale	Derivative instruments	Fair value
				Liabilities at amortized cost	Fair value through profit and loss			
<b>Non-current assets</b>	<b>22,841</b>	<b>15,737</b>	<b>3,307</b>			<b>3707</b>	<b>89</b>	<b>7,103</b>
Goodwill on consolidated companies	4,803	4,803						
Intangible assets	3,089	3,089						
Property, plant and equipment	4,914	4,914						
End-of-life-cycle assets (third party share)	270	270						
Assets earmarked to finance end-of-life-cycle operations	4,954		2,991			1,963		4,954
Investments in associates	1,757	1,757						
Other non-current financial assets	2,152	3	315			1,744	89	2,149
Pension fund assets	1	1						
Deferred tax assets	900	900						
<b>Current assets</b>	<b>11,804</b>	<b>6,443</b>	<b>5,032</b>		<b>60</b>		<b>269</b>	<b>5,361</b>
Inventories and work-in-process	3,403	3,403						
Trade accounts receivable and related accounts	4,486	1,437	3,049					3,049
Other operating receivables	2,434	1,336	894				204	1,099
Current tax assets	164	164						
Other non-operating receivables	154	103	50					50
Cash and cash equivalents	1,050		996		53			1,050
Other current financial assets	113		43		6		64	113
Assets of operations held for sale								
<b>Total assets</b>	<b>34,644</b>	<b>22,180</b>	<b>8,339</b>		<b>60</b>	<b>3,707</b>	<b>358</b>	<b>12,464</b>



## Liabilities and equity

(en millions d'euros)	Balance sheet value	Including					Derivative instruments	Fair value
		Non financial assets and liabilities	Loans and receivables	Liabilities at amortized cost	Fair value through profit and loss	Assets available for sale		
<b>Equity and minority interests</b>	<b>7,292</b>	<b>7,292</b>						
Share capital	1,347	1,347						
Consolidated premiums and reserves	4,455	4,455						
Deferred unrealized gains and losses on financial instruments	287	287						
Currency translation reserves	(131)	(131)						
Net income attributable to equity holders of the parent	589	589						
Minority interests	745	745						
<b>Non-current liabilities</b>	<b>11,795</b>	<b>7,826</b>		<b>3,969</b>				<b>3,981</b>
Employee benefits	1,268	1,268						
Provisions for end-of-life-cycle operations	5,674	5,674						
Other non-current provisions	123	123						
Long-term borrowings	3,969			3,969				3,981
Deferred tax liabilities	760	760						
<b>Current liabilities</b>	<b>15,558</b>	<b>8,997</b>		<b>6,268</b>			<b>293</b>	<b>6,561</b>
Current provisions	2,081	2,081						
Short-term borrowings	2,693			2,634			59	2,693
Advances and prepayments received	4,752	4,752						
Trade accounts payable and related accounts	2,991	685		2,307				2,307
Other operating liabilities	2,884	1,366		1,284			234	1,518
Current tax liabilities	104	104						
Other non-operating liabilities	53	10		43				43
Liabilities of operations held for sale								
<b>Total liabilities and equity</b>	<b>34,644</b>	<b>24,114</b>		<b>10,237</b>			<b>293</b>	<b>10,542</b>

## 2007

## Assets

(en millions d'euros)	Balance sheet value	Including					Derivative instruments	Fair value
		Non financial assets and liabilities	Loans and receivables	Liabilities at amortized cost	Fair value through profit and loss	Assets available for sale		
<b>Non-current assets</b>	<b>21,425</b>	<b>15,975</b>	<b>397</b>			<b>5,023</b>	<b>29</b>	<b>5,450</b>
Goodwill on consolidated companies	4,377	4,377						
Intangible assets	2,729	2,729						
Property, plant and equipment	4,204	4,204						
End-of-life-cycle assets (third party share)	2,491	2,491						
Assets earmarked to finance end-of-life-cycle operations	2,873		119			2,755		2,873
Investments in associates	1,558	1,558						
Other non-current financial assets	2,588	11	278			2,269	29	2,576
Pension fund assets	-							
Deferred tax assets	604	604						
<b>Current assets</b>	<b>9,251</b>	<b>5,065</b>	<b>3,792</b>		<b>105</b>		<b>289</b>	<b>4,186</b>
Inventories and work-in-process	2,817	2,817						
Trade accounts receivable and related accounts	3,884	1,121	2,764					2,764
Other operating receivables	1,402	920	356				126	482
Current tax assets	94	94						
Other non-operating receivables	141	110	31					31
Cash and cash equivalents	634	4	594		36			630
Other current financial assets	279		48		69		162	279
Assets of operations held for sale	-							
<b>Total assets</b>	<b>30,676</b>	<b>21,041</b>	<b>4,189</b>		<b>105</b>	<b>5,023</b>	<b>318</b>	<b>9,635</b>

**Liabilities and equity**

(en millions d'euros)	Including							Fair value
	Balance sheet value	Non financial assets and liabilities	Loans and receivables	Liabilities at amortized cost	Fair value through profit and loss	Assets available for sale	Derivative instruments	
<b>Equity and minority interests</b>	<b>7,464</b>	<b>7,464</b>						
Share capital	1,347	1,347						
Consolidated premiums and reserves	3,925	3,925						
Deferred unrealized gains and losses on financial instruments	1,117	1,117						
Currency translation reserves	(138)	(138)						
Net income attributable to equity holders of the parent	743	743						
Minority interests	470	470						
<b>Non-current liabilities</b>	<b>11,951</b>	<b>7,648</b>		<b>4,302</b>				<b>4,305</b>
Employee benefits	1,175	1,175						
Provisions for end-of-life-cycle operations	5,075	5,075						
Other non-current provisions	121	121						
Long-term borrowings	4,302			4,302				4,305
Deferred tax liabilities	1,277	1,277						
<b>Current liabilities</b>	<b>11,261</b>	<b>7,419</b>		<b>3,762</b>			<b>80</b>	<b>3,842</b>
Current provisions	1,823	1,823						
Short-term borrowings	613			589			24	613
Advances and prepayments received	4,172	4,172						
Trade accounts payable and related accounts	2,565	522		2,043				2,043
Other operating liabilities	1,921	769		1,096			56	1,152
Current tax liabilities	127	127						
Other non-operating liabilities	41	7		34				34
Liabilities of operations held for sale								
<b>Total liabilities and equity</b>	<b>30,676</b>	<b>22,542</b>		<b>8,064</b>			<b>80</b>	<b>8,147</b>

## 2006

## Assets

(en millions d'euros)	Balance sheet value	Including					Fair value
		Non financial assets and liabilities	Loans and receivables	Liabilities at amortized cost	Fair value through profit and loss	Assets available for sale	
<b>Non-current assets</b>	<b>17,350</b>	<b>11,992</b>	<b>354</b>			<b>4,970</b>	<b>5,358</b>
Goodwill on consolidated companies	2,515	2,515					
Intangible assets	1,175	1,175					
Property, plant and equipment	3,814	3,814					
End-of-life-cycle assets (third party share)	2,091	2,091					
Assets earmarked to finance end-of-life-cycle operations	2,986		113			2,874	2,986
Investments in associates	1,521	1,521					
Other non-current financial assets	2,376	3	241			2,096	2,372
Pension fund assets	-						
Deferred tax assets	873	873					
<b>Current assets</b>	<b>8,543</b>	<b>4,384</b>	<b>3,760</b>		<b>288</b>		<b>4,158</b>
Inventories and work-in-process	2,306	2,306					
Trade accounts receivable and related accounts	3,604	1,141	2,463				2,463
Other operating receivables	1,121	704	318				99
Current tax assets	116	116					
Other non-operating receivables	142	116	26				
Cash and cash equivalents	962	1	921		40		961
Other current financial assets	292		33		248		11
Assets of operations held for sale	-						
<b>Total assets</b>	<b>25,893</b>	<b>16,377</b>	<b>4,114</b>		<b>288</b>	<b>4,970</b>	<b>9,517</b>

**Liabilities and equity**

(en millions d'euros)	Including							Fair value
	Balance sheet value	Non financial assets and liabilities	Loans and receivables	Liabilities at amortized cost	Fair value through profit and loss	Assets available for sale	Derivative instruments	
<b>Equity and minority interests</b>	<b>7,016</b>	<b>7,016</b>						
Share capital	1,347	1,347						
Consolidated premiums and reserves	3,619	3,619						
Deferred unrealized gains and losses on financial instruments	1,131	1,131						
Currency translation reserves	(25)	(25)						
Net income attributable to equity holders of the parent	649	649						
Minority interests	294	294						
<b>Non-current liabilities</b>	<b>8,352</b>	<b>6,945</b>		<b>1,407</b>				<b>1,407</b>
Employee benefits	1,122	1,122						
Provisions for end-of-life-cycle operations	4,585	4,585						
Other non-current provisions	113	113						
Long-term borrowings	1,407			1,407				1,407
Deferred tax liabilities	1,124	1,124						
<b>Current liabilities</b>	<b>10,526</b>	<b>7,028</b>		<b>3,435</b>			<b>63</b>	<b>3,498</b>
Current provisions	1,788	1,788						
Short-term borrowings	712			692			20	713
Advances and prepayments received	4,185	4,185						
Trade accounts payable and related accounts	2,093	371		1,723				1,723
Other operating liabilities	1,650	610		997			43	1,040
Current tax liabilities	74	74						
Other non-operating liabilities	23			23				23
Liabilities of operations held for sale	-							
<b>Total liabilities and equity</b>	<b>25,893</b>	<b>20,989</b>		<b>4,842</b>			<b>63</b>	<b>4,906</b>

## Net gains and losses on financial instruments

### Available-for-sale securities

#### 2008

(in millions of euros)	Interest income and dividends	Other income and expenses	Subsequent valuation		Gain (loss) on disposal
			Changes in fair value and foreign exchange impact	Impairment	
Shareholders' equity *			(1,307)		(90)
Net income	122			(73)	119
<b>Total</b>	<b>122</b>		<b>(1,307)</b>	<b>(73)</b>	<b>28</b>

\* Excluding tax impact.

As of December 31, 2008, the net change in the fair value of available-for-sale securities recognized in equity represented an unrealized gain of 290 million euros.

#### 2007

(in millions of euros)	Interest income and dividends	Other income and expenses	Subsequent valuation		Gain (loss) on disposal
			Changes in fair value and foreign exchange impact	Impairment	
Shareholders' equity *			128		(79)
Net income	83	3		(44)	157
<b>Total</b>	<b>83</b>	<b>3</b>	<b>128</b>	<b>(44)</b>	<b>78</b>

\* Excluding tax impact.

#### 2006

(in millions of euros)	Interest income and dividends	Other income and expenses	Subsequent valuation		Gain (loss) on disposal
			Changes in fair value and foreign exchange impact	Impairment	
Shareholders' equity *			591		(148)
Net income	88			-	223
<b>Total</b>	<b>88</b>		<b>591</b>		<b>75</b>

\* Excluding tax impact.

### Loans and receivables

#### 2008

(in millions of euros)	Interest	Impairment	Debt forgiveness
Net income	61	10	(2)

**2007**

<i>(in millions of euros)</i>	Interest	Impairment	Debt forgiveness
Net income	40	2	(1)

**2006**

<i>(in millions of euros)</i>	Interest	Impairment	Debt forgiveness
Net income	48	16	(4)

**Financial assets and liabilities at fair value through profit and loss**

Income from financial assets and liabilities at fair value through profit and loss as of December 31, 2008 was -5 million euros, compared with +3 million euros as of December 31, 2007 and +13 million euros as of December 31, 2006.

**Financial liabilities at amortized cost****2008**

<i>(in millions of euros)</i>	Interest expense and commissions	Other income and expenses
Net income	(104)	3

**2007**

<i>(in millions of euros)</i>	Interest expense and commissions	Other income and expenses
Net income	(96)	3

**2006**

<i>(in millions of euros)</i>	Interest expense and commissions	Other income and expenses
Net income	(46)	3

**Financial derivatives used for hedging**

As of December 31, 2008, the ineffective share of financial derivatives used for hedging recognized through profit and loss is as follows:

- cash flow hedge: (6) million euros;
  - fair value hedge: (9) million euros;
  - net investment hedge
- Total (15) million euros.



## Cash flow hedges

<i>(in millions of euros)</i>	Value before tax as of December 31, 2007	New transactions	Change in value	Recognized through profit and loss	Value before tax as of December 31, 2008
Cash flow hedging instruments	3	(45)	(14)	19	(37)

<i>(in millions of euros)</i>	Value before tax as of December 31, 2006	New transactions	Change in value	Recognized through profit and loss	Value before tax as of December 31, 2007
Cash flow hedging instruments	16	(9)	2	(6)	3

## Note 33. Commitments given or received

<i>(in millions of euros)</i>	December 31, 2008	Less than one year	1 to 5 years	More than 5 years	December 31, 2007	December 31, 2006
<b>Commitments given</b>	<b>3,933</b>	<b>1,562</b>	<b>1,516</b>	<b>855</b>	<b>3,502</b>	<b>2,975</b>
Operating commitments given	3,368	1,379	1,199	790	3,185	2,566
<i>Contract guarantees given</i>	<i>3,153</i>	<i>1,263</i>	<i>1,148</i>	<i>741</i>	<i>2,864</i>	<i>2,414</i>
<i>Other operating guarantees</i>	<i>215</i>	<i>116</i>	<i>51</i>	<i>49</i>	<i>321</i>	<i>152</i>
Commitments given on financing	71	19	39	13	30	49
Other commitments given	494	164	278	52	287	360
<b>Commitments received</b>	<b>855</b>	<b>292</b>	<b>187</b>	<b>376</b>	<b>1,191</b>	<b>883</b>
Operating commitments received	545	272	148	125	675	436
Commitments received on collateral	2	2	0	0	6	13
Other commitments received	308	18	39	251	510	434
<b>Reciprocal commitments</b>	<b>3,036</b>	<b>288</b>	<b>1,483</b>	<b>1,265</b>	<b>2,932</b>	<b>781</b>

The group's off-balance sheet commitments are presented by economic purpose: operating commitments, commitments related to financing, and other types of commitments. "Reciprocal commitments" correspond to commitments given by the group in consideration for a warranty from a third party.

The amounts above only include commitments that the group considers valid as of the date of closing. Accordingly, these commitments do not include construction contracts currently under negotiation.

## Commitments given

Operating commitments represent 86% of all commitments given. The majority of these commitments consist of performance guarantees.

In 2007, the group discontinued the reporting of repayment guarantees under commitments given. Accordingly, the 2006 data was adjusted by 109 million euros.

In addition, the group gave a parent company guarantee to TVO for the full value of the contract for the construction of an EPR™ reactor in Finland. The group received a counter-guarantee from Siemens corresponding to this supplier's share of the TVO contract. The net commitment given by the group is in the range of 1.5 billion to 2 billion euros. It is not included in the summary table.

AREVA gave a specific guarantee in respect of ownership of FCI shares sold to Bain Capital. This amount, which is capped at the sale price of 582 million euros, is not included in the summary table.

### Commitments received

Commitments received as of December 31, 2008 include the maximum value of environmental guarantees received from Alstom in connection with the group's acquisition of the Transmission & Distribution division.

### Reciprocal commitments

In February 2007, the group established a 2 billion euros revolving line of credit available in euros and US dollars over a 7 year period. One billion euros had been drawn on this line as of December 31, 2008.

Outstanding orders for property, plant and equipment increased by almost one billion euros in the Front End division.

Reciprocal commitments as of December 31, 2008 include in particular future minimum payments to be made on operating leases, as follows:

(in millions of euros)

December 31, 2008	Less than one year	1 to 5 years	More than 5 years	December 31, 2007	December 31, 2006
598	82	296	220	551	547

## Note 34. Disputes and contingent liabilities

### USEC litigation

In 2001, the United States Department of Commerce (DOC) ordered that countervailing duties (CVD) be levied on enrichment services imported to the United States from France, Germany, the Netherlands and the United Kingdom. This action followed complaints filed in December 2000 by the United States Enrichment Corporation (USEC) against Eurodif and URENCO for dumping and unfair subsidies. The level of countervailing duties applied to Eurodif exports to the United States led to a deposit of 213 million US dollars with the US Customs Service at the end of 2008.

Eurodif's defense included an administrative proceeding before the US DOC and a legal proceeding before the US courts, in the first instance before the Court of International Trade (CIT), with a subsequent appeal to the Court of Appeals for the Federal Circuit (CAFC).

The CAFC ruled in favor of Eurodif in March 2005, September 2005 and February 2007 and the DOC has complied with these decisions on the order of the CIT.

The order imposing countervailing duties (CVD) was cancelled on May 25, 2007. After the decision, Eurodif petitioned the DOC, the CIT and the US Customs Administration for reimbursement of CVD deposits in the amount of 62 million US dollars plus interest. To date, the US Treasury has reimbursed 9.6 million US dollars, which were deposited in 2001.

USEC and the DOC appealed the anti-dumping (AD) ruling issued in Eurodif's favor. On January 26, 2009, the Supreme Court of the United States ruled that the DOC could impose AD measures on sales of enrichment services. AREVA intends to continue its appeals in the US courts and to sponsor proceedings with the WTO to limit the consequences of this ruling.

### Ongoing investigations

In the GIS case (gas-insulated switchgear), the appeal filed by Alstom and AREVA T&D SA against the European Commission ruling ordering these companies to the joint payment of a fine in the amount of 54 million euros is still under review by the Court of First Instance of the European Communities.

At present, the only remaining investigations are those, less critical, by competition authorities in the Czech Republic, Slovakia, South Africa and Brazil.

In the Czech Republic, the decision to levy a fine against AREVA T&D was reversed by the courts on June 25, 2008. The competition authorities refunded 5.7 million euros to AREVA and appealed the June 25, 2008 ruling. This appeal is ongoing.

In Slovakia, AREVA T&D SA, AREVA T&D Holding SA and AREVA T&D AG have appealed a fine of approximately 1.5 million euros levied against them by the Slovak competition authority on December 27, 2007. This appeal is ongoing.

In England, on November 17, 2008, National Grid asked the High Court of Justice of London to order the payment of damages by the companies involved in the European Commission's GIS case. These companies include, among others, AREVA T&D UK Limited, AREVA T&D Holding SA and AREVA SA.

The European Commission launched an investigation into the power transformer sector and communicated its grievances to several companies in that sector on November 24, 2008, including AREVA T&D SA.

In April 2007, Alstom and AREVA entered into an agreement related to warranty obligations and in particular to the assumption by Alstom of the financial consequences of the inquiries into anti-competitive practices.

#### Administrative sanctions against a Mexican subsidiary of AREVA T&D

In July 2004, Secretaria de la Funcion Publica (SFP) of Mexico ordered AREVA T&D SA de C.V., a Mexican subsidiary of AREVA T&D, to pay a fine in the maximum amount of 341,000 Mexican pesos (approximately 34,000 US dollars), and prohibited the company from participating in calls for tender in the public sector for a two-year period. AREVA T&D SA de C.V. disputed this decision in an "amparo" proceeding aimed at challenging its constitutionality.

On August 23, 2007, the judiciary ruled on a second "amparo" proceeding initiated by AREVA T&D SA de C.V. The court voided the administrative order against AREVA T&D SA de C.V. on the basis of the statute of limitation applicable to one of the two calls for tender under review and ordered the SFP to issue a new decision on the second call for tender.

Pursuant to this decision, the SFP ordered a new sanction against AREVA T&D SA de C.V. in September 2007 prohibiting the company from participating in calls for tender in the public sector for a period of one year, eleven months and thirteen days and levying a fine of 310,050 Mexican pesos.

AREVA T&D SA de C.V. has petitioned the Federal Court on Tax and Administrative Matters to set aside the decision. None of these actions had succeeded as of December 31, 2008 and the situation did not otherwise evolve during the year. Accordingly, AREVA T&D SA de C.V. remains barred from participating in calls for tender in the Mexican public sector until September 2009. AREVA T&D SA de C.V. should be able to participate in these calls for tender immediately after that date.

#### Dispute between CFE/San Nicolas and AREVA T&D's Mexican subsidiary

Following a fire on March 19, 1998 in the San Nicolas substation owned by CFE, a government-owned Mexican power company, CFE and Areva T&D SA de C.V. are involved in two court cases to determine the parties liable for this incident and its alleged financial consequences. AREVA T&D expects a ruling in its favor in one of the cases in 2009. In the second case, a ruling in favor of CFE was issued on June 18, 2008. AREVA was ordered to pay approximately 5.7 million US dollars to CFE, before interest. The decision was appealed by AREVA on solid legal grounds. The existing ruling cannot be considered final, as the appeal is still pending.

## Note 35. Events subsequent to year end

On January 26, 2009, the Supreme Court of the United States ruled that the Department of Commerce could impose antidumping measures on sales of enrichment services (see note 34, "Disputes and contingent liabilities").

On January 27, 2009, the CEO of Siemens informed the CEO of AREVA of his decision to exercise the option to sell shares of AREVA NP's capital, 34% of which are held by Siemens. In accordance with the shareholders' agreement of January 30, 2001, this notice will take effect definitively on January 30, 2012. The shareholders' agreement establishes a process to set the price of the shares to be sold. The impacts on AREVA's financial statements are described in notes 1.19, "Borrowings" and 25, "Borrowings"

## Note 36. Main consolidated companies

Name of unit or controlling entity Company name, legal form, corporate office	Country	Business reg. no.	December 31, 2008		December 31, 2007	
			Method	%	Method	%
<b>Nuclear</b>						
AREVA NC SA	France	305 207 169	FC	100	FC	100
AREVA NP SAS – 92400 Courbevoie	France	428 764 500	FC	66	FC	66
AREVA NP GMBH – 91058 Erlangen	Germany		FC	66	FC	66
AREVA NP, Inc. – Corporate	United States		FC	66	FC	66
AREVA TA SA – 91190 Gif-sur-Yvette	France	772 045 879	FC	83.58	FC	83.58
CEZUS SA – 92400 Courbevoie	France	71 500 763	FC	66	FC	66
Euriware SA	France	320 585 110	FC	100	FC	100
Eurodif SA – 75442 Paris	France	723 001 889	FC	59.65	FC	59.65
FBFC SNC – 92400 Courbevoie	France	300 521 754	FC	66	FC	66
MELOX – 30200 Chusclan	France	378 783 237	FC	100	FC	100
UraMin Inc.	British Virgin Islands		FC	100	FC	100
<b>Transmission &amp; Distribution</b>						
AREVA T&D de Energia Ltda	Brazil		FC	100	FC	100
AREVA T&D Energietechnik GmbH	Germany		FC	100	FC	100
AREVA T&D Enerji Endustrisi A.S	Turkey		FC	100	FC	100
AREVA T&D Inc.	United States		FC	100	FC	100
AREVA T&D India Ltd	India		FC	72.18	FC	72.18
AREVA T&D SA	France	389 191 800	FC	100	FC	100
AREVA T&D AG	Switzerland		FC	100	FC	100
AREVA T&D UK Ltd	United Kingdom		FC	100	FC	100
<b>Holding company and other operations – Investments</b>						
AREVA SA – 75009 Paris	France	712 054 923	FC	100	FC	100
Eramet	France	632 045 381	EM	26.17	EM	26.24
STMicroelectronics	Netherlands		EM	11.36	EM	11.04

FC: full consolidation.

EM: equity method.

## 20.3. AREVA SA financial statements 2008

### 20.3.1. Statutory Auditors' report on the annual financial statements

*This is a free translation into English of the Statutory Auditors' report issued in French and is provided solely for the convenience of English speaking users. The Statutory Auditors' report includes information specifically required by French law in such reports, whether qualified or not. This information is presented below the opinion on the Company financial statements and includes an explanatory paragraph discussing the auditors' assessments of certain significant accounting and auditing matters. These assessments were considered for the purpose of issuing an audit opinion on the Company financial statements taken as a whole and not to provide separate assurance on individual account captions or on information taken outside of the Company financial statements. This report should be read in conjunction with, and construed in accordance with, French law and French auditing professional standards.*

To the shareholders,

In accordance with our appointment as Statutory Auditors at your Annual General Meeting, we hereby report to you for the year ended December 31, 2008 on:

- the audit of the accompanying annual financial statements of AREVA;
- the justification of our assessments; and
- the specific procedures and disclosures required by law.

These annual financial statements have been approved by the Management Board. Our role is to express an opinion on these financial statements, based on our audit.

#### I - Opinion on the annual financial statements

We have conducted our audit in accordance with professional standards applicable in France. Those standards require that we plan and perform the audit to obtain reasonable assurance as to whether the financial statements are free of material misstatement. An audit includes verifying, using sample testing techniques or other selection methods, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made, as well as evaluating the overall financial statement presentation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

In our opinion, the financial statements give a true and fair view of the financial position and the assets and liabilities of the Company as of December 31, 2008 and the results of its operations for the year then ended in accordance with the rules and accounting principles generally accepted in France.

Without qualifying the opinion expressed above, we draw your attention to the note 6.5 to the annual financial statements which outlines the procedure for determining the price of the AREVA NP put option exercised by Siemens on January 27, 2009, the uncertainty relating to this procedure and the accounting treatment adopted as of December 31, 2008 for the related off-balance sheet commitment.

#### II - Justification of our assessments

The accounting estimates adopted and significant judgments made for financial statements for the year ended December 31, 2008 were prepared in a context of strong financial market volatility with a higher difficulty to assess economic outlooks. It is in this context and in accordance with article L. 823.9 of the French Commercial Code (*Code de commerce*) relating to the justification of our assessments that we bring to your attention the following matters:

- participating interests were valued in accordance with the accounting methods described in the note 3.1 to the financial statements entitled "Accounting policies, rules and methods – Long-term investments". As part of our procedures, we reviewed the appropriateness of these accounting methods and the reasonableness of the assumptions adopted;

- with respect to risks, litigation and contingent liabilities, we assessed the procedures currently used by your Company to identify, assess and record such risks, litigation and contingent liabilities in the accounts. We also ascertained that the main litigations identified by the procedures implemented by your Company are described appropriately in the financial statements and specifically in the note 6.8.
- These assessments were performed as part of our audit approach for the annual financial statements taken as a whole and contributed to the expression of our opinion in the first part of this report.

### III - Specific procedures and disclosures

We have also performed the specific verifications required by law.

We have no comments to make as to:

- the fair presentation and consistency with the financial statements of the information given in the report of the Management Board and in the documents addressed to the shareholders with respect to the financial position and the annual financial statements;
- the fair presentation of the information given in the Management report relating to compensation and benefits paid to executive officers as well as to commitments given in their favor upon taking, leaving or changing functions or subsequent thereto.

Pursuant to French law, we ascertained that the information relating to the identity of the holders of share capital and voting rights was presented in the management report.

Paris-La Défense and Neuilly-sur-Seine, February 25, 2009

The Statutory Auditors

Jean-Luc Barlet  
Mazars

Juliette Decoux

Étienne Jacquemin  
Deloitte & Associés

Patrice Choquet

## 20.3.2. Balance sheet

### Assets

(in thousands of euros)	2008			2007
	Gross	Depreciation, amortization and provisions	Net	Net
Subscribed capital not issued				
<b>Non-current assets</b>				
<b>Intangible assets</b>				
Start-up costs				
Research and development expenses				
Concessions, patents, licenses, software and similar rights	4,976	3,507	1,469	2,517
Leasehold				
Intangible assets in progress				
Advances and prepayments				
<b>Property, plant and equipment</b>				
Land	208	4	204	204
Buildings	3,272	2,925	347	177
Plant, equipment and tooling	260	250	10	28
Other PP&E	55,158	10,051	45,107	27,557
PP&E in progress	16,754		16,754	21,986
Advances and prepayments				
<b>Long-term investments</b>				
Equity method investments				
Equity associates	3,390,167	4,420	3,385,747	2,946,691
Loans to equity associates	3,187,954		3,187,954	2,722,361
Other long-term securities	53,465	4,711	48,754	5,949
Loans	5		5	5
Other long-term investments	18,349		18,349	16,495
<b>Total non-current assets</b>	<b>6,730,568</b>	<b>25,868</b>	<b>6,704,700</b>	<b>5,743,970</b>
<b>Current assets</b>				
<b>Inventories and work-in-process</b>				
Raw materials and other supplies				
Goods in process				
Services in process				
Intermediate and finished products				
Goods				
<b>Accounts receivable</b>				
Trade accounts receivable and related accounts	74,675		74,675	118,221
Other accounts receivable	241,281	4,297	236,984	283,176
Subscribed capital – issued and not paid				
<b>Marketable securities</b>				
Treasury shares				
Other securities	715,736		715,736	349,318
Cash instruments	1,463		1,463	3,354
<b>Cash and cash equivalents</b>	<b>2,885,892</b>		<b>2,885,892</b>	<b>1,868,146</b>
Prepaid expenses	17,131		17,131	7,770
<b>Total current assets</b>	<b>3,936,177</b>	<b>4,297</b>	<b>3,931,879</b>	<b>2,629,985</b>
Deferred charges				
Bond redemption premiums				
Unrealized foreign exchange losses	319		319	449
<b>Grand total</b>	<b>10,667,064</b>	<b>30,166</b>	<b>10,636,899</b>	<b>8,374,403</b>



## Shareholders' equity and liabilities

	2008	2007
(in thousands of euros)	Net	Net
<b>Share capital (including capital issued and paid: 1,346,823)</b>	<b>1,346,823</b>	<b>1,346,823</b>
Additional paid-in capital, merger premiums, share premiums	328,289	328,289
Revaluation adjustments (including equity method adjustment)		
Revaluation adjustments		
Equity method adjustment		
Reserves		
• Legal reserve	134,682	134,682
• Reserves provided in the by-laws or by contract		
• Regulated reserves	3,304	3,304
• Other reserves	6,403	6,403
Retained earnings	649,678	163,013
<b>Net income for the year</b>	<b>1,036,002</b>	<b>726,612</b>
Investment subsidies	2,700	
Tax-driven provisions	494	1,339
<b>Total shareholders' equity</b>	<b>3,508,375</b>	<b>2,710,464</b>
<b>Other shareholders' equity</b>		
Proceeds from issues of equity securities		
Advances subject to covenants		
<b>Total other shareholders' equity</b>		
<b>Provisions for contingencies and losses</b>		
Provisions for contingencies	12,390	15,229
Provisions for losses	104,589	59,655
<b>Total provisions for contingencies and losses</b>	<b>116,979</b>	<b>74,884</b>
<b>Debt</b>		
Convertible bond issues		
Other bond issues		
Bank borrowings	2,616,695	1,747,823
Miscellaneous loans and borrowings	4,192,874	3,655,121
Trade advances and prepayments on orders in progress		
Trade accounts payable and related accounts	112,185	66,049
Taxes and employee-related liabilities	26,614	31,595
Accounts payable on non-current assets and related accounts	13,556	4,070
Other liabilities	41,563	76,405
Cash instruments	6,859	7,982
Unearned income		
<b>Total liabilities</b>	<b>7,010,345</b>	<b>5,589,045</b>
Unrealized foreign exchange gains	1,199	10
<b>Total shareholders' equity and liabilities</b>	<b>10,636,899</b>	<b>8,374,403</b>

### 20.3.3. Income statement

(in thousands of euros)	2008			2007
	France	Export	Total	Total
<b>Operating income</b>				
Sales of goods				
Sales of products				
Sales of services	172,222	2,087	174,309	143,647
<b>Net sales</b>	<b>172,222</b>	<b>2,087</b>	<b>174,309</b>	<b>143,647</b>
Production in inventory				
Self-constructed assets				
Operating subsidies				
Reversal of provisions and transfer of expenses			8,204	8,893
Other income			3,491	2,358
<b>Total operating income</b>			<b>186,004</b>	<b>154,898</b>
<b>Operating expenses</b>				
Purchases of goods (including customs duties)				
Change in inventory (goods)				
Purchases of raw materials and other supplies (including customs duties)			(114)	
Change in inventory (raw materials and supplies)				
Other purchases and expenses			320,039	250,092
Taxes and related expenses			7,007	5,015
Salaries and other compensation			21,338	21,861
Social security taxes			13,062	12,551
<b>Amortization, depreciation and provisions</b>				
On non-current assets: amortization			7,269	4,265
On non-current assets: impairment				
On current assets: impairment				
For contingencies and losses: charge to provisions			211	2,954
Other expenses			1,034	3,119
<b>Total operating expenses</b>			<b>369,846</b>	<b>299,856</b>
<b>Current operating income (loss)</b>			<b>(183,842)</b>	<b>(144,958)</b>
<b>Share of net income from joint operations</b>				
Profit allocated or loss transferred			142	
Loss allocated or profit transferred			93	
<b>Financial income</b>				
From equity associates			314,193	319,608
From other marketable securities and capitalized receivables			75,443	49,601
Other interest and related income			220,210	136,518
Reversal of provisions and transfer of expenses			2,672	2,340
Foreign exchange gains			1,490,661	396,840
Net income from disposals of marketable securities				
<b>Total financial income</b>			<b>2,103,179</b>	<b>904,907</b>
<b>Financial expenses</b>				
Amortization and provisions			2,539	3,850
Interest and related expenses			334,519	252,546
Foreign exchange losses			1,487,432	374,953
Net loss on disposal of marketable securities				
<b>Total financial expenses</b>			<b>1,824,490</b>	<b>631,348</b>
<b>Net financial income</b>			<b>278,690</b>	<b>273,559</b>
<b>Income before exceptional items and tax</b>			<b>94,896</b>	<b>128,600</b>

## Income statement (following)

	2008	2007
<b>Exceptional items</b>		
From financial management transactions	3,807	2,608
From capital or non-current asset transactions	1,631,286	3,044
Reversal of provisions and transfer of expenses	9,051	119,818
<b>Total exceptional items</b>	<b>1,644,144</b>	<b>125,470</b>
<b>Exceptional expenses</b>		
From financial management transactions	2,316	527
From capital or non-current asset transactions	701,878	1,182
Amortization, depreciation and provisions	52,363	2,082
<b>Total exceptional expenses</b>	<b>756,556</b>	<b>3,791</b>
<b>Exceptional items</b>	<b>887,588</b>	<b>121,679</b>
Employee profit-sharing		
Income tax	(53,518)	(476,333)
<b>Total income</b>	<b>3,933,469</b>	<b>1,185,274</b>
<b>Total expenses</b>	<b>2,897,467</b>	<b>458,662</b>
<b>Net income</b>	<b>1,036,002</b>	<b>726,612</b>

## 20.3.4. Cash flow statement

<i>(in millions of euros)</i>	2008	2007
<b>Cash flow from operating activities</b>		
Net income for the year	1,036	727
Net depreciation and amortization	6	5
Net provisions	36	(121)
Gain on disposals of non-current assets and investment securities	(928)	(2)
Change in trade advances and prepayments	0	1
Change in trade accounts receivable and other receivables	79	(172)
Change in trade accounts payable and other operating liabilities	89	61
Other		
<b>Total cash flow from operating activities (I)</b>	<b>318</b>	<b>499</b>
<b>Cash flow from investing activities</b>		
Investment in PP&E and intangible assets	(23)	(34)
Investment in long-term notes and investments	(6,303)	(5,921)
Repayment of loans to equity associates	4,593	4,043
Security deposits		
Loans		
Disposals of PP&E and intangible assets	8	
Disposals and reduction of long-term investments	1,628	3
Net change in non-current asset receivables and debt		
Other	3	
<b>Total cash flow used in investing activities (II)</b>	<b>(93)</b>	<b>(1,909)</b>
<b>Cash flow from financing activities</b>		
Dividends paid by AREVA	(240)	(300)
Change in borrowings	1,545	1,710
<b>Total cash flow from financing activities (III)</b>	<b>1,305</b>	<b>1,410</b>
Change in investment securities		
<b>Change in net cash (I + II + III)</b>	<b>1,530</b>	<b>-</b>
<b>Net cash at the beginning of the year (A)</b>	<b>(1,624)</b>	<b>(1,624)</b>
<b>Net cash at the end of the year (B)</b>	<b>(94)</b>	<b>(1,624)</b>
<b>Change in net cash (B – A)</b>	<b>1,530</b>	<b>-</b>
Change in investment securities		
<b>Net change in cash position</b>	<b>1,530</b>	<b>-</b>

## 20.3.5. Detailed financial information on subsidiaries and associates

Financial information

(in thousands of euros unless other indicated)

Subsidiaries and associates	Share capital	Premiums, reserves and retained earnings	Interest held in share capital (in percent)	Gross carrying amount of shares held	Net carrying amount of shares held	Unpaid loans and advances	Revenue (before tax) of last fiscal year	Income (loss) from last accounting period	Dividends received in fiscal year 2008
<b>A. Detailed financial information on subsidiaries and associates (net carrying amount exceeds 1% of AREVA's share capital)</b>									
<b>1. Subsidiaries (AREVA holds more than 50% of the share capital)</b>									
<b>Cédec</b> 33, rue La Fayette - 75009 Paris - France	36,532	3,745	90,14	33,466	33,466			9,653	10,537
<b>Compagnie d'Etude et de Recherche l'Energie (CERE)</b> 33, rue La Fayette - 75009 Paris - France	247,500	14,992	100,00	251,541	251,541			(16)	10,560
<b>AREVA NC</b> 33, rue La Fayette - 75009 Paris - France	100,259	1,087,631	100,00	703,929	703,929		2,583,000	27,872	100,259
<b>AREVA NP s.a.s.</b> Tour AREVA - 92084 Paris-La Défense Cedex - France	400,000	(116,714)	66,00	277,638	277,638		1,518,007	(214,411)	
<b>FT1CI</b> 33, rue La Fayette - 75009 Paris - France	54,006	830,187	100,00	54,889	54,889			(214,296)	
<b>AREVA Insurance and Reinsurance (AREVA IR)</b> 33, rue La Fayette - 75009 Paris - France	6,375	78,479	100,00	30,940	30,940			2,574	
<b>AREVA T&amp;D Holding</b> 33, rue La Fayette - 75009 Paris - France	500,037	95,750	100,00	500,000	500,000	501,348		66,053	25,000
<b>2. Associates (AREVA holds 10-50% of the share capital)</b>									
<b>Eramet</b>	79,000	1,849,586	26,17	291,693	291,693			703,000	40,544
<b>Technicatome (AREVA TA)</b>	20,000	42,944	24,89	14,042	14,042		272,269	22,235	3,585
<b>B. Summary information on other subsidiaries and associates</b>									
<b>1. Subsidiaries not included in section A above</b>									
• a) French subsidiaries (combined)				16,946	15,836	78,075			
• b) Foreign subsidiaries (combined)				6,305	5,306	3,966			
<b>2. Associates not included in section A above</b>									
• a) French companies (combined)				1,207,864	1,205,713				6,062
• b) Foreign companies (combined)				913	913				

## 20.4. Notes to the parent company financial statements

The notes hereunder supplement the balance sheet, before appropriation of earnings for the year ended December 31, 2008, showing total assets of 10.636,899 billion euros, and the income statement, showing net income of 1,036.002 million euros. These statements are for the 12-month period beginning January 1 and ending December 31, 2008.

These notes include:

Highlights of the year and:

- accounting policies, rules and methods;
- notes to the balance sheet;
- notes to the income statement; and
- additional information.

These notes and tables are an integral component of the financial statements approved by AREVA's Supervisory Board.

### 20.4.1. Scope of business

AREVA is a services and financial holding company. Services provided include centralized cash management and consulting and support services for the group.

### 20.4.2. Highlights for the year

#### 20.4.2.1. Merger between Gaz de France and SUEZ

AREVA held 2.18% of the share capital of SUEZ as of December 31, 2007. Gaz de France and SUEZ merged on July 22, 2008. The transaction was recognized as a disposal of SUEZ shares and an acquisition of GDF-SUEZ shares, generating a capital gain of approximately 550 million euros.

AREVA held 1.2% of GDF-SUEZ shares after this transaction.

At the same time, SUEZ contributed all of its Environmental business segment assets to SUEZ Environnement and spun off 65% of the SUEZ Environnement shares to SUEZ shareholders.

This brings AREVA's equity interest in SUEZ Environnement to 60.891 million euros.

#### 20.4.2.2. Exercise of AREVA put option on REpower shares

AREVA sold its 29.95% equity interest in REpower to Suzlon in early June 2008, generating a capital gain of more than 350 million euros on the transaction.

#### 20.4.2.3. External financing

In 2008, the group set up:

- a commercial paper program for 2 billion euros. AREVA's Standard & Poor's rating (A1) was published in connection with this program. The amount issued at year-end 2008 came to 700 million euros;
- a seven-year line of credit opened with the EIB for 400 million euros, 200 million euros of which had been drawn as of the end of 2008.

These credit facilities are not subject to any financial covenant. There were no significant financial commitments with financial covenants as of December 31, 2008.

The commercial paper program strengthens the group's financial flexibility and offers a competitive alternative to bank financing. To meet investor demand, AREVA initially issued commercial paper in excess of the group's actual cash needs. This surplus was invested temporarily in marketable securities, consistent with the group's limits of exposure. The commercial paper program should eventually replace the 2-billion euro syndicated credit program.

### 20.4.3. Accounting policies, rules and methods

#### 20.4.3.1. Rules and methods concerning balance sheet accounts

The financial statements of AREVA SA for the year ended December 31, 2008 were prepared in accordance with French accounting standards as defined and amended by regulation 99-03 of April 29, 1999 published by the French accounting board.

#### Property, plant and equipment and intangible assets

Property, plant and equipment and intangible assets appear on the balance sheet at cost, in accordance with regulation 2004-06 of the French accounting board.

These assets are depreciated based on the method considered the most appropriate.

The maximum depreciation periods are as follows:

- 3 years for off-the-shelf software;
- 25 years for buildings;
- 10 years for building improvements and office furniture; and
- 5 years for office equipment, computers and transportation equipment.

A provision may be recorded when a specific asset's book value exceeds its net carrying amount.

### Long-term investments

Long-term investments are recognized on the balance sheet at cost on the day of contribution or acquisition. The acquisition cost includes the purchase price plus costs directly related to the purchase, such as commissions paid to acquire securities.

A provision for impairment of equity associates is recorded when their original cost exceeds their value in use, determined security by security.

Impairment is computed based on the group's interest in each associate's equity (or consolidated equity for first-tier companies) as of year-end. However, this valuation also takes into account events or positions subsequent to year-end, when they are known before closing, as well as each subsidiary's estimated profitability or market value.

### Receivables and borrowings

Receivables and debt are recorded at nominal value. Receivables may be written down to reflect potential collection difficulties based on information available at closing.

Receivables and borrowings in foreign currencies are translated and recorded in euros based on exchange rates in effect at year-end.

Unrealized gains and losses are recorded on the balance sheet as currency translation differences.

Receivables and debt in foreign currencies whose exchange rates have been hedged are recorded in euros based on the hedged rate. Unrealized foreign exchange losses are recognized through a contingency provision.

### Marketable securities

Marketable securities are valued at the lower of their acquisition cost or period-end value. A provision for impairment is recorded when the valuation as of the end of the period shows an overall loss by class of securities. The current value is equal to the average closing market price of the securities for the last month of the period.

A provision for impairment of other cash investments, such as debt instruments that are not publicly traded, is recorded separately when warranted.

### Provisions for contingencies and losses

AREVA SA records provisions for contingencies and losses, for instance to cover restructuring or litigation expenses.

Contingent liabilities represent obligations that are neither probable nor certain at the date of closing, or obligations that are probable but where no resource is likely to be expended. Contingent liabilities are not recognized in provisions, but rather disclosed in the notes (see section 20.4.4.4., "Provisions recorded on the balance sheet").

AREVA recorded a provision for deferred tax liability to recognize the expected use of tax losses that the French subsidiaries are entitled to apply against future profits, as provided under French tax consolidation rules (see section 20.4.3.4., "Tax data").

AREVA's provisions for contingencies and losses are consistent with French accounting board rules on liabilities dated December 7, 2000 (CRC 2000-06).

### Pension commitments

The financial statements reflect all of AREVA's pension, retirement and related benefit commitments, both for active personnel and for retirees, net of any plan assets and unrecognized gains covering the liabilities.

For defined contribution plans, the company's payments are recognized as expenses for the period to which they relate.

For defined benefit plans, benefit costs are estimated using the projected credit unit method. Under this method, accrued pension benefits are allocated among service periods based on the plan vesting formula. If services in subsequent years result in accrued benefit levels that are substantially higher than those of previous years, the company must allocate the accrued benefits on a straight-line basis.

The amount of future benefit payments to employees is determined based on salary trend assumptions, retirement age and mortality, discounted to present value based on interest rates for long-term bonds from AAA issuers.

Actuarial gains and losses are spread out over the average expected remaining working life of personnel taking part in these plans for the portion exceeding the largest of the following values by more than 10%:

- the present value of the defined benefit obligation at the balance sheet opening date;
- the fair value of plan assets at the balance sheet opening date.

The costs of plan changes are allocated over the vesting period.



### 20.4.3.2. Financial instruments

AREVA SA uses derivative instruments to hedge foreign exchange risks, interest rate risks and the price of commodities, both for its own account and for transactions carried out by its subsidiaries. The derivative instruments used include mostly forward exchange contracts, currency and interest rate swaps, currency options and commodity futures.

The risks hedged relate to receivables, borrowings and firm commitments in foreign currencies, planned transactions in foreign currencies, and planned sales and purchases of commodities. Derivative instruments traded to hedge subsidiaries' exposure are issued by banking counterparties. Thus, AREVA SA's exposure to its subsidiaries is strictly offset by AREVA SA's positions with the banks.

Accounting principles:

- Gains and losses on derivatives traded to hedge the subsidiaries' exposure are recognized through profit and loss at maturity, thus matching the gains and losses recognized on the symmetrical derivative transactions between AREVA SA and the banks.
- Interest rate derivatives traded by AREVA SA are qualified as hedging instruments. Interest is recognized as accrued.

### 20.4.3.3. Cash flow statement

AREVA has adopted the indirect method of presentation, which starts with net income for the period. Cash consists of the following items: cash and cash equivalents, bank debit balances, short-term investments with initial maturities of less than three months, non-trade current accounts, and short-term non-trade receivables or liabilities.

### 20.4.3.4. Tax data

AREVA SA had opted for the global consolidated tax regime, which was approved for the 2005-2007 fiscal years. This option was not renewed and 2007 was therefore the last year of application of the consolidated tax regime.

As provided in article 223A of the French Tax Code, AREVA SA opted to be solely responsible for income tax due on the combined income of the group consisting of AREVA SA and the subsidiaries in which it holds at least 95% of the share capital. This regime remains in effect for the year ended December 31, 2008.

The relations between AREVA SA and its integrated subsidiaries are governed by a tax integration agreement based on the principle of tax neutrality. This agreement defines in particular the conditions for distributing tax liabilities among integrated companies and the rules applicable upon termination of the integration.

As provided in article 39-1-2 of the French Tax Code, depreciation is deductible for tax purposes only if properly recognized in the company's accounting records. To encourage capital spending, tax law may allow companies to recognize amortization that would not otherwise be required under reporting standards. Due to discrepancies between tax and accounting rules, AREVA recognizes accelerated depreciation in a manner that is consistent with accounting rules providing for minimum cumulative straight-line amortization (see section 20.4.4.9., "Shareholders' equity excluding share capital").

## 20.4.4. Notes to the balance sheet

### 20.4.4.1. Non-current assets

Cadre A	Gross value at the beginning of the year	Increases	
		Revaluations	Additions
Intangible assets			
Start-up costs and R&D expenses	Total I		
Other intangible assets	Total II	5,285	791
Property, plant and equipment			
Land		303	
Buildings erected on owned land		1,723	
Buildings erected on third party land		0	
Building facilities, fixtures and improvements		1,462	245
Plant, equipment and tooling		296	
Miscellaneous facilities, fixtures and improvements		25,101	22,435
Transportation equipment		125	
Office equipment, computer equipment and furniture		10,045	4,315
Recyclable packaging and miscellaneous			
PP&E in progress		21,986	
Advances and prepayments			
	Total III	61,042	26,995
Long-term investments			
Equity method investments			
Equity associates		2,951,188	1,197,861
Other long-term securities		9,663	43,848
Loans and other long-term investments		2,738,860	6,835,142
	Total IV	5,699,712	8,076,851
Grand total	(I + II + III + IV)	5,766,039	8,104,638

	Decreases		Gross at year-end	Revaluations of initial value
Box B	Reclassifications	Disposals		
Intangible assets				
Start-up costs and R&D expenses	(I)			
Other intangible assets	(II)	1,100	4,976	
Property, plant and equipment				
Land		95	208	
Buildings erected on owned land		7	1,716	
Buildings erected on third party land		0		
Building facilities, fixtures and improvements		151	1,556	
Plant, equipment and tooling		36	260	
Miscellaneous facilities, fixtures and improvements		5,127	42,410	
Transportation equipment			125	
Office equipment, computer equipment and furniture		1,736	12,624	
Recyclable packaging and miscellaneous				
PP&E in progress	5,232	(0)	16,754	
Advances and prepayments				
Total III	5,232	7,153	75,652	
Long-term investments				
Equity method investments				
Equity associates		758,882	3,390,167	
Other long-term securities		46	53,465	
Loans and other long-term investments		6,367,694	3,206,308	
Total IV		7,126,623	6,649,940	
Grand total	(I + II + III + IV)	5,232	7,134,876	6,730,568

### Property, plant and equipment

The increase primarily reflects fixtures and improvements for offices at rue La Fayette in central Paris and at the AREVA Tower in Paris-La Défense, as well as for the new site in Colombes (Paris area), which opened July 15, 2008.

### Long-term investments

Equity associates in the amount of 3.390,167 billion euros primarily comprise the following holdings:

- AREVA NC 703.929 million euros
- GDF-SUEZ 1.136,600 billion euros (after merger of July 22, 2008)
- AREVA T&D Holding 500 million euros
- ERAMET 291.693 million euros
- AREVA NP 277.638 million euros
- CERE 251.541 million euros

Loans to equity associates in the amount of 3.187,954 billion euros concern medium-term loans made to group companies. As of December 31, 2008, these companies were mainly:

■ AREVA T&D Holding	501.344 million euros
■ AREVA NC Inc. Corporate	48.314 million euros (67.239 million US dollars)
■ UG Allemagne	223.645 million euros (311.246 million US dollars)
■ AREVA Resources Canada Inc.	390.825 million euros (664.323 million Canadian dollars)
■ AREVA T&D UK	32.661 million euros (31.109 million pounds sterling)
■ AREVA Renouvelable	78.075 million euros
■ CFMM	21.075 million euros (35.823 million Canadian dollars)
■ COGEMA DÉVELOPPEMENT 1	1.752,247 billion euros (2.438,603 billion US dollars)
■ AREVA Bio Energies	40.604 million euros
■ ETC	90 million euros

Other long-term investments were as follows:

	As of December 31, 2007	Increases	Decreases	As of December 31, 2008
Other long-term securities	9,663	43,848	46	53,465
Loans	5			5
Other long-term investments	16,495	1,863	9	18,349

“Other long-term securities” chiefly include Japan Steel shares acquired for 43.305 million euros.

Other long-term notes and investments mainly include:

- security deposits related to regular leases for the AREVA Tower in Courbevoie and the rue La Fayette offices in central Paris representing 11.3 million euros as of December 31, 2008;

- AREVA's equity interest in European Liability Insurance for the Nuclear Industry (Elini), a mutual insurance company, representing 6.741 million euros as of December 31, 2008.

## 20.4.4.2. Depreciation and amortization

## Balance and transactions during the year

Depreciable assets		Gross value at the beginning of the year	Increases	Decreases	Gross value at the end of the year
<b>Intangible assets</b>					
Start-up costs and R&D expenses	<b>Total I</b>				
Other intangible assets	<b>Total II</b>	<b>2,768</b>	<b>1,418</b>	<b>679</b>	<b>3,507</b>
<b>Property, plant and equipment</b>					
Land		99	0	95	4
Buildings erected on owned land		1,595	18	7	1,606
Buildings erected on third party land		0		0	
Building facilities, fixtures and improvements		1,413	38	132	1,319
Plant, equipment and tooling		269	7	25	250
Miscellaneous facilities, fixtures and improvements		4,799	3,894	2,354	6,339
Transportation equipment		86	12	(0)	97
Office equipment, computer equipment and furniture		2,830	1,905	1,120	3,615
Recyclable packaging and miscellaneous					
	<b>Total III</b>	<b>11,090</b>	<b>5,874</b>	<b>3,734</b>	<b>13,230</b>
<b>Grand total</b>	<b>(I + II + III)</b>	<b>13,858</b>	<b>7,293</b>	<b>4,413</b>	<b>16,737</b>

## 20.4.4.3. Cash and marketable securities

Postes	<b>As of December 31, 2008</b>	As of December 31, 2007
Investment securities – equities (gross book value)	143,275	143,075
Investment securities – equities (impairment)		
Other marketable securities (gross book value)	572,461	206,243
Other marketable securities (impairment)		
Cash instruments	1,463	3,353
Cash and cash equivalents	2,885,892	1,868,146
<b>Total</b>	<b>3,603,091</b>	<b>2,220,817</b>

Marketable securities, comprised mainly of negotiable debt instruments and Total shares, totaled 715.736 million euros as of December 31, 2008.

Unrealized gains on marketable securities totaled 142.916 million euros at year end.

Cash and cash equivalents consist of the debit balances of non-trade current accounts in the amount of 2.531,887 billion euros, short-term receivables in the amount of 295.943 million euros, and bank balances and cash in the amount of 58.062 million euros.

## 20.4.4.4. Provisions recorded on the balance sheet

	Gross value at the beginning of the year	Charge	Decrease (utilized)	Decrease (not utilized)	Amount at year-end
<b>Tax-driven provisions</b>					
Provisions for capital investment					
Accelerated depreciation subject to favored tax status	1,339	206		1,050	495
Other tax-driven provisions					
<b>Total I</b>	<b>1,339</b>	<b>206</b>		<b>1,050</b>	<b>495</b>
<b>Provisions for contingencies and losses</b>					
Provisions for litigation	267				267
Provisions for foreign exchange losses	449	319	449		319
Provisions for pension and similar benefits	1,944	338	317		1,965
Provisions for taxes	51,301	51,323			102,624
Other provisions for contingencies and losses	20,924	810	9,249	681	11,804
<b>Total II</b>	<b>74,885</b>	<b>52,790</b>	<b>10,015</b>	<b>681</b>	<b>116,979</b>
<b>Provisions for impairment</b>					
Intangible assets					
Property, plant and equipment					
Equity investments					
Equity associates	4,496	340		417	4,419
Other long-term investments	3,714	1,043	46		4,711
Inventories and work-in-process					
Trade accounts receivable	6			6	
Other provisions for impairment	10,057	709	4,134	2,335	4,297
<b>Total III</b>	<b>18,273</b>	<b>2,092</b>	<b>4,180</b>	<b>2,758</b>	<b>13,427</b>
<b>Grand total (I + II + III)</b>	<b>94,497</b>	<b>55,088</b>	<b>14,195</b>	<b>4,489</b>	<b>130,901</b>
Including charges / reversals:					
• operating		211	6,727	233	
• financial		2,538	495	2,177	
• exceptional		52,339	6,973	2,079	

**Provisions for contingencies and losses**

The provisions include mostly a deferred liability related to AREVA's use of certain of its subsidiaries' tax losses in the consolidated tax return. As of December 31, 2008, this provision was increased to 102.624 million euros after a provision of 51.323 million euros for deferred tax.

**Provisions for impairment**

Provisions for impairment were substantially reversed for 4.143 million euros after the tax administration refunded an excess tax payment for 2001 under the consolidated tax regime.

## 20.4.4.5. Statement of receivables and liabilities

## Statement of receivables

	Gross amount	Maturity < 1 year	Maturity > 1 year
<b>Non-current assets</b>			
Loans to equity associates	3,187,954	8,715	3,179,239
Loans	5		5
Other long-term investments	18,349		18,349
<b>Current assets</b>			
Doubtful trade accounts			
Other trade accounts receivable	74,675	74,675	
Loans of securities			
Accounts payable to employees and related accounts	533	533	
Social security administration and other social institutions	13	13	
French State, local governments: Income tax	24,429	24,429	
French State, local governments: Value added tax	51,849	51,849	
French State, local governments: Other taxes and similar payments	74	74	
French State, local governments: Miscellaneous	38,587	38,587	
Associates	461,955	461,955	
Miscellaneous accounts receivable	110,423	110,423	
Prepaid expenses	17,131	17,131	
<b>Total</b>	<b>3,985,977</b>	<b>788,384</b>	<b>3,197,593</b>



**Statement of liabilities**

	Gross amount	Maturity < 1 year	Maturity 1 to 5 years	Maturity > 5 years
Convertible bond issues				
Other bond issues				
Bank borrowings, maturity at inception: one year or less	61,295	61,295		
Bank borrowings, maturity at inception: more than one year	2,555,400	990,163	1,365,237	200,000
Miscellaneous loans and borrowings	700,498	700,000		498
Trade accounts payable and related accounts	112,185	112,185		
Accounts payable to employees and related accounts	9,905	9,905		
Social security administration and other social institutions	4,654	4,654		
French State: Income tax	53	53		
French State: Value added tax	9,924	9,924		
French State: Covered bonds				
French State: Other taxes and similar payments	2,078	2,078		
Accounts payable on non-current assets and related accounts	13,556	13,556		
Associates	3,492,376	3,492,376		
Other liabilities	48,421	48,421		
Loans of securities				
Unearned income				
<b>Total</b>	<b>7,010,345</b>	<b>5,444,610</b>	<b>1,365,237</b>	<b>200,498</b>

Bank borrowings include bank credit balances and the following draws on syndicated lines of credit:

- a three-year syndicated facility for 1.9 billion US dollars;
- a seven-year syndicated facility from the EIB for 200 million US dollars; and
- a short term back-up syndicated facility for 550 million euros and 600 million US dollars.

Other liabilities include 31.389 million euros corresponding to debt related to French consolidated tax regime current accounts.

## 20.4.4.6. Accrued income

(Order 83-1020 of November 29, 1983 – article 23)

## Accrued income included in the following balance sheet accounts

	As of December 31, 2008	As of December 31, 2007
Loans to equity associates	8,715	11,556
Other long-term securities		
Loans		
Other long-term investments		
Trade accounts receivable and related accounts	10,595	18,368
Other accounts receivable	124,971	55,235
<i>French State – other accounts receivable</i>	<i>38,212</i>	<i>39,553</i>
Marketable securities	450	220
Cash and cash equivalents		
<b>Total</b>	<b>144,731</b>	<b>85,379</b>

## 20.4.4.7. Accrued expenses

(Order 83-1020 of November 29, 1983 – article 23)

## Accrued expenses included in the following balance sheet accounts

	As of December 31, 2008	As of December 31, 2007
Convertible bond issues		
Other bond issues		
Bank borrowings	92	94
Miscellaneous loans and borrowings	307	250
Trade accounts payable and related accounts	99,571	51,822
Taxes and employee-related liabilities	14,376	13,823
Accounts payable on non-current assets and related accounts	13,269	3,843
Other liabilities	15,042	6,555
<b>Total</b>	<b>142,657</b>	<b>76,387</b>

## 20.4.4.8. Share capital

(Order 83-1020 of November 29, 1983 – article 24-12)

Category	Par value (in euros)	Beginning of year	Number of shares		At year-end
			Issued during the year	Redeemed during the year	
Shares	38	34,013,593	0	0	34,013,593
Investment certificates	38	1,429,108	0	0	1,429,108

**20.4.4.9. Shareholders' equity excluding share capital**

<i>(in thousands of euros)</i>	As of December 31, 2007	Increases	Decreases	<b>As of December 31, 2008</b>
Merger premiums	184,357			184,357
Consolidation goodwill	143,932			143,932
Legal reserve	134,682			134,682
Regulated reserves	2			2
Blocked reserves	3,302			3,302
Available reserves	6,403			6,403
Retained earnings	163,013	486,665		649,678
Net income for the year	726,612	1,036,002	726,612	1,036,002
Tax-driven provisions	1,339	185	1,029	495
<b>Total</b>	<b>1,363,642</b>	<b>1,522,852</b>	<b>727,641</b>	<b>2,158,853</b>

On April 17, 2008, the Annual General Meeting of Shareholders decided to distribute dividends in the amount of 239.947 million euros out of 2007 net income.

**20.4.4.10. Data on related parties**

(Order 83-1020 of November 29, 1983 – article 24-15)

**Balance sheet accounts**

	Transactions with		Debt or receivables evidenced by an instrument
	Related parties	Equity investments	
<b>Long-term investments</b>			
Equity associates	1,889,022		
Loans to equity associates	3,097,954		
Loans	1		
Other long-term securities			
Other long-term investments			
<b>Total long-term investments</b>	<b>4,986,977</b>		
<b>Accounts receivable</b>			
Accounts receivable and related accounts	71,312		
Other accounts receivable	26,214		
Subscribed capital – issued and not paid			
<b>Total accounts receivable</b>	<b>97,526</b>		
Marketable securities			
Non-trade current accounts	2,803,807		
<b>Liabilities</b>			
Non-trade current accounts	3,447,538		
Trade advances and prepayments on orders in progress			
Trade accounts payable and related accounts	54,253		
Other liabilities	(12,584)		
<b>Total liabilities</b>	<b>3,345,664</b>		

**Income statement accounts**

	Transactions with		Debt or receivables evidenced by an instrument
	Related parties	Equity investments	
<b>Financial income and expenses</b>			
Financial income	1,104,815		
Financial expenses	698,667		
<b>Total</b>	<b>406,148</b>		

## 20.4.4.11. Five-year financial summary

## Income and other items characterizing performance over the past five years

<i>(in thousands of euros)</i>	2004	2005	2006	2007	2008
<b>Share capital at the year-end</b>					
Share capital	1,346,823	1,346,823	1,346,823	1,346,823	1,346,823
Number of ordinary shares outstanding	34,013,593	34,013,593	34,013,593	34,013,593	34,013,593
Number of shares with preferred dividend rights	1,429,108	1,429,108	1,429,108	1,429,108	1,429,108
<b>Activities and income for the year</b>					
Revenue before tax	86,585	97,983	114,423	143,647	174,309
Income before tax, employee profit-sharing and provisions, amortization, depreciation and provisions	306,817	(1,952,579)	298,559	368,091	1,026,182
Income tax	(30,444)	(97,489)	92,816	476,333	53,518
Employee profit-sharing					
Income after tax, employee profit-sharing and provisions, amortization, depreciation and provisions	301,555	347,951	280,209	726,612	1,036,002
Net income distributed	339,896	349,819	299,845	239,947	249,871 *
<b>Earnings per share</b>					
Income after tax, employee profit-sharing and before calculated expenses (depreciation, depletion, amortization and provisions)	10	-53	9	17	30
Income after tax, employee profit-sharing and calculated expenses (depreciation, depletion, amortization and provisions)	9	10	8	21	29
Dividend per share	10	10	8.5	6.8	7.05 *
<b>Personnel</b>					
Number of salaried employees	161	184	144	139	128
Total compensation for the year	16,582	17,751	17,715	19,922	17,792
Payroll taxes and other benefit expenses	8,526	9,073	8,172	9,718	8,939

\* For 2008: pending decision by the Annual General Meeting of Shareholders.

## 20.4.5. Notes to the income statement

### 20.4.5.1. Current operating income (loss)

Reported revenue includes:

- charge allocations to subsidiaries, corresponding to shared services and the right to use a trademark, for a total of 96.967 million euros.

The trademark license fee is charged to all group entities at the rate of 0.5% of contributions to consolidated revenue. The shared services fee is charged only to French consolidated entities, at the rate of 0.6% of contributions to consolidated revenue;

- proceeds from real estate operations (49.514 million euros);
- charge allocation for personnel expenses (3.563 million euros);
- charge allocations for computer services (11.829 million euros).

Operating expenses reflect holding company activities and services provided to subsidiaries. The operating loss thus came to 183.842 euros.

### 20.4.5.2. Net financial income

Net financial income includes, in particular:

- |  |                       |
|--|-----------------------|
| ■ Dividends from equity interests <sup>(1)</sup>                     | 196.551 million euros |
| ■ Dividends from other equity investments (including Total and SUEZ) | 75.443 million euros  |
| ■ Investment income  | 7.02 million euros    |
| ■ Net income on current accounts and financial receivables           | 77.385 million euros  |
| ■ Interest expense on borrowings                                     | (77.91) million euros |
| ■ Foreign exchange gain  | 3.23 million euros    |

### 20.4.5.3. Exceptional items

Exceptional items primarily include:

- the gains recognized on the disposal of REpower shares and the merger between GDF and SUEZ; and
- the provision for deferred taxes.

### 20.4.5.4. Income tax

As provided in article 223A of the French Tax Code, AREVA SA opted to be solely responsible for income tax due on combined income recognized by the integrated group.

In 2008, AREVA SA and its integrated subsidiaries generated a combined tax loss of 370.253 million euros.

The tax income recognized for 2008, *i.e.* 53.518 million euros, corresponds primarily to tax savings under the tax integration regime. This income accrues to AREVA SA as the integrating parent company.

The tax income for the year breaks down as follows:

- Tax due to AREVA SA by integrated subsidiaries producing taxable income: 53.852 million euros;
- Tax due on the combined taxable income subject to a preferential tax rate (15%): -184 thousand euros;
- Adjustment to the tax expense for previous years: -150 thousand euros.

The net impact of corporate income tax related events is 8.358 million euros, after recognition of the net provision for deferred tax of 51.323 million euros, the refund of the excess tax payment under the consolidated tax regime of 4.134 million euros, and the refund after a tax audit relating to previously sold FCI companies of 2.029 million euros.

(1) In the income statement, "Financial income from equity interests" (314.2 million euros) includes dividends of 196.5 million euros and financial income on receivables from equity interests.

## 20.4.6. Additional information

### 20.4.6.1. Employees

The company employed 128 people on December 31, 2008, as indicated in the following table:

	2008	2007	2006	2005
Management	97	100	102	125
Supervisors	31	35	38	24
Support staff	0	4	4	35
<b>Total</b>	<b>128</b>	<b>139</b>	<b>144</b>	<b>184</b>

### 20.4.6.2. Pensions and other employee benefits

AREVA SA pays retirement bonuses to its retiring employees, based on their compensation and seniority.

This defined benefit plan is recorded in accordance with accounting methods defined in section 20.4.3., "Accounting policies, rules and methods".

Each year, independent actuaries determine AREVA's commitments as of year-end.

#### Balance sheet reconciliation

<i>(in thousands of euros)</i>	2008	2007	2006
Provision for pension obligations and other employee benefits	1,965	1,944	1,617

The main actuarial assumptions used in determining the group's obligations are as follows:

	2008	2007	2006
Inflation	2.00%	2.00%	2.00%
Discount rate	5.50%	5.00%	4.25%

- Mortality tables used: INSEE 2000-2002 Men/Women.
- Retirement age: 63 for management personnel, 61 for non-management personnel.
- Average attrition.

	Management	Non-management
< 30 years	1.60%	1.60%
30-39	1.60%	1.60%
40-49	1.60%	1.60%
50-54	1.60%	1.60%
55 and above	0.00%	0.00%

- Assumed rate of salary increase, net of inflation.

	Management	Non-management
< 30 years	1.50%	0.50%
30-39	1.50%	0.50%
40-49	1.50%	0.50%
50-54	1.50%	0.50%
55 and above	1.50%	0.50%

#### Net carrying amount of benefit obligations

<i>(in thousands of euros)</i>	2008	2007	2006
Benefit obligation	2,026	2,465	1,978
Fair value of plan assets			
Unrecognized actuarial losses	(222)	(697)	(361)
Unrecognized past service gains	161	176	
<b>Total benefit obligation</b>	<b>1,965</b>	<b>1,944</b>	<b>1,617</b>

#### Change in the provision

<i>(in thousands of euros)</i>	2008	2007	2006
<b>Change in the provision</b>			
Restated opening balance	1,944	1,617	1,404
Total expense	338	333	213
Contributions collected/benefits paid	(317)	(6)	0
<b>Benefit obligation as of December 31</b>	<b>1,965</b>	<b>1,944</b>	<b>1,617</b>



**Total expense for the year**

<i>(in thousands of euros)</i>	2008	2007	2006
Current service cost	188	194	135
Interest cost	127	104	74
Expected return on plan assets			
Amortization of actuarial gains or losses	38	50	4
Past service cost	(15)	(15)	
Plan creation, curtailment or liquidation			
<b>Total expense for the year</b>	<b>338</b>	<b>333</b>	<b>213</b>

**20.4.6.3. Information on lease arrangements**

No lease arrangements were recorded in 2008.

**20.4.6.4. Company exposure to market risk****General objectives**

The AREVA group has a department in charge of implementing market risk management policies approved by the Executive Committee for centralized management of exposure to foreign exchange risk, commodities, rates and liquidity risk.

Within the Finance Department, the Department of Financial Operations and Treasury Management operates on financial markets and acts as a central desk to manage the group's financial exposure on behalf of the subsidiaries. This department is organized with a front, middle and back office to ensure the separation of functions, and has access to all the human, technical, and information system resources necessary to accomplish its mission.

Transactions cover foreign exchange and commodities trading, interest rates, centralized cash management, inter-company financing, borrowings and investments, and asset management.

To report on financial risk and exposure limits, the Department of Financial Operations and Treasury Management prepares a monthly report presenting the group's positions and the performance of its financial transactions. This report is submitted once a month to the Treasury Management Committee, which is composed of the group's CFO, the financial directors of the main subsidiaries, and the Legal and Treasury Management departments. The reporting system also includes weekly reports submitted to the group's CFO, including a valuation of all positions and their market value. Together, these reports and reviews are used to monitor the group's counterparty risk.

**Foreign exchange risk management**

The group primarily trades currencies on forward markets and uses derivative instruments (foreign exchange swaps, currency swaps, exchange rate options, etc.) to hedge the following foreign exchange risks:

■ **balance sheet risk:** The group finances its subsidiaries in their accounting currencies to minimize the balance sheet foreign exchange risk from financial assets and liabilities. Loans and advances granted to subsidiaries by the Department of Treasury Management, which centralizes financing, are then systematically converted into euros through currency swaps.

■ **trade exposure:** The principal foreign exchange exposure concerns fluctuations in the euro/US dollar exchange rate. As a uranium producer in Canada, the group is also sensitive to fluctuations in the Canadian dollar against the US dollar, in which uranium prices are denominated. Exposure to other currencies (Chinese yuan, pound sterling, Swiss franc, Japanese yen and Southeast Asian and Middle Eastern currencies), mainly connected with the Transmission & Distribution business, is secondary in nature.

The group is exposed to the risk of translation into euros of financial statements of subsidiaries using a local currency. Only dividends expected from subsidiaries for the following year are hedged as soon as the amount is known.

The group's policy, which was approved by the Executive Committee, is to hedge all foreign exchange risks generated by sales transactions, whether confirmed or potential (during proposals), so as to minimize the impact of exchange rate fluctuations on consolidated net income.

The group acquires derivative instruments (mostly currency futures) or insurance contracts (issued by Coface) to hedge its foreign exchange exposure from trade, including accounts receivable and payable, confirmed off balance sheet commitments (orders received from customers or placed with suppliers), highly probable future cash flows (budgeted sales or purchases, anticipated margins on contracts) and proposals submitted in foreign currencies. These hedges are backed by underlying transactions for identical amounts and maturities and, generally, are documented and eligible for hedge accounting (except for hedges of proposals submitted in foreign currencies).

As provided by group policies, each operating entity responsible for identifying foreign exchange risk must hedge exposure to currencies other than its own accounting currency by initiating a transaction with the group's trading desk only, except as otherwise required by specific circumstances or regulations. The Department of Financial Operations and Treasury Management centralizes the exposure of all entities and hedges the net position directly with banking counterparties. A rigorous system limits the foreign exchange positions that may be taken by the trading desk. The results are marked to market on a daily basis by specialized teams responsible for the valuation of the transactions. In addition, analyses of sensitivity to changes in exchange rates are periodically performed.

As of December 31, 2008, derivative financial instruments used by the group to manage foreign exchange risk were as follows:

Foreign exchange instruments  (in millions of euros)	Notional amounts by maturity date at December 31, 2008, at par value						Total	Market value
	2009	2010	2011	2012	2013	> 5 years		
<b>Forwards</b>								
USD/EUR	1,063	365	122	93	68	56	1,768	13
JPY/EUR	253	49	98	32	58	81	572	2
CHF/EUR	243	34	20	2	-	-	299	(0)
QAR/EUR	197	58	5	19	-	-	279	(0)
USD/CAD	208	57	0	-	-	-	265	12
GBP/EUR	174	44	10	-	-	-	228	4
Other	1,377	278	27	38	8	1	1,730	2
<b>Total</b>	<b>3,514</b>	<b>885</b>	<b>283</b>	<b>184</b>	<b>134</b>	<b>138</b>	<b>5,139</b>	<b>33</b>
<b>Currency swaps</b>								
USD/EUR	1,714	112	49	45	38	32	1,990	(1)
CAD/EUR	322	0	-	-	-	-	323	10
AUD/EUR	239	-	-	-	-	-	239	(1)
GBP/EUR	150	60	8	-	-	-	217	(3)
CHF/EUR	124	32	5	-	-	-	162	2
USD/CAD	67	55	-	-	-	-	123	(9)
Other	708	29	2	-	-	-	739	3
<b>Total</b>	<b>3,324</b>	<b>288</b>	<b>64</b>	<b>45</b>	<b>38</b>	<b>32</b>	<b>3,792</b>	<b>0</b>
<b>Options</b>								
USD/EUR	162	-	-	-	-	-	162	0
JPY/EUR	-	-	-	16	56	81	152	-
Autres	3	-	-	-	-	-	3	-
<b>Total</b>	<b>164</b>	<b>-</b>	<b>-</b>	<b>16</b>	<b>56</b>	<b>81</b>	<b>316</b>	<b>0</b>
<b>Cross currency swaps</b>								
CAD/EUR	88	138	-	-	-	-	226	45
USD/EUR	118	-	-	-	-	-	118	1
<b>Total</b>	<b>207</b>	<b>138</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>344</b>	<b>45</b>
<b>Grand total</b>	<b>7,209</b>	<b>1,311</b>	<b>347</b>	<b>245</b>	<b>228</b>	<b>251</b>	<b>9,592</b>	<b>79</b>

### Interest rate risk management

Rate risk management is entirely centralized in the Department of Financial Operations and Treasury Management, which consolidates the subsidiaries' current or stable cash surpluses or requirements and arranges external financing as appropriate, except as otherwise required by regulations or specific circumstances.

The group uses several types of derivative instruments, as required by market conditions, to allocate its borrowings between fixed rates and floating rates and to manage its investment portfolio,

with the goal of reducing its financing costs and optimizing the management of cash surpluses.

As of December 31, 2008, interest rate swaps were the main financial instruments used in the management of external debt.

The amount of the commitments and the sensitivity of the positions taken by the trading desk in the framework of AREVA's rate management policy are subject to limits based on the type of transaction involved.

As of December 31, 2008, the following financial instruments were used to hedge interest rate exposure:

#### Interest rate instruments

(in millions of euros)	Notional amounts (Total)	Notional amounts of the contracts by maturity date as of December 31, 2008						Market value
		2009	2010	2011	2012	2013	> 5 years	
Interest rate swaps – fixed receiver								
USD variable lender	510	-	510	-	-	-	-	(19)
Interest rate swaps – fixed lender								
EUR variable borrower (Eonia)	805	805	-	-	-	-	-	0
Grand total	1,315	805	510	-	-	-	-	(19)

#### Commodity risk

The group is exposed to long term and short term changes in the prices of commodities used in its production processes, either as a result of the procurement of finished products or, more directly, when buying raw materials priced by reference to the trading price on a commodity market.

Aside from energy, commodities that may have a significant impact on the group's production costs primarily include copper and nickel; aluminum and silver play a lesser role. Most of the group's exposure is concentrated in the Transmission & Distribution and Reactors and Services divisions.

Each division implements policies to manage exposure to commodity risks that aim to limit the impact of price changes on

consolidated net income by identifying and neutralizing the risk as soon as possible, in some instances as early as the proposal phase.

Hedges are initiated based on a global budget (T&D division) with graduated coverage reflecting the probability of the exposure, or based on long-term sales contracts after a specific analysis of the commodities risk (Reactor and Services division).

As for currency exposure, commodity risk management is initiated by the operating entities and centralized with the group's Department of Treasury Management using derivatives, including options and firm contracts (forwards and swaps). The Department of Treasury Management hedges the subsidiaries' position with market counterparties without taking any speculative position.

As of December 31, 2008, derivative financial instruments used by the group to hedge future cash flows from commodities were as follows:

#### Commodity risk management

(in millions of euros)	Notional amounts (Total)	Notional amounts of the transactions by maturity date as of December 31, 2008						Market value
		2009	2010	2011	2012	2013	> 5 years	
Nickel								
Forward transactions – Buyer	26	13	9	4	0	-	-	(15)
Forward transactions – Seller	26	13	9	4	0	-	-	15
Silver								
Forward transactions – Buyer	1	1	-	-	-	-	-	0
Forward transactions – Seller	1	1	-	-	-	-	-	0
Aluminum								
Forward transactions – Buyer	11	11	-	-	-	-	-	(4)
Forward transactions – Seller	11	11	-	-	-	-	-	4
Copper								
Forward transactions – Buyer	80	50	28	2	1			(41)
Forward transactions – Seller	80	50	28	2	1			41
Grand total (par value)	237	149	73	12	2	-	-	-

**Equity risk**

To manage its long-term investment positions, the group may elect to use puts and calls backed by portfolio equities. No such transaction was pending as of the end of the year.

**Counterparty risk**

The group uses different types of financial instruments to manage its exposure to foreign exchange and interest rate risks, and its exposure to commodities and publicly traded shares. The group primarily uses currency and commodity forward contracts and interest rate derivatives such as swaps, futures or options to cover these types of risk. These transactions involve exposure to counterparty risk when the contracts are concluded over the counter.

To minimize this risk, the group's trading desk deals only with diversified, top quality counterparties rated A1/P1 or higher in the Standard & Poor's and Moody's rating systems for short-term maturities or A/A2 for long-term maturities. A legal framework agreement is always signed with the counterparties.

The limits allowed for each counterparty are determined based on its rating and the type and maturity of the instruments traded. Assuming the rating of the counterparty is not downgraded earlier, the limits are reviewed at least once a year and validated by the Chief Financial Officer. The limits are verified in a specific report produced by the internal control team of the Department of Treasury Management. During periods of significant financial instability that may involve an increased risk of bank default, which may be underestimated by ratings agencies, the group may monitor advanced indicators such as the value of the credit default swaps (CDS) of the eligible counterparties to determine if positions should be reduced.

**Market value of financial instruments**

The market value of financial instruments pertaining to currency, rate and commodity transactions are calculated based on market data as of the closing date, on discounted future cash flows, or on prices provided by financial institutions. The use of different market assumptions could have a significant impact on estimated market values.

## 20.4.6.5. Off-balance sheet commitments, excluding leases

The group has established a procedure to identify and confirm off-balance sheet items disclosed in these notes. This procedure includes a definition of the main categories of commitments and their valuation methods. It also includes a method to collect and control the data, relying largely on confirmations from third parties.

<i>(in millions of euros)</i>	<b>Total</b>	<b>&lt; 1 year</b>	<b>1 to 5 years</b>	<b>&gt; 5 years</b>
<b>Commitments given</b>				
Bid guarantees	8	8	-	-
Performance guarantees	312,052	121,538	148,403	42,111
Down payment guarantees	7,543	7,543	-	-
After-sales warranties	4,373	4,373	-	-
Other contract guarantees	2,665	2,665	-	-
Guarantees for waivers of warranty retentions	254	254	-	-
Environmental guarantees	30,179	-	30,179	-
<b>Total operating commitments given</b>	<b>357,075</b>	<b>136,383</b>	<b>178,582</b>	<b>42,111</b>
Guarantees and surety	2,090,998	958,173	1,046,999	85,826
<b>Total commitments and collateral given on financing</b>	<b>2,090,998</b>	<b>958,173</b>	<b>1,046,999</b>	<b>85,826</b>
Guarantees of assets and liabilities	160,706	160,706	-	-
Guarantees pertaining to rental obligations	2,859	-	-	2,859
Guarantees pertaining to compensation and benefits	116	-	116	-
<b>Total other commitments given</b>	<b>163,681</b>	<b>160,706</b>	<b>116</b>	<b>2,859</b>
<b>Total</b>	<b>2,611,754</b>	<b>1,255,261</b>	<b>1,225,696</b>	<b>130,796</b>
<b>Commitments received</b>				
Syndicated credit lines not drawn	1,019,000			1,019,000
Vendor warranties received	250,000			250,000
Other commitments received	677	677		
<b>Total</b>	<b>1,269,677</b>	<b>677</b>	<b>-</b>	<b>1,269,000</b>
<b>Reciprocal commitments</b>				
Siemens put option	2,049,000		2,049,000	
Other reciprocal commitments	5,000	5,000		
<b>Total</b>	<b>2,054,000</b>	<b>5,000</b>	<b>2,049,000</b>	<b>-</b>

## Commitments given

The group gave a parent company guarantee to TVO for the full value of the contract for construction of an EPR™ reactor in Finland. The group received a counter-guarantee from Siemens corresponding to this supplier's share of the TVO contract. The net commitment given by the group is in the range of 1.5 billion euros to 2 billion euros. This amount is not included in the summary table.

AREVA gave a guarantee in respect of ownership of FCI shares sold to Bain Capital. This amount, which is capped at the sale price of 582 million euros, is not included in the summary table.

## Commitments received

These correspond mainly to:

- the unused portion of syndicated credit facilities as of December 31, 2008; and
- the capped amount of vendor warranties received from Alstom pursuant to acquisition of the Transmission & Distribution division.

### Commitment related to the Siemens put option

The shareholders' agreement signed in 2001 between Framatome SA (absorbed by AREVA in 2001) and Siemens provided for the exercise of a put option by Siemens in respect of shares it holds in AREVA NP, representing 34% of the share capital, and a call option by AREVA in respect of AREVA NP shares held by Siemens, under the following terms and conditions.

First, the put and call could be exercised after a deadlock, as defined in the shareholders' agreement, in particular if it becomes impossible to make certain decisions, such as shutting down a site, changing the by-laws, etc., or if Siemens does not approve the financial statements for two consecutive years.

Secondly, the shareholders' agreement provided that after 11 years, *i.e.* from 2012, the parties may exercise the put and the call unconditionally with three years advance notice.

On January 27, 2009, Siemens announced its decision to exercise the option to sell its stake in AREVA NP. The procedure to determine the exercise price was set in motion in early February 2009, as provided in the shareholders' agreement. This procedure provided that, if the parties are unable to reach an agreement on the price for exercising the option, each party shall designate an investment bank to establish the value. If the two prices differ and the parties cannot reach an agreement, the Institute of Chartered Accountants in England and Wales shall designate an expert to determine the final exercise price of the option, to be paid by AREVA to Siemens on or before January 30, 2012. This obligation shall bear interest at a variable rate from January 30, 2009 to the date of final determination of the price, and then at a fixed rate until actual payment by AREVA.

In view of the uncertainty regarding the option exercise price that will result from this procedure, the value of the option recognized on AREVA's balance sheet at December 31, 2008 is identical to the amount recognized at December 31, 2007, *i.e.* 2.049 billion euros.

### 20.4.6.6. Executive officer compensation

Total compensation and benefits in kind paid to executive officers (members of the Executive and Supervisory Boards) during the year by the company and companies under its control (as defined under article L. 225-102-1 of the French Commercial Code, introduced by the New Economic Regulations Law of May 15, 2001 and amended by the Financial Security Act of August 1, 2003) totaled 2.755 million euros.

### 20.4.6.7. Events subsequent to year-end

No significant event with a potential impact on AREVA's financial situation has taken place since January 1, 2009, except for Siemens' decision to exercise its put option on AREVA NP (see 9.5., "Events subsequent to year-end closing for 2008").

### 20.4.6.8. Disputes and potential liabilities

#### European Commission investigation into anti-competition practices in the Gas Insulated Switchgears market

In the GIS case (gas-insulated switchgear), the appeal filed by Alstom and AREVA T&D SA against the European Commission ruling ordering these companies to the joint payment of a fine in the amount of 54 million euros is still under review by the Court of First Instance of the European Communities.

At present, the only remaining investigations are those, less critical, by competition authorities in the Czech Republic, Slovakia, South Africa and Brazil.

In the Czech Republic, the decision to levy a fine against AREVA T&D was reversed by the courts on June 25, 2008. The competition authorities refunded 5.7 million euros to AREVA. appealed the June 25, 2008 ruling. This appeal is ongoing.

In Slovakia, AREVA T&D SA, AREVA T&D Holding SA and AREVA T&D AG have appealed a fine of approximately 1.5 million euros levied against them by the Slovak competition authority on December 27, 2007. This appeal is ongoing.

In England, on November 17, 2008, National Grid asked the High Court of Justice of London to order the payment of damages by the companies involved in the European Commission's GIS case. These companies include, among others, AREVA T&D UK Limited, AREVA T&D Holding SA and AREVA SA.

The European Commission launched an investigation into the power transformer sector and communicated its grievances to several companies in that sector on November 24, 2008, including AREVA T&D SA.

In April 2007, ALSTOM and AREVA entered into an agreement related to warranty obligations and in particular to the assumption by Alstom of the financial consequences of the inquiries into anti-competitive practices.

## 20.5. Dividends

### 20.5.1. Dividend payment (article 49 of the by-laws)

Dividends are paid annually on the date and place set by the Annual General Meeting of Shareholders or, in the absence of such a decision, within nine months of the fiscal year-end on the date and place set by the Executive Board.

Dividends properly received are not subject to recovery. Dividends that have not been collected within five years from the date set for distribution are forfeited to the French State.

### 20.5.2. Dividend data

<i>(in euros)</i>	Dividend	Tax credit	Gross dividend
2000	22.85	11.42	34.27
2001	6.20	3.10	9.30
2001 (exceptional dividend)	12.28	6.14	18.48
2002	6.20	3.10	9.30
2003	6.20	3.10	9.30
2004	9.59	-	9.59
2005	9.87	-	9.87
2006	8.46	-	8.46
2007	6.77	-	6.77
2008 *	7.05	-	7.05

\* Dividend proposed to the Annual General Meeting of Shareholders of April 30, 2009.

### 20.5.3. Dividend policy

No dividend distribution policy has yet been established.

The annual dividend amount is set with representatives of the French government and the CEA, which together hold a majority of the group's share capital. The Supervisory Board will submit a proposal to the Annual General Meeting of Shareholders of April 30, 2009 to distribute a dividend of 7.05 euros per share or investment certificate for 2008, compared with 6.77 euros for the previous year.

The dividend of 7.50 euros corresponds to a distribution rate of 42% of 2008 consolidated net income and will be paid on June 30, 2009. The distribution rates for 2004, 2005, 2006 and 2007 were, respectively, 80%, 33.3%, 46% and 32.3% of consolidated net income for those years. These distribution rates are not an indication of the company's future dividend policy.



## 20.6. Legal and arbitration proceedings

The group is involved in a number of disputes with a potentially significant negative impact on its operations and financial position (see note 34, “Disputes and potential liabilities” in section 20.2, “Notes to the consolidated financial statements”).

Appropriate provisions are recorded to cover expenses that could result from these disputes, based on case-by-case analysis. As of December 31, 2008, the provisions for disputes, excluding other provisions for contingencies, totaled 25 million euros. Some of the subjects discussed in this section are not subject to formal litigation per se and the corresponding provisions are recognized in provisions for contract performance (see note 24, “Other provisions” in section 20.2, “Notes to the consolidated financial statements”).

In addition, some disputes concerning damages or injury are covered under group insurance policies or other forms of guarantee.

Except as described below, and to the knowledge of the group, there is no other governmental, legal or arbitration proceeding, including any proceeding known to the company, pending or threatened, that could have or that had a significant impact on the financial position or profitability of the company and/or the group in the last twelve months.

### USEC (dispute involving AREVA NC)

In 2001, the US Department of Commerce (DOC) ordered that countervailing duties (CVD) be levied on uranium enriched in France, Germany, the Netherlands and the United Kingdom and exported to the United States. This action followed complaints filed in December 2000 by the United States Enrichment Corporation (USEC) against Eurodif and URENCO for alleged dumping and illegal subsidies. The level of countervailing duties applied to Eurodif exports to the United States led to a deposit of 213 million US dollars with the US Customs Service at the end of 2008.

To defend the case, Eurodif filed an administrative appeal before the US Department of Commerce and judicial proceedings in the US Court of International Trade (CIT), with a subsequent appeal to the Court of Appeals for the Federal Circuit (CAFC).

The CAFC ruled in favor of Eurodif in March 2005, September 2005 and February 2007. The CIT ordered the DOC to comply with the CAFC decisions, which it did.

The CVD order (subsidy) was rescinded on May 25, 2007. After the decision, Eurodif petitioned the DOC, the CIT and the US Customs Administration for reimbursement of CVD deposits in the amount of 62 million US dollars plus interest. To date, the US Treasury has reimbursed 9.6 million US dollars, which had been deposited in 2001.

USEC and the DOC appealed the anti-dumping (AD) ruling. On January 26, 2009, the Supreme Court of the United States ruled that the DOC could impose AD measures on sales of enrichment services. AREVA intends to continue its appeals in the US courts and to sponsor proceedings with the WTO to limit the consequences of this ruling.

### Olkiluoto 3 EPR™ reactor (OL3) (AREVA NP)

On December 5, 2008, the AREVA/Siemens consortium initiated arbitration proceedings with the ICC on account of delays and disruptions suffered in the performance of the contract and the resulting additional costs incurred.

The customer, TVO, filed a counterclaim against the consortium. The consortium and its counsel consider the allegations made in the counterclaim to be unfounded and without merit under the contract terms and Finnish law; the counterclaim could lead to arbitration proceedings in 2009.

The consortium and/or the customer could initiate a certain number of other arbitration proceedings on specific matters related to contract performance.

### AREVA NC / Environmental association (transportation)

An environmental association asked to be provided a copy of contracts between AREVA NC and its customers, covering in particular several shipments of used fuel from abroad for treatment at La Hague.

#### Concerning the shipment from the Netherlands:

On March 3, 2006, the presiding judge of the Court of First Instance of Cherbourg (*tribunal de grande instance*, a civil court) ordered AREVA NC to provide the association with certified copies of the fuel reprocessing agreements between AREVA NC and its customer, together with a detailed schedule for the return of the waste separated during fuel treatment. The Court of Appeals of Caen confirmed this order on September 4, 2007.

At the same time, the association continued the proceeding on the merits by pleading that the used fuel should be qualified as waste under the meaning of the Law of December 30, 1991 related to



research on radioactive waste management and is seeking 200,000 euros as compensation for alleged non-material damage. The case is still pending before the Court of First Instance of Cherbourg.

#### **Concerning the shipment from Germany:**

On April 24, 2007, the President of the Court of First Instance of Cherbourg denied the motion of the association requesting a copy of the treatment contracts between AREVA NC and its German customers, ruling that the Law of December 30, 1991 does not apply to contracts signed before the Law came into effect.

The association lodged an appeal against this decision with the Court of Appeals of Caen. The case is still pending.

## **Challenges to licenses and permits**

Third parties may file appeals with administrative courts to challenge certain licenses and permits issued to the group. These challenges are routine and reflect the specific nature of the group's businesses. Two permits authorizing changes to facilities are currently under review by the administrative judge. These appeals are still in the preparatory stage. If the permits are canceled, prior operating licenses would once again apply and would enable the facilities to operate nonetheless.

## **Socatri**

During the night of July 7 to July 8, 2008, uranium-bearing effluents from the Socatri plant at Tricastin spilled into the Gaffière stream. A neighboring township requested that the court intervene by designating a court expert to determine the event's consequences. A court-ordered assessment is in progress.

## **Disputes involving AREVA T&D**

### **Ongoing investigations**

In January 2004, under the acquisition contract for the T&D sector, Alstom gave AREVA a vendor warranty comprising specific warranties, in particular for disputes listed in the acquisition contract and for environmental aspects. Subsequently, and based on this vendor warranty, AREVA served a certain number of claims against Alstom.

On January 24, 2007, the European Commission ordered 11 companies to pay more than 750 million euros in fines pursuant to an EU investigation of anti-competitive practices in the gas insulated switchgear market. Alstom and AREVA were jointly fined 54 million euros. Both companies appealed the decision before the European Commission. This inquiry triggered other investigations from competition authorities in Brazil, the Czech Republic, Slovakia and South Africa, which are still ongoing. In Slovakia, the competition authorities held several subsidiaries jointly liable. The latter's appeal is pending. In the Czech Republic, however, a June 25, 2008 ruling reversed the February and April 2007 decisions against several of the group's subsidiaries. AREVA received 5.7 million euros in refunds. The Czech competition authorities have appealed the decision.

Other claims for damages were filed against AREVA and/or its subsidiaries pursuant to the abovementioned decision of the European Commission. The first claim was filed in December 2007 in Israel by an individual who requested class action status and seeking nearly 600 million euros in damages from the defendants collectively. The claimant withdrew his claim in December 2008, thus ending the proceeding.

In addition, the company National Grid filed a claim on November 17, 2008 with the High Court of Justice of London against the companies involved in the European Commission's GIS case, in particular AREVA T&D UK Ltd, AREVA T&D Holding SA and AREVA SA.

The European Commission launched an investigation into the power transformer sector and communicated its grievances to several companies in that sector on November 24, 2008, including AREVA T&D SA.

In April 2007, Alstom and AREVA entered into an agreement related to warranty obligations and in particular to the assumption by Alstom of the majority of the financial consequences of proceedings for anti-competitive practices. This agreement puts an end to certain warranty commitments and to a series of claims brought by AREVA against Alstom. At this stage, this agreement does not have a significant financial impact on the group. However, the warranties of the acquisition contract continue to apply in matters of the environment (for a period of 10 years from the date of the acquisition, with a cap of 250 million euros, a 12-million euro deductible and expenses split 80/20 between Alstom and AREVA), occupational disease (for a period of 20 years from the date of the acquisition, with no cap concerning asbestos-related diseases), and taxation.

### Administrative sanctions against a Mexican subsidiary of AREVA T&D

In July 2004, Mexico's Secretaria de la Funcion Publica (SFP) ordered AREVA T&D S.A. de C.V., a Mexican subsidiary of AREVA T&D, to pay an administrative penalty in the maximum amount of 341,000 pesos (approximately 34,000 US dollars), and prohibited the company from participating in government contracts for a two-year period. AREVA T&D S.A. de C.V. challenged the administrative order in an "amparo" procedure aimed at challenging the constitutionality of the decision.

On August 23, 2007, the judiciary ruled on a second "amparo" proceeding initiated by AREVA T&D SA de C.V. The court voided the administrative order against AREVA T&D SA de C.V. on the basis of the statute of limitations applicable to one of the two calls for tender under review and ordered the SFP to issue a new decision on the second call for tender.

Pursuant to this decision, the SFP ordered a new sanction against AREVA T&D SA de C.V. in September 2007 prohibiting the company from participating in government contracts for a period of one year, eleven months and thirteen days and levying a fine of 310,050 Mexican pesos.

AREVA T&D SA de C.V. has petitioned the Federal Court on Tax and Administrative Matters to set aside the decision. None of these actions had succeeded as of December 31, 2008 and the situation did not otherwise evolve during the year. Accordingly, AREVA T&D SA de C.V. remains barred from participating in government contracts in Mexico until September 2009. AREVA T&D SA de C.V. should be able to participate in such contracts immediately after that date.

## 20.7. Significant change in the issuer's financial or trading position

Significant events between year-end closing for 2008 (December 31, 2008) and the date of this Reference Document are mentioned in note 35, "Events subsequent to year-end" of section 20.2, "Notes to the consolidated financial statements" for events occurring before February 25, 2009, which is the date the

Supervisory Board approved the financial statements for 2008, and in section 9.5., "Events subsequent to year-end closing for 2008" of this Reference Document for events subsequent to February 25, 2009.

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## 21.1. Information on share capital

### 21.1.1. Share capital

#### 21.1.1.1. Share capital (article 6 of the by-laws)

The company's share capital is fully paid up and stands at one billion three hundred forty-six million eight hundred twenty-two thousand six hundred thirty-eight euros (1,346,822,638 euros), divided into thirty-four million thirteen thousand five hundred ninety-three shares (34,013,593) with a par value of thirty-eight euros (38.00 euros) per share, and one million four hundred twenty-nine thousand one hundred eight (1,429,108) investment certificates with a par value of thirty-eight euros (38.00 euros) per certificate, and one million four hundred twenty-nine thousand one hundred eight (1,429,108) voting right certificates.

There is only one class of shares.

The Extraordinary General Meeting of Shareholders may also reduce the share capital by reducing the number of shares or investment certificates and, in conjunction with this, the number of voting right certificates, or by any other means insofar as the share capital remains greater than the minimum legal requirement.

#### 21.1.1.2. Capital increase (article 8 of the by-laws)

The share capital may be increased either by issuing new shares, investment certificates and voting right certificates, or by increasing the par value of outstanding shares and investment certificates.

New shares and investment certificates may be paid up in cash or by offsetting liquid debt due by the company, or by incorporating reserves, earnings or additional paid-in capital, or by contributing assets, or by any other means, including the creation of shares having a rank which differs from the rank of the outstanding shares.

Current shareholders or investment certificate holders have a preferential right to subscribe to any capital increase for shares issued in cash in proportion to the value of the shares or investment certificates they hold. This right can be traded or sold during the subscription period under the same conditions as apply to the trading or sale of the shares or investment certificates themselves.

However, the Extraordinary General Meeting of Shareholders convened to decide the capital increase on the advice of the Executive Board and the Statutory Auditors may waive this right.

It should be noted that, since the ordinance of June 24, 2004, companies are no longer authorised to issue new investment certificates in the event of a capital increase (article L.228-34 of the French commercial code).

## 21.1.2. Changes in share capital since 1989 (article 7 of the by-laws)

### Changes in share capital since 1989

Transaction date	Transaction	Number of capital securities issued/canceled			Nominal amount of increase/decrease in capital*	Total premium stock issue/asset contribution*	Cumulative amount	Number of capital securities after transaction			Nominal amount*		
		Shares	Investment certificates	Total				Shares	Investment certificates	Total	Shares	Investment certificates	Amount of share capital after transaction*
May 29, 1989	Capital increase (conversion of 3,112 equity securities)	0	12,448	12,448	3,112,000	311,200	3,423,200	27,985,200	12,448	27,997,648	250	250	6,999,412,000
May 31, 1990	Capital increase (conversion of 17,088 equity securities)	0	68,352	68,352	17,088,000	1,708,800	18,796,800	27,985,200	80,800	28,066,000	250	250	7,016,500,000
March 23, 1992	Capital increase (conversion of 337,077 equity securities)	0	1,348,308	1,348,308	337,077,000	33,707,700	370,784,700	27,985,200	1,429,108	29,414,308	250	250	7,353,577,000
June 23, 2000	Capital reduction (for conversion into euros)	0	0	0	(3,301,883)	n.a.	n.a.	27,985,200	1,429,108	29,414,308	38	38	1,117,743,704
September 3, 2001	Capital increase (for acquisition merger of Biorisys and Framatome SA)	5,279,748	0	5,279,748	200,630,424	1,540,164,350	1,740,794,774	33,264,948	1,429,108	34,694,056	38	38	1,318,374,128
September 3, 2001	Capital increase (for payment of transfer of Cogema shares)	748,645	0	748,645	28,448,510	143,931,861	172,380,371	34,013,593	1,429,108	35,442,701	38	38	1,346,822,638

\* In French francs until June 23, 2000, in euros thereafter.

The share capital was not modified in 2002, 2003, 2004, 2005, 2006, 2007 or 2008.

## 21.1.3. Shareholders and voting rights

Please refer to section 18.1., "Shareholders and voting rights".

### 21.1.4. Treasury shares

As of December 31, 2008, AREVA does not own any treasury shares, whether directly, in its own name, or through its subsidiaries.

The General Meeting of Shareholders of December 18, 2008, authorized AREVA to purchase its own shares, up to the maximum amount of 200 million euros, to provide liquidity to

the Framépargne employee savings plan. This authorization was granted for a period of 18 months. No voting right shall attach to the shares bought under this program. On March 27, 2009, AREVA used this authorization by purchasing 15,910 of its own shares, sold by Framépargne.

### 21.1.5. Form of shares, investment certificates and voting right certificates (article 11 of the by-laws)

Subject to the condition precedent that the shares and/or investment certificates issued by AREVA are listed for trading on a regulated market, the holders may, at their discretion, record their ownership on the company's registers or hold their securities as bearer shares. All securities are registered in an account in accordance with applicable laws and regulations.

Provided that securities that confer an immediate or future right to vote in meetings of AREVA shareholders are listed for trading on a regulated stock market, the company may request the name (or the legal name in the case of a legal entity), nationality, year

of birth (or year of establishment in the case of a legal entity) and address of each holder of such securities from the clearing organization at any time for the purpose of identifying the holders of the securities as well as the number of securities held by each and any restrictions on same, in accordance with the law in these matters.

Ownership of voting right certificates must always be recorded on the company's registers.

### 21.1.6. Transfer of shares, investment certificates and voting right certificates (article 12 of the by-laws)

1. Shares and investment certificates are transferred from account to account upon sale. If the shares or investment certificates transferred are not fully paid up, the transferee must also sign the transfer order. Any transfer expenses are borne by the buyer.

2. The sale to a third party of company shares not listed for trading on a regulated market, for whatever reason, even when the sale is limited to bare ownership or usufruct of such shares, is subject to the prior approval of the Supervisory Board in the manner and under the conditions set forth below.

a) The request for approval of transfer shall be delivered to the company by registered mail with return receipt requested and shall include the last name, first name, middle name and address of the transferee, the number of shares to be transferred, and the price offered;

b) If the sale is approved, the company shall notify the transferor by registered mail with return receipt requested. However, the request shall be deemed to have been granted if no answer is provided within three months of the date of the request;

c) If the Supervisory Board rejects the transfer and the transferor maintains its intention to sell the shares, the company shall, within a legal time period, cause a third party to acquire the shares, or shall acquire the shares itself for the purpose of reducing the company's capital. The original transfer request shall be deemed approved if the company-sponsored acquisition has not been completed within the time frame mentioned above. However, the deadline may be extended by a court ruling at the company's request;

d) In the absence of an agreement between the parties, and in all instances of acquisition under the provisions of the preceding paragraph, the share price shall be set by an appraiser as provided under article 1843-4 of the French Civil Code.

3. Investment certificates may be sold freely.

A voting right certificate may be sold only in combination with an investment certificate, unless the buyer already owns an investment certificate, in which case the transaction shall result in the permanent re-creation of a share.

### 21.1.7. Rights and obligations attached to shares, investment certificates and voting-right certificates

Possession of a share, an investment certificate or a voting-right certificate automatically signifies acceptance of the company's by-laws and of the resolutions duly adopted in any General Meeting of Shareholders.

The rights and obligations attached to any share, investment certificate or voting right certificate remain attached to the securities regardless of owner (article 14 of the by-laws).

The French Atomic Energy Commission (CEA), as AREVA's principal shareholder, does not hold specific rights attached to the shares or voting right certificates it holds.

### 21.1.8. Liens

There are no liens on AREVA shares or investment certificates. The shares of group subsidiaries held by AREVA are similarly unencumbered by pledges.

There are no liens on any significant AREVA asset.

### 21.1.9. Breaching shareholding thresholds

On the date this reference document was filed, there were no statutory thresholds which, if breached, would give rise to any reporting obligation, other than those prescribed by law.

## 21.2. Certificate of incorporation and by-laws

### 21.2.1. Establishing Decree

The decree no. 83-1116 of December 21, 1983 establishes the *Société des Participations du Commissariat à l'Énergie Atomique* (CEA). This decree was amended, mainly by decree no. 2001-342 of April 19, 2001, then by decree no. 2003-94 of February 4, 2003. It provides the following:

- changes to company by-laws are approved by decree; however, capital increases are subject to joint approval by the Minister of Industry and the Minister of the Economy (article 2, paragraph 2 and 3);
- the CEA shall retain the majority of the company's capital (article 2, paragraph 1).

- the sale or exchange of any AREVA shares held by the Commissariat à l'Énergie Atomique (CEA) is subject to the same conditions as for capital increases (article 2, paragraph 2).

Decree no. 2007-1140 of July 27, 2007 authorized certain modifications to the by-laws, in particular changing the company's legal name to AREVA, relocating the corporate office and making changes necessary to ensure compliance with the Law of July 26, 2005 (the "Breton" Law).

### 21.2.2. Purpose of the company (article 3 of the by-laws)

The corporate purpose of the company, in France and abroad, is:

- to manage any industrial or commercial operation, especially in the nuclear, renewable energies, and electricity transmission and distribution fields, and to this end:
  - to examine projects concerning the creation, development or reorganization of any industrial enterprise,
  - to implement any such project or contribute to its implementation by any appropriate means, particularly by acquiring equity or interests in any existing or proposed business venture, and
  - to provide financial resources to industrial enterprises, especially by acquiring equity interests and through loan subscriptions;

- to acquire direct or indirect equity and interests, in whatever form, in any French or foreign company or enterprise involved in financial, commercial, industrial, real estate or securities operations;
- to purchase, sell, exchange, subscribe to or manage any equity shares and investment securities;
- to provide any type of service, particularly services supporting the operations of all of the group's companies; and
- more generally, to undertake any industrial, commercial, financial, real estate or securities operation, in France or abroad, that is directly or indirectly related to the above in furtherance of its purpose or supporting that purpose's achievement and development".

### 21.2.3. Information on General Meetings of Shareholders and Voting Right Certificate Holder

#### 21.2.3.1. Provisions common to all meetings

##### Forms and deadlines for Notices of Meeting (article 30 of the by-laws)

Meetings are convened as provided by law.

##### Admission to Meetings – Deposit of securities (article 32 of the by-laws)

1. Any shareholder or holder of a voting right certificate may participate in person or by proxy in General Meetings of Shareholders, as provided by law, by offering proof of his or her identity and of his or her ownership of the shares or voting right certificates, either by registering the shares or certificates with the company at least three days before the General Meeting of Shareholders or, in the case of bearer shares (when such shall exist), by delivering a certificate of ownership through an authorized account representative confirming the registration of the shares in the bearer share accounts.
2. In the event of the subdivision of share or certificate ownership, only the voting right holder may participate in or be represented at the General Meeting.
3. Joint owners of undivided shares and/or voting right certificates are represented at the General Meeting by one of the joint owners or by a single proxy who shall be designated, in the event of disagreement, by order of the President of the Commercial Court in an urgent ruling at the request of any of the joint owners.
4. Any shareholder or voting right certificate holder who owns securities of a given class may participate in any Special Meeting of

the Shareholders for that particular class of securities, subject to the conditions outlined above.

5. The Company Work Council shall designate two of its members to attend General Meetings of Shareholders, one from among the company's managers, technicians and supervisors, and the other from among its administrative/clerical personnel and craft/manual workers. Alternatively, the persons mentioned in article L. 432-6 of the French Labor Code may participate in the meetings.

##### Voting procedures (article 35 of the by-laws)

1. The voting rights attached to shares of capital stock or jouissance shares and to voting right certificates are proportionate to the fraction of capital represented by such shares. Each full share shall be entitled to at least one vote.
2. The voting right attached to a share or a voting right certificate belongs to the usufructuary in Annual General Meetings of the Shareholders and to the bare owner in Extraordinary General Meetings or meetings dealing with statutory matters.

Voting rights attached to shares given as collateral remain with the owner of the shares.

#### 21.2.3.2. Rules governing Annual General Meetings of Shareholders

##### Purpose and conduct of Annual General Meetings of Shareholders (article 38 of the by-laws)

1. The Annual General Meeting of Shareholders takes any measure whose purpose is not to modify the by-laws.



2. The Annual General Meeting of Shareholders meets at least once annually within six months of year-end closing to approve any matter pertaining to the annual financial statements and the consolidated financial statements for the year ended.

It may be convened on an exceptional basis to examine any matter within its competence.

#### **Quorum and majority (article 39 of the by-laws)**

The Annual General Meeting of Shareholders may deliberate validly after the first notice of meeting only if the shareholders and/or voting right certificate holders present in person, represented by proxy or voting by mail, or attending *via* videoconference or a telecommunications medium allowing them to be identified, possess at least one-fifth of the shares and certificates entitled to a vote. No quorum is required for a meeting held after a second notice of meeting has been given.

The Annual General Meeting of Shareholders adopts resolutions by a majority vote of the shareowners or voting right certificate holders present in person, represented by proxy or voting by mail, or attending the Annual General Meeting *via* videoconference or a telecommunications medium allowing them to be identified.

#### **21.2.3.3. Rules governing Extraordinary General Meetings of Shareholders**

##### **Purpose and conduct of Extraordinary General Meetings of Shareholders (article 40 of the by-laws)**

1. The Extraordinary General Meeting of Shareholders has sole authority to amend any of the provisions of the company by-laws, or to increase or decrease the company's share capital. However, the Extraordinary General Meeting of Shareholders may not increase the obligations of any shareholder or investment certificate holder, except in the case of properly executed share combinations or in the case of fractional shares resulting from a capital increase or decrease.
2. As an exception to the exclusive jurisdiction of the Extraordinary General Meeting of Shareholders in matters of by-laws amendment, the Executive Board may amend by-law provisions relating to the company's share capital or the number of shares, investment certificates or voting right certificates representing such capital, insofar as such amendments automatically result from a duly authorized capital increase, decrease or amortization.

#### **Quorum and majority (article 41 of the by-laws)**

Unless otherwise provided by law, the Extraordinary General Meeting of Shareholders may deliberate validly after the first notice of meeting only if one fourth of the shareholders and voting right certificate holders are present in person, represented by proxy

or voting by mail, or attending the Meeting *via* videoconference or a telecommunications medium allowing them to be identified, in accordance with applicable laws and regulations. The quorum required after the second notice of meeting is one fifth of all shares and voting-right certificates entitled to vote.

If no quorum has been reached for the second notice of meeting, the second Meeting may be postponed for two months after the date for which it had been called.

Unless otherwise provided by law, resolutions of the Extraordinary General Meeting are adopted by a two-thirds majority of the voting rights of the shareholders or voting right certificate holders present in person, represented by proxy, voting by mail, or participating *via* videoconference or a telecommunications medium allowing them to be identified, in accordance with applicable laws and regulations.

#### **21.2.3.4. Rules governing Special Meetings of Investment Certificate Holders (article 42 of the by-laws)**

All investment certificate holders may participate in the Special Meeting.

The Special Meeting has the authority, in instances provided by law, to waive the preemptive subscription right held by investment certificate holders.

The Special Meeting is called at the same time and in the same form as General Meetings of Shareholders called to decide on a proposed capital increase, convertible bond issue, or bond issue with stock purchase warrants.

Investment certificate holders are admitted to the meeting in accordance with the same procedures as those applicable to the shareholders, described in article 32 of the by-laws.

The Special Meeting of Investment Certificate Holders may deliberate validly after the first notice of a meeting only if one third of the certificate holders are present in person, represented by proxy or voting by mail, or attending the Meeting *via* videoconference or a telecommunications medium allowing them to be identified, in accordance with applicable laws and regulations. The quorum required after the second notice of meeting is one fifth of all certificate holders entitled to vote.

The Special Meeting of Shareholders adopts resolutions according to the rules applicable to the Extraordinary General Meeting of Shareholders.



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In the conduct of its business, the group enters into numerous contracts of a special nature due to their economic significance, strategic nature or the specific types of technologies deployed.

Pursuant to Appendix 1 of European Commission Regulation no.809/2004 dated April 29, 2004, the contracts viewed as important by the group are summarized hereunder. It should be

noted that a confidentiality obligation attaches to all or part of these contracts.

For the important events in the development of the group's business, see section 5.1.5., "Important events in the development of the issuer's business", in particular for years 2007 and 2008.

## 22.1. Front End division

### France – Conversion services sale contract

This contract, signed with EDF on December 24, 2008, provides for the supply of conversion services corresponding to a large share – and in any event the majority – of the power company's

requirements for 2009 and afterwards. The contract also ensures the transition from the Comurhex I plant to the Comurhex II plant over the contract period.

### South Korea – Enrichment services sale contract

On June 7, 2007, AREVA signed a contract to meet the long-term enrichment supply requirements of Korean utility KHNP. The group will provide enrichment services from 2010.

### China – Sale of natural uranium from UraMin Inc.'s production

This contract, signed on November 26, 2007 with CGNPC Uranium Resources Co. Ltd, gives the latter access to 35% of UraMin Inc.'s future mining production, thus securing its supplies.

The contract was signed in the framework of the agreement to supply two nuclear islands to China (see section 22.2., "Reactors and Services division").

## Germany – Sale of enriched uranium product

This contract was signed on October 25, 2007 with KLE, an RWE subsidiary, and covers the supply of  $U_3O_8$ , and of conversion services and enrichment services to the Emsland reactor.

## Sweden – Enrichment services sale contract

On July 11, 2007, Vattenfall awarded a contract covering its reactor requirements for enrichment services.

## China – Contract for first 2 reactor cores, 17 reloads, $UF_6$ and enrichment services

This contract was signed with Guangdong Taishan Nuclear Power Company Ltd on November 26, 2007. The first two cores are set to be delivered in 2013 and 2014. The contract was signed in the

framework of the agreement to supply two nuclear islands to China (see section 22.2., “Reactors and Services division”).

## China – Technology transfer contract related to the design and fabrication of EPR™ reactor fuel assemblies

In addition to the contract to supply the first fuel cores and reloads for the Taishan EPR™ reactor nuclear islands, a contract was signed with China Guangdong Nuclear Power Holding Company Ltd

related to the transfer of technology for the design and fabrication of EPR™ reactor fuel assemblies and leading to the creation of a joint venture.

## Miscellaneous uranium enrichment contracts

Eight contracts valued at more than 100 million euros each were signed with power companies in Europe, Asia and the United States.

Among them was a very long term contract between AREVA and EDF, signed on December 15, 2008, related to the supply of enrichment services.

## India – Uranium concentrate supply contract

On December 17, 2008, AREVA signed the first contract to supply foreign-origin uranium since the restart of nuclear trade between that country and the rest of the world. The contract is a precursor for further cooperation between France and India in the area of nuclear power generation.

Under the agreement signed with India's Department of Atomic Energy, AREVA agreed to deliver 300 metric tons of uranium to

power company Nuclear Power Corporation of India Ltd (NPCIL) for its reactors subject to International Atomic Energy Agency safeguards. The contract is further to the bilateral agreement signed by France and India on September 30, 2008 related to cooperation on the development of the peaceful applications of nuclear energy.

## 22.2. Reactors and Services division

### France – EPR™ reactor contract with EDF

In France, EDF decided in May 2006 to build the first of a series of EPR™ reactors at its Flamanville site (the FA3 project). The enabling order (*décret d'autorisation de création*) was published in early 2007.

EDF granted the group several contracts for the construction of the EPR™ reactor nuclear steam supply system (NSSS) and for the safety and operating instrumentation and control systems.

The last contract was signed in May 2007 for remaining design studies, procurement, manufacturing, installation and commercial start-up of the NSSS.

### China – Taishan EPR™ reactor nuclear islands

#### Contract to supply two nuclear islands

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This contract was signed with Guangdong Taishan Nuclear Power Company Ltd on November 26, 2007. It covers the design and supply of two EPR™ reactor nuclear islands (excluding civil engineering). The contract will be performed by AREVA teamed with Chinese partners China Nuclear Power Engineering Company, Ltd and China Nuclear Power Design Company, Ltd (Shenzhen).

#### EPR™ reactor technology transfer agreement

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This contract was signed on November 26, 2007 with China Guangdong Nuclear Power Company, Ltd (CGNPC), at the same time as the sale contract for the supply of the two Taishan nuclear islands. The contract concerns, deals with the transfer of EPR™ reactor technology used for the Taishan project.

### France – “Barracuda” contract

The French defense procurement agency DGA notified the team comprised of AREVA TA and French naval shipbuilder DCNS that it would award a contract for the first three units in France's new Barracuda class nuclear attack submarine program. The contract for the first unit was awarded on December 21, 2006, the second unit was awarded on September 14, 2007, and the third unit was awarded on October 16, 2008. The program calls for the construction of six nuclear propulsion submarines to replace France's Rubis class nuclear attack submarines by 2016. At some

8 billion euros, including 1 billion euros for AREVA TA share, it is one of the largest programs in the history of the French navy. The contract, covering a 20-year period, commits AREVA TA and DCNS to DGA and CEA, acting jointly as project authority, for the design, construction and associated support system of six submarines and for the operational readiness of the first three reactors. AREVA TA is the architect engineer for the onboard NSSS, with the first one scheduled to operate in 2015.

## France – Jules Horowitz Reactor (JHR) contract

In March 2007, the Commissariat à l'Énergie Atomique (CEA) decided to build the Jules Horowitz Reactor (JHR) in Cadarache, France.

The CEA designated AREVA TA as prime contractor to build the reactor in a consortium with AREVA NP, EDF and AREVA TA. The order for prime contracting services in the total amount of 138.5 million euros was formalized on December 22, 2008 by an amendment to the ongoing contract for JHR design definition and development. Reactor start-up is scheduled for the end of 2013.

JHR will replace the CEA's Osiris research reactor; it will be used to test the behavior of materials and fuel used in current generation and EPR™ reactors. In addition to these energy applications, JHR will produce 25% of the radioelements needed in Europe for nuclear medicine and will be able to contribute to the production of high performance silicon for electronic components.

## France – “Triplet” contract with EDF

EDF awarded a contract to AREVA valued at more than 200 million euros to replace nine steam generators, *i.e.* three sets of three generators each, for 900 megawatt reactors in France. The contract covers the design, manufacturing and delivery to the site of the nine steam generators, as well as related services. It will

be performed by AREVA's Chalon/Saint Marcel plant. Production launch for the first set of three steam generators is scheduled for 2010, with delivery slated for December 2012. The next two sets will be delivered in 2014 and 2015 respectively.

## 22.3. Back End division

### Italy – Contract with Sogin for used fuel transportation and treatment

In May 2007, AREVA signed a contract valued at more than 250 million euros with the Italian firm Sogin for the shipment to the La Hague plant of 235 metric tons of used nuclear fuel from the Caorso, Trino and Garigliano facilities and for their treatment

there. Fuel shipping to La Hague began in 2007. After treatment, the final waste will be returned to Italy no later than December 31, 2025.

### Italy – Plutonium management contract with Sogin

Sogin, as liquidator of the Italian nuclear program, had to find a solution for Italian-origin plutonium supplied to the Superphenix reactor. AREVA NC undertook to find and implement solutions for the use of the Superphenix plutonium and for the amount to

be recovered under the treatment contract with Sogin mentioned above. A contract allowing AREVA NC to carry out these services was signed at the beginning of the second half of 2008.

## Japan – Fabrication of MOX fuel assemblies for Chubu

MELOX and Japanese fuel vendor GNF-J signed a contract to fabricate MOX fuel assemblies for the BWR reactors operated by Japanese utility Chubu. The contract covers the fabrication

of 336 assemblies, corresponding to approximately 38 metric tons of heavy metal. Six fabrication campaigns will be carried out starting in 2008.

## Japan – Long-term cooperation agreement for the fabrication of MOX fuel assemblies for Kansai

On November 21, 2008, MELOX and Japanese utility Kansai signed a Long-term Cooperation Agreement (LCA) for the fabrication of MOX fuel assemblies for Kansai's PWR reactors. Kansai made a commitment for 212 assemblies. The first of six fabrication campaigns will begin in 2010 under fabrication contracts

between MELOX and the fuel vendor(s) designated by Kansai. On November 21, 2008, MELOX and Japanese fuel vendor NFI signed a first implementing contract for the fabrication of 32 assemblies, *i.e.* 14.4 metric tons of heavy metal.

## France – Framework agreement between AREVA and EDF for Back End services contracts for the post-2007 period

AREVA and EDF signed a framework agreement on used nuclear fuel recycling starting in 2008.

This agreement concerns the recycling of used EDF nuclear fuel over the 2008-2040 period. It defines the principles of the parties'

long-term cooperation in used fuel transportation and recycling, based on two reciprocal commitments concerning operations of the La Hague plants in northern France and of the MELOX plant at the Marcoule site in southern France.

## 22.4. Transmission & Distribution division

A 100-million euro contract was signed with UTE for the turnkey construction of a 500 MW back-to-back rectifier station and several 500 kW distribution substations in Melo, in northeastern Uruguay. This new source of external power supply will stabilize the existing Uruguayan grid.

In the United Kingdom, StatoilHydro awarded a contract valued at more than 60 million euros for the Sheringham offshore wind farm. The wind farm will generate enough power to supply the entire northern coast of Norfolk, *i.e.* 230,000 households.

AREVA and Aluminum Bahrain (ALBA) signed a turnkey contract valued at approximately 60 million euros for the turnkey design, manufacturing, testing, installation and start-up of ten groups of rectifier transformers. This is the largest renovation project of its kind in the region.

There was a significant level of activity in Dubai. Contracts valued at more than 130 million euros were granted to the T&D division for several 132 kV substations and for two 400 kV shielded substations (Horse Race and Barsha) for the DEWA electricity transmission grid.

23

Third party information,  
statements by experts  
and declarations of interest

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Not applicable.

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## 24.1. Availability of documents

The following documents, or copies thereof, may be viewed at AREVA's corporate office, 33 rue La Fayette, 75009 Paris, France, during the period of validity of this reference document:

- the establishing decree no. 83-1116 of December 21, 1983 and its amendments, the decree no. 2007-1140 of July 27, 2007 published in the *Journal Officiel* on July 28, 2007, and the by-laws of AREVA;
- all reports, correspondence and other documents, historical financial data, assessments and statements given by an expert

at AREVA's request, some of which are included or referred to in this document; and

- historical financial data of AREVA and its consolidated subsidiaries for each of the two fiscal years preceding the date of registration of this reference document.

Appendix 6 of this reference document includes all of the information published by AREVA over the past 12 months, pursuant to article 222-7 of the General Regulations of the AMF.

## 24.2. Persons responsible for financial information

### The persons responsible for financial information are:

- Alain-Pierre Raynaud, Chief Financial Officer and member of the Executive Committee  
Address: 33, rue La Fayette - 75009 Paris – France  
e-mail: alain-pierre.raynaud@areva.com
- Isabelle Coupey, Financial Communications and Investor Relations Director  
Address: 33, rue La Fayette - 75009 Paris – France  
e-mail: isabelle.coupey@areva.com

### The team is also composed of:

- Grégoire Bourgue, Research, Analysis and Benchmarking Manager  
Address: 33, rue La Fayette - 75009 Paris – France  
e-mail: gregoire.bourgue@areva.com
- Angélique Charlin, Marketing and Retail Shareholding Manager  
Address: 33, rue La Fayette - 75009 Paris – France  
e-mail: angelique.charlin@areva.com
- Marie de Scorbiac, Financial Information and Analysis Manager  
Address: 33, rue La Fayette - 75009 Paris – France  
e-mail: marie.descorbiac@areva.com

The Shareholders department can be reached at our toll-free number (calls in France only), 0810 699 756, or by e-mail to [actionnaires@areva.com](mailto:actionnaires@areva.com)

## 24.3. Financial information programs

It is the Executive Board's objective to report on the group's operations to shareholders and investment certificate holders. Accordingly, AREVA has had a financial communications program in place since it was formed. The goals of this program are to build strong relations with our shareholders and investment certificate holders and to develop the group's presence on the financial markets by providing more information on our operations.

Information of a financial, commercial, organizational or strategic nature that may be of interest to the financial community is provided to the national and international media and to press agencies *via* press releases. All information provided to the financial markets (press releases, audio and video presentations of a financial or strategic nature) is available in the "Finance" section of the group's website at [www.areva.com](http://www.areva.com). Individuals wishing

to receive press releases by e-mail may register on the group's website, which also features a schedule of upcoming events and announcements.

AREVA publishes half-year and annual results and makes quarterly sales announcements in accordance with French legislation. It should be noted that, in the nuclear business, comparisons of quarterly data from one year to that of the preceding year may show significant variances that may not be a good indicator of the expected trend for the year as a whole.

At least twice a year, the group organizes information meetings to comment on its business and financial performance. These meetings are broadcast live on the Internet.

## 24.4. Tentative financial communications schedule

A tentative schedule of upcoming events and announcements is provided below. It is regularly updated on the AREVA website.

Date	Event
April 23, 2009	First quarter 2009 revenue and related information
April 30, 2009	Annual General Meeting of Shareholders (not open to investment certificate holders)
June 30, 2009	Dividend payment for 2008
July 30, 2009	First half 2009 revenue
August 31, 2009	First half 2009 income
October 22, 2009	Third quarter 2009 revenue and related information
January 2010	2009 revenue
February/March 2010	2009 income

## 24.5. Technical information on the group's businesses

The AREVA group organized a series of presentations and site tours to enhance the financial community's understanding of the group's operations from a technical as well as an economic point of view.

Six sessions of the AREVA Technical Days program to introduce the group's businesses and technologies have been held since the program was launched in 2002, each time with 100 to 150 people

attending, including analysts, investors, journalists and investment advisors. At the sixth session, held in India in April 2007 and devoted to the Transmission & Distribution division, the energy challenges facing India were presented.

In addition, analysts and investors are invited to learn about the group's operations throughout the year by touring the plant sites. Three plants tours were conducted in 2008.



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## 25.1. Significant equity interests of the AREVA group

### STMicroelectronics NV

- Percentage owned indirectly *via* holding companies: 11.36%.
- Business: STMicroelectronics is one of the world's largest semiconductor companies. In 2008, it had revenue of 9.84 billion US dollars.
- History of the AREVA group's involvement: Since its establishment, CEA's Leti laboratory has collaborated with STMicroelectronics to develop integrated circuit technology. In 1993, STMicroelectronics was equally controlled by the Italian company Stet and public shareholders in Italy on the one hand, and by the French company Thomson-CSF on the other. STMicroelectronics, which at the time was in financial difficulty, received fresh capital from a French vehicle, FT1CI, jointly set up by CEA-Industrie (subsequently AREVA) and France Télécom (which has not been a shareholder of FT1CI since August 2005). FT1CI owns its interest in STMicroelectronics through holding companies jointly held with Italian partners, STMicroelectronics Holding NV and STMicroelectronics Holding II BV. STMicroelectronics Holding II BV was the majority shareholder in the past and remains the leading shareholder in STMicroelectronics today, with 28.68% of its share capital. FT1CI, the holding company that holds AREVA's indirect equity interest in STMicroelectronics (STM), and Finmeccanica concluded an agreement providing that FT1CI shall acquire part of Finmeccanica's indirect equity interest in STM (*i.e.* 3.86% of STM's share capital) to equalize the indirect equity interests held in STM by FT1CI on the one hand, and by Finmeccanica and Cassa Depositi e Prestiti on the other. This acquisition was financed by the Commissariat à l'Énergie Atomique (CEA), which thus became a minority shareholder of FT1CI by decision of the board of directors on March 25, 2009, following a decision by the Annual General Meeting of Shareholders of March 17, 2008, giving FT1CI the authority to increase its capital. The CEA also became a party to the STM shareholders' agreement. AREVA, the CEA, Finmeccanica and Cassa Depositi e Prestiti hold, respectively, 11.36%, 2.98%, 3.86% and 10.48% of STM's share capital through STMicroelectronics Holding NV (STH).

- Consolidation: Equity method (the group carries its total interest held indirectly by FT1CI, *i.e.* 14.34%, under the equity method).
- Stock exchanges: Compartment A of Euronext Paris, the New York Stock Exchange, and Milan.
- Market capitalization as of December 31, 2008: Approximately 6 billion US dollars (4.3 billion euros).

### Eramet

- Percentage owned: 26.08% of the share capital and 30.88% of the voting rights.
- Business: Eramet is a mining and metallurgy group that produces non-ferrous metals, high-performance specialty steels and alloys. Eramet's revenue as of December 31, 2008 was 4.346 billion euros.
- History of the AREVA group's involvement: A reorganization of the French State's equity interest in Eramet was decided when the State reorganized its equity interests in mining. This reorganization was implemented, in particular, by exchanging the Eramet shares held by Erap, representing 22.5% of Eramet's capital, for AREVA NC shares. In addition, AREVA NC bought back the Eramet shares held by BRGM, representing 1.5% of Eramet's share capital. AREVA NC contributed its equity interests to an entity set up for that purpose, Biorisys, whose share capital was taken over by merger with AREVA, effective September 4, 2001.
- Consolidation: Equity method.
- Trading exchange: Compartment A of Euronext Paris.
- Market capitalization as of December 31, 2008: 3.6 billion euros.

## 25.1. Significant equity interests of the AREVA group

**Safran**

- Percentage owned: Through its subsidiaries AREVA NC and Cogerap, AREVA holds 7% of the share capital and 11.01% of the voting rights as of December 31, 2008 (compared with 7.38% as of December 31, 2007). This results from the double voting rights acquired by the French State, which brought the AREVA group's holding to 9.42% of the voting rights. The French State subsequently converted shares to bearer shares, thus losing the corresponding double voting rights. This increased AREVA's share of voting rights to 10.73%.
- Business: Safran is a high-tech group with two operating branches, telecommunications and defense. It is ranked second in France in telecommunications and third in Europe in defense and security electronics. Safran had 2008 revenue of 10.329 billion euros.
- History of the AREVA group's involvement: AREVA NC formerly owned a 5.1% equity interest in Sagem. The AREVA group's equity position in Safran increased automatically to 17.4% in December 2003 as a result of Safran's takeover-merger of Coficem, in which the group had purchased a 20% interest in 2002. The AREVA group's equity interest was then diluted during the takeover-merger of Snecma by Sagem, which gave birth to Safran in May 2005.
- Consolidation: This equity share is not subject to consolidation and appeared at market value on the balance sheet as of December 31, 2008 as "Available-for-sale securities" under "Other non-current financial assets".
- Trading exchange: Compartment A of Euronext Paris.
- Market capitalization as of December 31, 2008: 4.017 billion euros.

**GDF-SUEZ**

- Percentage owned: 1.2% of the share capital and 1.23% of the voting rights as of December 31, 2008.
- Business: SUEZ, an international manufacturing and services group, designs sustainable and innovative solutions for public services management as a partner to municipalities, companies and individuals in electricity, gas, energy services, water and clean-up. SUEZ had 2008 revenue of 83.1 billion euros.
- History of the AREVA group's involvement: The group has held a stake in SUEZ since 1997-1998 as part of its portfolio of securities earmarked for end-of-life-cycle operations. The market value of this line rose to more than 1.286 billion euros in 2007, before the SUEZ capital increase. To balance its dedicated portfolio, the group decided to remove the SUEZ line from the portfolio and replace it with cash, reinvested in other products.
- Consolidation: The equity share is not subject to consolidation and appeared at market value on the balance sheet as of December 31, 2008 as "Available-for-sale securities" under "Other noncurrent financial assets".

- Stock exchanges: Euronext Paris (CAC 40 index), Euronext Brussels (BEL 20 index), SWX (Zurich) and the Luxembourg Stock Exchange.
- Market capitalization as of December 31, 2008: 77.501 billion euros.

**SUEZ Environnement**

- Percentage owned: 1.41% of the share capital and of the voting rights as of December 31, 2008.
- Business: SUEZ Environnement supplies equipment and services that are essential for life and to environmental protection: catchment, treatment and distribution of drinking water, collection and treatment of waste water, and waste disposal and recycling. SUEZ Environnement can meet all of the requirements of local communities and industry. Suez Environnement had 2008 revenue of 12.4 billion euros.
- History of the AREVA group's involvement: AREVA became a shareholder in SUEZ Environnement as a result of the merger between Gaz de France and SUEZ on July 22, 2008. Before the merger, SUEZ contributed all of the operations of its Environmental Services division to SUEZ Environnement and distributed 65% of the SUEZ Environnement shares to all SUEZ shareholders. Pursuant to these transactions, AREVA held 1.41% of the share capital and voting rights of SUEZ Environnement.
- In an agreement with the French tax administration, AREVA and the principal shareholders of SUEZ Environnement (see section 25.2.2., "Main shareholders agreements") agreed with the French tax administration not to sell their shares for a period of three years starting July 22, 2008.
- Consolidation: The equity share is not subject to consolidation and appeared at market value on the balance sheet as of December 31, 2008 as "Available-for-sale securities" under "Other noncurrent financial assets".
- Stock exchanges: Euronext Paris and Euronext Brussels
- Market capitalization: 5.902 billion euros

**REpower**

- Business: REpower, a Hamburg-based manufacturing group, specializes in high-output wind turbine technology particularly suited to offshore sites. The company employs 1,086 people and posted sales of 680 million euros in 2007.
- AREVA disposed of this equity interest in June 2008.
- History of the AREVA group's involvement: AREVA acquired an equity interest in REpower in October 2005. In April 2006, AREVA increased its equity stake in REpower to 29.99% by subscribing to a capital increase launched by REpower and acquiring shares on the market. On February 5, 2007, AREVA announced a friendly takeover bid for REpower shares, which gave rise to a counter-offer by Suzlon. AREVA decided not to submit a counter-offer at the end of the offering period and concluded a cooperative agreement with Suzlon on May 24,

2007 under which AREVA retained its equity interest in REpower but received a guarantee in the form of a put option, ensuring value creation in excess of 350 million euros. On June 5, 2008,

AREVA exercised the put option and sold its entire equity interest in REpower to Suzlon, the majority shareholder.

■ Trading exchange: Xetra (Frankfurt)

## 25.2. Shareholders' agreements

### 25.2.1. Shareholders' agreements concerning AREVA shares

Except for agreements described hereunder, there is, to AREVA's knowledge, no agreement containing rights of first refusal concerning the investment certificates or at least 0.5% of AREVA's share capital or voting rights.

#### Shareholders' agreement between the Caisse des Dépôts et Consignations (CDC) and the Commissariat à l'Énergie Atomique (CEA)

Under the terms of an agreement between the CDC and the CEA dated December 28, 2001, the parties agreed in particular that, in the event that AREVA shares are admitted for public trading on a regulated market through the sale of AREVA shares owned by the CEA, the CEA agrees that CDC may, if it chooses, sell as many AREVA shares in the public offering as those offered for sale by the CEA. The CEA further agreed to undertake its best efforts to allow CDC to sell its shares in the event that the latter wishes to relinquish all of its AREVA shares under certain specific circumstances, and particularly in the event that (i) AREVA shares are not admitted for public trading by December 31, 2004, (ii) the shares of a major AREVA subsidiary (other than FCI) in which AREVA holds more than half of the share capital and voting rights were to be admitted for public trading in France, (iii) the CEA should no longer hold a majority interest in the share capital or voting rights of AREVA. CDC did not choose to dispose of its equity

interest in AREVA, and continues to hold 3.59% of the company's share capital.

#### Memorandum of understanding between Total Chimie, Total Nucléaire, AREVA and AREVA NC

Under the terms of separate memorandums of agreement dated June 27, 2001, Total Chimie and Total Nucléaire agreed to sell five-sixths of their equity interest in AREVA NC to the CEA and to contribute the remaining shares to AREVA prior to the split-up and merger decided by the Combined Annual and Extraordinary General Meeting of Shareholders, which was completed in September 2001.

This memorandum of agreement also provides that Total Chimie and Total Nucléaire agree to retain their AREVA shares received in exchange for their contributions until such time as AREVA shares are publicly traded on a regulated market. If admission to a regulated market does not take place by September 30, 2004, at the latest, and assuming that Total Chimie or Total Nucléaire wish to sell all of their AREVA shares, Total Chimie, Total Nucléaire and AREVA agreed to make their best efforts to ensure that the sale of the equity interest of Total Chimie or Total Nucléaire is carried out promptly and under mutually acceptable terms and conditions for all parties. To date, neither Total Chimie nor Total Nucléaire has chosen to dispose of their AREVA shares.

### 25.2.2. Main shareholders' agreements concerning AREVA's equity interests

#### AREVA NP

In July 2000, Framatome SA (subsequently taken over by AREVA) and Siemens AG reached an agreement to combine their nuclear operations in AREVA NP. Siemens AG's asset contribution to AREVA NP was implemented in two phases: the German operations were contributed on January 30, 2001, and the US operations were contributed on March 19, 2001.

These contributions were supplemented with a cash contribution by Siemens AG to AREVA NP, giving Siemens AG 34% of the share capital of AREVA NP. Siemens' nuclear operations were divided equally between AREVA's Front End and Reactors and Services divisions in 2001.

AREVA NP is a French *société par action simplifiée* (simplified corporation) managed by a President chosen by a six-person Board of Directors designated for a five-year term by the shareholders on a simple majority vote.

Under AREVA NP's by-laws, the company's shares cannot be transferred to a third party for a ten-year period starting January 30, 2001, unless the shareholders unanimously approve the transfer. After this period of non-transferability, any sale of shares by one of the shareholders to a third party will be subject to a preemptive subscription right and prior approval by the company's other shareholders.

The shareholders' agreement concluded on January 30, 2001 between Siemens AG and Framatome SA, now taken over by AREVA, includes a put and call clause establishing sell and buy options. Under this clause, Siemens AG may exercise a sell option, thus obliging AREVA to buy all of the AREVA NP shares held by Siemens AG. Similarly, AREVA may exercise a buy option, thus obliging Siemens AG to sell all of its shares in AREVA NP to AREVA. These options may be exercised by the parties under the following circumstances:

- in the event of a confirmed and final disagreement between the parties over certain decisions vested in the Board of Directors, in particular, the approval of new company shareholders or the appointment of the company President;
- in the event of a confirmed and final disagreement regarding a change in AREVA NP's by-laws or the shareholders' agreement;
- in the event that Siemens AG does not approve the company's business plan or its company financial statements for two consecutive years and there is no agreement with AREVA.

These options may also be exercised if one of the parties is taken over by a competitor, or if there is a significant drop in AREVA NP's market value after a change in control with respect to one of the parties.

In addition, AREVA NP's shareholders agreement grants puts and calls (*i.e.* options to sell or buy shares) under specific circumstances as follows:

1. In the event of a material breach by one of the parties:
  - if AREVA has committed a material breach, Siemens has the right to exercise an option to sell its shares of AREVA NP at a price equal to 140% of their fair market value,
  - if Siemens has committed a material breach, AREVA has the right to buy Siemens' shares of AREVA NP at a price equal to 60% of their fair market value;
2. In the event of termination for convenience:
  - After a waiting period of 11 years after the date of the agreement, *i.e.* beginning January 30, 2012, and each year thereafter on the same anniversary date,
  - Siemens may exercise a put option to sell its shares of AREVA NP, and
  - AREVA may exercise a call option to purchase those same shares.

Each party must notify the other of its intention to exercise the put (in the case of Siemens) or the call (in the case of AREVA) at

least three years before each anniversary date (*i.e.* on January 30, 2009 at the earliest).

In the event of termination for convenience, the price of the puts and calls is determined in relation to the fair market value of AREVA NP.

In cases 1 and 2 above, the fair market value of AREVA NP is determined using valuation methods based on the future cash flows of AREVA NP, such as the discounted cash flow method. If the parties are unable to reach an agreement on the price, each party shall designate an investment bank to establish the value. If the valuations are not identical, the parties shall negotiate with a view to reaching an agreement on the amount. If an agreement cannot be reached, the parties shall designate the Institute of Chartered Accountants in England and Wales as an expert to determine the final fair market value, taking into account the valuations submitted by the two banks.

On January 26, 2009, Siemens informed AREVA of its intention to exercise the put option in connection with a termination for convenience. As provided in the 2001 shareholders' agreement, Siemens' interest in AREVA NP will be transferred to AREVA no later than January 30, 2012.

## Eurodif

### Agreement governing the establishment of Eurodif

Under the terms of a memorandum of agreement dated October 9, 1973 between the CEA, Comitato Nazionale per l'Energia Nucleare and AGIP Nucleare of Italy, Empresa Nacional del Uranio (ENUSA) of Spain, AB Atomenergi of Sweden and Synatom and the Centre d'Etude de l'Energie Nucléaire of Belgium, it was decided to establish a jointly owned company in the form of a French *société anonyme à Directoire et Conseil de Surveillance* (corporation with an Executive Board and a Supervisory Board), called Eurodif, to conduct studies and research in the field of gaseous diffusion enrichment, to build and operate plants, and to market enriched uranium.

The CEA owned the majority of Eurodif's capital, with the other shareholders being minority shareholders. The CEA's equity interest was transferred to AREVA NC when AREVA NC was established in 1976. AREVA NC holds, directly and indirectly through Sofidif, 60% of Eurodif's capital at present.

The current shareholders of Eurodif are:

- AREVA NC: 44.65%;
- Sofidif: 25%;
- Synatom: 11.11%;
- Enusa: 11.11%;
- Enea: 8.13%.

### Agreements relating to the establishment of Sofidif

As part of a bilateral agreement for cooperation in the field of enrichment, France and Iran signed an agreement in 1974.

This agreement led to the establishment of Sofidif.

Under the agreements in force, the Iranian shareholder, the Atomic Energy Organization of Iran (AEOI), holds 40% of Sofidif's share capital. AREVA NC holds the remaining 60% of the company's share capital.

Sofidif's sole asset is a 25% equity interest in Eurodif. Sofidif's business is limited to taking part in meetings of Eurodif's Supervisory Board, collecting its share of Eurodif's dividends and redistributing those dividends to its own shareholders.

Due to national and international sanctions, the 2007 and 2008 dividends were not paid to AEIO. One of the Iranian directors was subject to these provisions.

## AREVA TA

### Agreement of December 28, 1993 relating to Cedec

On December 28, 1993, CEA-Industrie, which later became AREVA, entered into an agreement with DCN International (DCN-I) to create a joint company called Cedec for the purpose of holding a 65.1% equity interest in AREVA TA.

AREVA currently controls 90.14% of Cedec's share capital, while DCN-I holds a 9.86% share.

The agreement of December 28, 1993 contemplates, in particular, that each party shall have a preemptive subscription right to acquire the other party's shares if those shares are sold. If this preemptive right is not exercised, any sale of shares to a third party shall be subject to prior approval by the Board of Directors, voting with a two-thirds majority. The agreement also stipulates that Cedec's Board of Directors shall consist of seven members, of which four shall be appointed on AREVA's recommendation, and three on DCN-I's recommendation.

### Agreement of March 12, 1993, relating to AREVA TA

AREVA holds a 24.89% interest in AREVA TA, while Cedec holds a 65.01% interest and the EDF group holds the remaining shares, *i.e.* 10.1%.

A memorandum of agreement on changes in the share ownership of AREVA TA was reached between CEA-Industrie (AREVA), Framatome (subsequently an AREVA subsidiary) and DCN-I on March 12, 1993. This agreement was amended by letter in March 1993 and by an amendment signed by Cedec (assuming the rights and obligations of DCN-I) and AREVA NP on October 5, 2000.

The memorandum of agreement stipulates, in particular, that AREVA TA's Board of Directors shall consist of fifteen directors, of whom five are elected by the employees in accordance with the Law of July 26, 1983 on the democratization of the public sector, with the remaining directors appointed by Cedec (six directors), AREVA (three directors), and EDF (one director). The Chairman of the Board is appointed by the Board of Directors after consultation with the various parties and on the recommendation of Cedec, subject to AREVA's approval. Some board decisions require a two-thirds majority vote, most notably approval of the annual financial statements, capital increases or reductions, amendments to the by-laws, the acquisition or disposal of equity interests, approval of new shareholders, authorization of regulated agreements, capital investments exceeding 1.5 million euros, etc. In addition, the explicit agreement of the directors nominated by Cedec and AREVA on these decisions must be obtained beforehand.

In the event that EDF wishes to sell all or part of its equity interest in AREVA TA, AREVA has priority over the other parties (Cedec) to acquire the shares on mutually acceptable terms.

If either Cedec or AREVA contemplates the sale of all or part of its shares or rights in AREVA TA, Cedec and AREVA have a reciprocal and irrevocable agreement under which each would first offer the shares for sale to the other party (unless AREVA were to sell the shares to the CEA).

It is also stipulated that if the CEA were to own less than 51% of AREVA, the CEA would buy the Cedec or AREVA TA shares owned by AREVA, representing 90.14% of Cedec's share capital and 83.56% of AREVA TA's share capital.

## ETC

With a view to cooperation in the field of uranium centrifuge enrichment, AREVA signed an agreement on November 24, 2003 with URENCO and its shareholders under which AREVA acquires 50% of the share capital of Enrichment Technology Company Ltd (ETC), which combines all of URENCO's activities in the design and construction of equipment and facilities for uranium centrifuge enrichment, as well related research and development activities.

This acquisition was submitted to the European anti-trust authorities, which gave their official approval on October 6, 2004. The quadripartite treaty among Germany, the Netherlands, the United Kingdom and France was ratified on July 3, 2006, allowing this acquisition to take place.

On that same day, AREVA NC replaced AREVA in the share capital of ETC. As a joint company, ETC is the exclusive vehicle for uranium centrifuge enrichment technology for URENCO and AREVA NC.



A shareholders' agreement defines the relations between AREVA NC and URENCO in ETC, in particular concerning the composition of the Board of Directors, decisions requiring a unanimous vote by the directors present, and restrictions on selling ETC shares.

### Eramet

AREVA's equity interest in Eramet is subject to a shareholders' agreement dated June 17, 1999 originally concluded by Sorame, Ceir, Erap and the shareholders in Sorame. Erap's equity interest in Eramet was transferred to AREVA NC on December 1, 1999 and then to AREVA on September 4, 2001, substituting for AREVA NC by amendment dated July 27, 2001. The initial term of this shareholders' agreement was set to expire on June 30, 2006, with automatic renewal thereafter for one-year periods, unless previously terminated one month before the end of the current period. It was amended on May 29, 2008 and is now renewable in periods of six-months.

The shareholders agreement specifies in particular the allocation of the fifteen seats of the board of directors. AREVA may request the appointment of five directors, including two natural persons recommended in consideration of their expertise and their independence.

The amendment of May 29, 2008, modifies the reciprocal right of first refusal, which applies henceforth to: (i) on-exchange sales of shares to unidentified third parties, either occasionally or through accelerated book building or a fully marketed offering; (ii) sales of a block of shares to identified third parties, on the exchange or off market; and (iii) an exchange for shares issued by the recipient company.

Under the terms of this shareholders' agreement, AREVA, Sorame and Ceir act jointly and jointly control Eramet. The parties agreed to maintain the current hierarchy of shareholdings, with Sorame/CEIR agreeing to remain the main shareholder as long as AREVA does not increase its equity interest in Eramet by more than 2%, unless sales of Eramet shares (including Eramet shares sold since May 29, 2008, if any) represent at least 80% of its equity interest in Eramet.

This agreement has been the subject of several decisions by the Financial Market Board (CMF, decisions no. 199C1045 of August 3, 1999, no. 199C2064 of December 29, 1999, no. 201C0921 of July 25, 2001, and no. 201C1140 of September 12, 2001) and by the Autorité des Marchés Financiers (decision no. 208C1042 of May 30, 2008).

### FT1CI

AREVA became the sole shareholder of FT1CI following France Télécom's disposal of its shares in STMicroelectronics in August 2005 and in FT1CI in September 2005. FT1CI holds a 39.6%

equity interest in STMicroelectronics Holding NV (STH), with the remaining 60.4% held by Finmeccanica and Cassa Depositi e Prestiti. STH holds 100% of STMicroelectronics Holding II BV (STH II), which holds 27.86% of STMicroelectronics.

On February 26, 2008, FT1CI acquired part of Finmeccanica's indirect equity interest in STM (*i.e.* 2.86% of STM's share capital), thus ensuring the equality of the indirect equity interests held in STM by FT1CI, on the one hand, and Finmeccanica and Cassa Depositi et Prestiti, on the other hand. This acquisition was financed by the Commissariat à l'Énergie Atomique (CEA), which thus became a minority shareholder of FT1CI by decision of the Board of Directors on March 19, 2009, following a decision by the Annual General Meeting of Shareholders of March 17, 2008, giving FT1CI the authority to increase its capital. The CEA also became a party to the STM shareholders' agreement. AREVA, the CEA, Finmeccanica and Cassa Depositi e Prestiti hold 11.36%, 2.98%, 3.86% and 10.48%, respectively, of STM's share capital through STMicroelectronics Holding NV (STH).

### STMicroelectronics

STMicroelectronics (STM) is subject to a shareholders' agreement among AREVA, France Télécom, FT1CI and Finmeccanica, which are indirect shareholders *via* STMicroelectronics Holding NV and STMicroelectronics Holding II BV (hereinafter known collectively as "STH")<sup>(1)</sup>. The shareholders' agreement was renewed on March 17, 2004 for a renewable period of four years, *i.e.* until March 17, 2008. It was renewed for another period of three years, *i.e.* until March 17, 2011. It is intended to improve the liquidity of their indirect holdings in the company and maintain a stable and balanced shareholding structure to support the company's growth and autonomy. The agreement provides for the preservation of equal Franco-Italian control, independent of economic interests in STH resulting from sales of shares.

In December 2004, Finmeccanica sold part of its indirect interest in STM to Cassa Depositi e Prestiti, which signed the above-mentioned shareholders' agreement on December 23, 2004. France Télécom has not been a party to this agreement since August 2005.

The shareholders' agreement also contains provisions for defensive measures against a takeover bid, allowing the issuance of preferred shares to a foundation rather than to STM.

Its main provisions are:

- continued Franco-Italian governance with equal representation of both parties on the Supervisory Board, subject to retention of minimum equity interests with STM voting rights;
- simplification of disposals of the parties' indirect shareholdings in STM;
- the possibility of acquiring additional STM shares under certain circumstances.

<sup>(1)</sup> STMicroelectronics Holding NV is the shareholder of STMicroelectronics Holding II BV, which holds 27.86% of the share capital of STMicroelectronics.

The agreement includes a three-month period to ensure equal equity interests at the expiration of each contract period. On February 26, 2008, FT1CI, the holding company that holds AREVA's indirect equity interest in STMicroelectronics (STM), and Finmeccanica concluded an agreement providing for the acquisition by FT1CI of part of Finmeccanica's indirect equity interest in STM (*i.e.* 3.86% of STM's share capital) to equalize the indirect equity interests held in STM by FT1CI on the one hand, and by Finmeccanica and Cassa Depositi e Prestiti on the other. This acquisition was financed by the Commissariat à l'Énergie Atomique (CEA) through FT1CI. The CEA thus became a minority shareholder in FT1CI.

### 1. Current shareholding structure

When the transaction described above was completed, AREVA, the CEA, Finmeccanica and Cassa Depositi e Prestiti held indirect interests in STM of 11.36%, 2.98%, 3.86% and 10.48% respectively, through STH. AREVA's indirect interest is held by FT1CI, as is that of the CEA when it became a shareholder of FT1CI through the capital increase. STH is equally owned by FT1CI (the "French party") on the one hand and by Finmeccanica and Cassa Depositi e Prestiti (the "Italian party") on the other.

### 2. Governance

Corporate decisions in respect of STM will remain equally shared between the French party and the Italian party for a new three-year period due to the signature of the amendment to the shareholders' agreement, *i.e.* beginning March 17, 2008 and running to March 17, 2011, provided that each of the parties indirectly holds at any time at least 10.5% (*i.e.* at least 21% for the two parties combined) of the voting rights of STM (taking into account shares of STM underlying exchangeable instruments issued by each of the parties, as long as the voting rights pertaining to such shares remain held by STH).

During that period, the two parties will recommend to the General Meeting of Shareholders an identical number of representatives for appointment to the Supervisory Board of STM, and any important decision concerning STM will require the unanimous approval of both parties.

Should the shareholding of one of the two parties fall below the 10.5% threshold of STM voting rights due to a capital increase of STM or to an exchange of exchangeable instruments, that party shall have the right to cause STH to purchase STM shares in order to increase its indirect shareholding up to 10.5%.

If each of the parties has maintained its indirect shareholding above the 10.5% threshold for STM voting rights until the end of the three-year period, governance will remain equally shared, under the same terms and conditions, as from the end of this period, provided, however, that both parties' indirect shareholding in voting rights in STM held by STH remains at least 47.5%.

If the shareholding of both parties is less than the 47.5% threshold prior to the expiration of the three-year period, that party will have the right to cause STH to purchase STM shares in order to rebalance the shareholdings of the parties.

Should the indirect shareholding of one of the two parties fall below the threshold of 10.5% of the voting rights of STM during the initial three-year period, or below the threshold of 47.5% of the voting rights held by STH in STM as of the end of such three-year period, corporate governance shall cease to be shared equally. However, the minority party will have a veto right on certain specific decisions, provided that its indirect shareholding exceeds certain thresholds.

### 3. Disposal of STM Shares

Each of the parties to the shareholders' agreement has the right to cause STH to sell its indirect shareholder in STM, subject to a right of first refusal and a tag-along right of the other party. However, the right of first refusal only applies (among other conditions) to transfers of shares that result in the selling party holding less than 7% of the share capital of STM.

Such sales of STM shares can be triggered by the issue of financial instruments exchangeable into STM shares through equity swaps or through structured finance deals. In the event of an issuance of exchangeable securities, the tag-along right and, if applicable, the right of first refusal apply on the date of such issue. If all or part of the financial instruments remains un-exchanged upon the date on which they are no longer exchangeable into STM shares, the relevant party is entitled to cause STH to proceed with disposals of those STM shares without application of the right of first refusal or of the tag-along right. These restrictions apply in particular to the underlying STM shares for the exchangeable bonds issued by Finmeccanica, if they remain un-exchanged.

### 4. Acquisition of STM Shares

In the event of a hostile takeover or similar bid on STM shares, the provisions of an option agreement previously signed by STM and STH no longer apply. In November 2006, the company proceeded to modify its system for protecting share capital in the event of a hostile takeover, made necessary by the new European directive established in early 2007 in the Netherlands, where the company is registered. The protection system relies on the possibility of issuing preferred shares by a Dutch foundation consisting of three directors with no links to the company or its shareholders, rather than by STH II BV, representing the leading Franco-Italian shareholder.

Provided that a third party, acting alone or in concert, has a shareholding exceeding 2% of the share capital of STM or announces its intention of taking control of STM, each party shall have the right to increase its indirect shareholding in STM through the acquisition of shares in STM by STH. Such acquisition will be

subject to the veto right of the other party, as long as corporate decision-making in respect of STM remains equally shared (and except for the case of a hostile takeover bid on STM). However, if such acquisition has been vetoed, each of the parties shall have the right to acquire the same number of shares in STM directly, without going through STH.

Should such direct acquisition occur, the relevant party undertakes to vote on such shares in accordance with the vote exercised by STH in STM.

## 5. Foundation

The decision to establish a foundation at STM was made on November 22, 2006. The contract documents were signed in early 2007. The foundation has the right to ask STM to issue up to 540,000,000 preferred shares at a price per share corresponding to one-fourth of the share's nominal value.

## Safran

On December 12, 2003, BNP Paribas, Club Sagem, and AREVA NC signed a shareholders' agreement that came into force on December 18, 2003 following Sagem's takeover-merger of Coficem, a holding company for the purchase of Sagem by its employees. The objective of the parties was to provide support to Sagem during the transition period following the takeover-merger.

The shareholders' agreement expired on December 18, 2008.

## SUEZ Environnement

AREVA's shareholding interest in SUEZ Environnement is governed by a shareholders' agreement signed June 5, 2008, among SUEZ (whose rights and obligations were transferred in their entirety to GDF-SUEZ as a result of the merger between Gaz de France and SUEZ), AREVA, Caisse des Dépôts et Consignations, CNP Assurances, Groupe Bruxelles Lambert, and Sofina, for a five-year period renewed by tacit agreement.

The shareholders' agreement forms a cooperation among the parties in which GDF-SUEZ plays a dominant role and has operating control over the company.

The shareholders agreement stipulates in particular: (i) the composition of the Board of Directors (18 members, including one appointed by AREVA), with the Chairman casting the deciding vote in the event of a tie; (ii) a reciprocal right of first refusal; (iii) the prohibition to acquire shares, if such action involves the obligation for the shareholders acting jointly to submit a public offer or to guarantee the share price of SUEZ Environnement; and (iv) a right to sell shares jointly with GDF-SUEZ, should the latter decide to sell more than half of its equity interest in SUEZ Environnement.

This shareholders' agreement was the subject of an opinion by the Autorité des Marchés Financiers (AMF) on June 20, 2008 (decision no. 208C1189).



# Appendix 1 Report of the Supervisory Board Chairman on the preparation and organization of the Board's activities and internal control procedures

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## 1. Legislative and regulatory framework

### 1.1. Legal framework

Under the provisions of article L. 225-68 of the French Commercial Code, amended by the Law of July 3, 2008, "in publicly traded companies, the Chairman of the Supervisory Board shall submit a report on [...] the composition of the Board, the preparation and organization of the activities of the Board, and internal control and risk management procedures established by the company, describing in particular those procedures relating to the preparation and treatment of accounting and financial information used to prepare the corporate financial statements and, if applicable, the consolidated financial statements."

Article L. 225-68 of the French Commercial Code further provides as follows:

- "When a company defers voluntarily to a code of corporate governance drawn up by recognized business federations, the

[abovementioned] report shall also indicate which provisions were set aside and for what reason. The report shall also specify the place where the code of governance may be reviewed."

- "The [abovementioned] report shall be approved by the Supervisory Board and made public."

At the request of the Chairman of the Supervisory Board, this report was submitted to the Audit Committee for an opinion and to the Supervisory Board for approval on February 25, 2009, in accordance with the abovementioned provisions.

### 1.2. The AFEP-MEDEF Code of Corporate Governance: the standard for the AREVA group <sup>(1)</sup>

The AREVA group has adopted the AFEP-MEDEF recommendations of October 6, 2008 on executive officer compensation in companies whose shares are traded on a regulated market. More generally, the AREVA group defers to the AFEP-MEDEF Code of Corporate Governance for publicly traded companies, with certain adjustments.

The adjustments to the AFEP-MEDEF Code of Corporate Governance are warranted by the distribution of the company's share capital. The current number of independent Supervisory Board members (4 out of 15) is sufficient to represent the diversity of interests, considering the very strong concentration of the company's share capital, with shareholders represented by 7 members of the Supervisory Board. For this same reason, the Supervisory Board has not yet performed a self-assessment.

(1) The Code is available on the Medef website ([www.medef.fr](http://www.medef.fr)).



### 3. Preparation and organization of the Supervisory Board's activities

Likewise, the provision pertaining to members of the Supervisory Board holding "a significant number of shares" is irrelevant in this case.

Regarding the length of service of the directors, the five-year terms for directors elected by the General Meeting of Shareholders and

by the company's employees ensure greater stability of directors, as is fitting for long-cycle activities such as nuclear power. This term is consistent with the maximum term of six years under the law.

## 2. Reviews performed to prepare this report

This report was prepared based solely on information provided by the Executive Board and the functional departments it coordinates to the Chairman of the Supervisory Board in connection with the annual review of internal control procedures and various meetings of the Supervisory Board and its committees. The organization and functioning of the governance bodies of the AREVA group are based

on the rules and principles of the government order no. 2008-1278 of December 8, 2008 transposing the European directive 2006/43/EC of May 17, 2006. The order of December 8, 2008 will be implemented on September 1, 2009 at the earliest.

The work and reviews related to the preparation of this report were submitted to the council of Statutory Auditors.

## 3. Preparation and organization of the Supervisory Board's activities

### 3.1. Functioning of the Supervisory Board

The Supervisory Board, whose functioning is set forth in rules of procedure <sup>(1)</sup>, exercises ongoing control of AREVA's management by the Executive Board. The Executive Board regularly informs the Supervisory Board of the business and operations of AREVA and the AREVA group through quarterly reports. The Supervisory Board performs such verifications and procedures as it deems necessary.

The Supervisory Board appoints the members and the Chairman of the Executive Board. The Supervisory Board may recommend the dismissal of Executive Board members to the General Meeting of Shareholders. The Supervisory Board may call meetings of the General Meeting of Shareholders.

The Supervisory Board meets at least once quarterly at the corporate office or any other place indicated in the notice of meeting issued by the Chairman, or by the Vice Chairman in the absence of the former, to review the Executive Board's report.

For decisions of the Supervisory Board to be valid, at least half of the members must be present. Decisions are made on a majority vote of the members present or represented. In the event of a tie vote, the Chairman of the meeting casts the deciding vote.

The Supervisory Board submits its remarks on the report of the Executive Board and on the financial statements to the Annual General Meeting of Shareholders.

The Supervisory Board is not limited to a supervisory function; it also delegates authority to the Executive Board to conduct transactions that the Executive Board cannot accomplish without such authorization. It reviews the overall strategy for AREVA and for the group. Annual budgets and multi-year plans for AREVA, its direct subsidiaries and the group are subject to Supervisory Board approval, as well as any transaction at the subsidiary level contemplated by article 23-2 of the by-laws.

Pursuant to article 23-2 of the by-laws, the following Executive Board decisions are subject to prior approval by the Supervisory Board when they involve an amount exceeding 80 million euros:

- (i) issuing securities, regardless of type, that may have an impact on share capital;
- (ii) significant decisions on opening establishments in France and abroad, either directly, through creation of a branch, or by establishing a direct or indirect subsidiary, or by acquiring an equity stake; similar approval is required for decisions to close such establishments;

(1) The rules of procedure of the Supervisory Board may be reviewed at the company's corporate office at 33, rue La Fayette 75009 Paris, France.



- (iii) significant operations that may affect the group strategy and modify its financial structure or scope of business;
- (iv) acquisitions, increases or sales of equity interests in any company, existing or to be established;
- (v) exchanges of goods, securities or assets, with or without cash payment, excluding cash management operations;
- (vi) acquisitions of real estate;
- (vii) settlements, agreements or transactions relating to disputes;
- (viii) decisions pertaining to loans, borrowings, credit and advances; and
- (ix) acquisitions and disposals of any receivables by any means.

In addition, proposals for allocations of earnings for the year presented by the Executive Board are subject to the prior approval of the Supervisory Board.

On July 3, 2001, the Supervisory Board authorized the Executive Board to carry out certain transactions, up to the following amounts:

- disposals of real property up to 30 million euros;
- provision of collateral to secure corporate commitments, up to 80 million euros per year in the aggregate, provided that no single commitment exceeds 30 million euros.

The Supervisory Board regularly updates its rules of procedure, which stipulate in particular:

- the establishment and functioning of the four committees described below;
- rules for preparing Supervisory Board deliberations;
- conditions for establishing the schedule of Supervisory Board meetings;
- resources at the disposal of Supervisory Board members elected by the employees.

## 3.2. Composition of the Supervisory Board

The members of the Supervisory Board are appointed by the shareholders and by holders of voting right certificates, except for employee-elected members of the Board and representatives of the French State.

The Supervisory Board consists of at least 10 and no more than 18 members, including 3 members elected by company personnel, as described below, and representatives of the French State designated pursuant to article 51 of Law no. 96-314 of April 12, 1996. The 3 members representing company personnel are elected by an electoral college consisting of engineers and managers (1 member) and by an electoral college consisting of the other employees (2 members).

The members of the Supervisory Board serve for a term of five years. The duties of a member of the Supervisory Board not elected by company personnel expire at the end of the Annual General Meeting of Shareholders held during the year of expiration of his or her term, convened to approve the financial statements of the previous year.

The General Meeting of Shareholders may dismiss members of the Supervisory Board, other than members representing the French State and members elected by company personnel. The duties of a member elected by company personnel expire upon announcement of the results of elections, which AREVA must organize according to the by-laws, or upon the end of said member's employment contract or his or her dismissal, as provided by laws or regulations in effect at the time of the dismissal.

Only natural persons may be elected by company employees to serve as members of the Supervisory Board. Members of the

Supervisory Board not elected by company employees may be natural persons or corporate entities.

Except as provided by law, each member of the Supervisory Board must own at least one share of the company.

The Supervisory Board elects a Chairman and a Vice Chairman from among its members who are charged with convening the Board and conducting meetings, with the Vice Chairman fulfilling these functions in the event of the Chairman's absence or inability to do so. The Chairman and Vice Chairman are natural persons.

As of December 31, 2008, following the appointment of Mr. François David by the shareholders in April 2008, the Supervisory Board consists of 15 members, 4 of whom – Mr. Frédéric Lemoine, Mrs. Guylaine Saucier, Mr. François David and Mr. Oscar Fanjul – are considered independent by the Supervisory Board.

### Members appointed by the shareholders

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#### Frédéric Lemoine (age 43)

Mr. Frédéric Lemoine was appointed to the Supervisory Board in its meeting of March 8, 2005 to replace Mr. Philippe Pontet, who had resigned. The Annual General Meeting of Shareholders confirmed his appointment on May 12, 2005. The Supervisory Board elected him Chairman of the Supervisory Board on March 8, 2005. His term expired after the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2005 and was renewed by the Annual General Meeting of Shareholders on May 2, 2006. The Supervisory



### 3. Preparation and organization of the Supervisory Board's activities

Board convened on that same day re-elected him **Chairman of the Supervisory Board**. Mr. Lemoine's term will expire at the Annual General Meeting of Shareholders convened in 2011 to approve the financial statements for the year ending December 31, 2010.

Frédéric Lemoine is *Inspecteur des finances* and a graduate of École des hautes études commerciales and of the Institut d'études politiques de Paris. He is an alumnus of the École nationale d'administration.

During his professional career, Mr. Lemoine was also Deputy Secretary General to the President of the French Republic from 2002 to 2004 and Executive Vice President in charge of Finance at the Capgemini group until 2002.

#### > OTHER OFFICES HELD

- Administrator of LCE Sarl;
- Director and Chairman of the Audit and Accounting Committee of Groupama SA;
- Director and Chairman of the Audit Committee of Flamel Technologies;
- Member of the Supervisory Board of Générale de Santé until June 27, 2007, and subsequently Censor; and
- Member of the Supervisory Board of Wendel.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS

None.

#### Alain Bugat (age 60)

Mr. Bugat became a member of the Supervisory Board on January 23, 2003. The Annual General Meeting of Shareholders confirmed his appointment on May 12, 2003. The Supervisory Board elected him Vice Chairman of the Supervisory Board on June 12, 2003. His term expired after the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2005 and was renewed by the Annual General Meeting of Shareholders on May 2, 2006. The Supervisory Board meeting on that same date re-elected him **Vice Chairman of the Supervisory Board**. His term, which in principle was to have expired at the Annual General Meeting of Shareholders convened in 2011 to approve the financial statements for the year ending December 31, 2010, ended following his resignation, effective January 8, 2009. Mr. Bugat will be replaced in his duties as member and Vice Chairman of the Supervisory Board by Mr. Bigot, whose appointment shall be ratified by the Annual General Meeting of Shareholders to be convened April 30, 2009.

Mr. Bugat is a graduate of École Polytechnique and École nationale des techniques avancées. He holds the rank of *Ingénieur général de l'Armement*.

#### > OTHER OFFICES HELD

- Chairman of the Board of Directors of the CEA (until January 8, 2009);
- Representative of the French State to the Board of Directors of AREVA NC;

- Vice Chairman of the Board of *Agence nationale de la recherche technologique* (ANRT) Association; and
- Member of the General Armament Board (*Conseil général de l'armement*) in the capacity of military engineer.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS

- Chairman of the Supervisory Board of MVI Technologies until 2003;
- Director of EDF until 2004;
- Director of DCN SA until 2007;
- Member of the Supervisory Board of CDC Entreprises until 2007;
- Director of Cybernetix until October 2008.

#### François David (age 67)

Mr. François David was appointed to the Supervisory Board by the Annual General Meeting of Shareholders on April 17, 2008. His term will expire at the end of the Annual General Meeting of Shareholders convened in 2013 to approve the financial statements for the year ending December 31, 2012.

Mr. François David is a graduate of Institut d'études politiques de Paris and École nationale d'administration. His duties as Chairman of Coface were renewed in 2007.

#### > OTHER OFFICES HELD

- Member of the Supervisory Board of Lagardère SCA;
- Director of Vinci and Rexel.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS

- Director of EADS until April 2007.

#### Thierry Desmarest (age 63)

Mr. Desmarest was appointed member of the Supervisory Board by the Annual General Meeting of Shareholders on June 18, 2001. His term expired at the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2005 and was renewed by the Annual General Meeting of Shareholders on May 2, 2006. Mr. Desmarest's term will expire at the Annual General Meeting of Shareholders convened in 2011 to approve the financial statements for the year ending December 31, 2010.

Thierry Desmarest is a graduate of École Polytechnique and holds the rank of *Ingénieur en chef* in the *Corps des Mines*. He became Chairman of the Board of Total SA on February 14, 2007, after serving as CEO of that company for 10 years.

#### > OTHER OFFICES HELD

- Director of Renault SA and Renault SAS (since April 2008), of Air Liquide, and of Sanofi-Aventis.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS

- President of Total SA until February 2007; and
- CEO of Elf Aquitaine until May 2007.



## Appendix 1 Report of the Supervisory Board Chairman on the preparation and organization of the Board's activities and internal control procedures

### 3. Preparation and organization of the Supervisory Board's activities

#### Oscar Fanjul (age 59)

Mr. Fanjul was appointed member of the Supervisory Board by the Annual General Meeting of Shareholders on May 2, 2006. His term will expire at the Annual General Meeting of Shareholders convened in 2011 to approve the financial statements for the year ending December 31, 2010.

Oscar Fanjul holds a PhD in economics. He is Vice Chairman and President of Omega Capital.

#### > OTHER OFFICES HELD

- Member of the Boards of Directors of the London Stock Exchange, Marsh & McLennan Companies, Lafarge, Acerinox and Cibeles. Trustee of the International Accounting Standards Committee Foundation (IASC). International Adviser of Goldman Sachs.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS

- Director of Inmobiliaria Colonial until December 2007;
- Director of Unilever Plc until May 2006; and
- Director of Técnicas Reunidas until June 2005.

#### Philippe Pradel (age 52)

Mr. Pradel was appointed member of the Supervisory Board by the Annual General Meeting of Shareholders on May 2, 2006. Mr. Pradel's term will expire at the Annual General Meeting of Shareholders convened in 2011 to approve the financial statements for the year ending December 31, 2010.

Mr. Pradel is a graduate of École Polytechnique and École nationale supérieure des techniques avancées (ENSTA). He is Director of Nuclear Energy at the CEA.

#### > OTHER OFFICES HELD

- Permanent representative of the CEA to the Board of Directors of AREVA TA;
- Representative of France to the Joint Research Center;
- Director of ANDRA;
- Representative of the CEA to GENCI (*Grand Équipement national de calcul intensif*);
- Chairman of the technology platform for sustainable nuclear energy.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS

- Director of AREVA NC Inc. until February 2005;
- Director of Comurhex until February 2005;
- Director of MELOX SA until 2003, then permanent representative of AREVA NC to the Board of Directors of MELOX SA until February 2005;
- Permanent representative of AREVA NC to the Board of Directors of Socodei until February 2005;
- Director of EMA until February 2005;
- Director of AREVA NC Deutschland until February 2005;
- Director of SGN until February 2005;

- Permanent representative of AREVA NC to the Board of Directors of TN International until February 2005;
- Chairman of the Management Board and Director of Commox GIE until February 2005.

#### Guylaine Saucier (age 62)

Mrs. Saucier was appointed member of the Supervisory Board by the Annual General Meeting of Shareholders on May 2, 2006. Mrs. Saucier's term will expire at the Annual General Meeting of Shareholders convened in 2011 to approve the financial statements for the year ending December 31, 2010.

Mrs. Saucier is a Chartered Accountant and a graduate of HEC Montreal.

#### > OTHER OFFICES HELD

- Director of the Danone group (since December 2008), of Axa Canada, of Petro-Canada and of the Bank of Montreal.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS

- Director of Nortel Networks until 2005;
- Director of Tembec Inc. until 2005;
- Director of Altran Technologies until February 2007;
- Director of CHC Helicopter Corp.

#### Commissariat à l'Énergie Atomique (CEA), represented by Olivier Pagezy

The CEA became a member of the Supervisory Board on September 3, 2001. The CEA's term expired at the end of the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2005 and was renewed by the Annual General Meeting of Shareholders held on May 2, 2006. The CEA's term will expire at the Annual General Meeting of Shareholders convened in 2011 to approve the financial statements for the year ending December 31, 2010.

The CEA is represented by Olivier Pagezy (age 40). Mr. Pagezy is a graduate of Institut d'études politiques of Paris and of École nationale d'administration. He is CFO of the CEA and *Inspecteur des finances*.

#### > OTHER OFFICES HELD

- Director of CEA Valorisation SA and of Co-Courtage Nucléaire SA;
- Permanent representative of the CEA to FT1CI (beginning March 2008) and to GIP-DFT.

#### > OTHER OFFICES HELD BY THE CEA

- Director of CEA Valorisation SA, AREVA TA, Route des Lasers (SEML) and Minatoc (SEML).

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS

- Director of Sofratome until 2003.





## Members representing the French State, appointed by ministerial order

### Luc Rousseau (age 51)

Mr. Rousseau was appointed representative of the French State to the Supervisory Board by ministerial order of March 11, 2005 published in the *Journal officiel* on March 25, 2005. He replaces Mr. Jean-Pierre Falque-Pierrotin. His term expired after the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2005 and was renewed by ministerial order of April 26, 2006 published in the *Journal officiel* on May 11, 2006. His term will expire at the end of the Annual General Meeting of Shareholders convened to approve the financial statements for the year ending December 31, 2010.

Mr. Rousseau is a graduate of *École Polytechnique* and holds the rank of *Ingénieur* in the *Corps des Mines*.

He is Director General of Competitiveness, Industry and Services at the Ministry of the Economy, Industry and Employment.

#### > OTHER OFFICES HELD

- Member of the French Atomic Energy Board;
- Government Commissioner to La Poste and Oseo Innovation;
- Director of the French National Research Agency (*Agence nationale de la recherche*, ANR), of the Strategic Investment Fund, of the City of Science and Industry, and of the Invest in France Agency (AFII).

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS

- Government Commissioner to the Supervisory Board of the Industrial Innovation Agency (AII) until December 2007.

### Pierre-Franck Chevet (age 47)

Mr. Chevet was appointed representative of the French State to the Supervisory Board by ministerial order of March 1, 2007 published in the *Journal officiel* on March 3, 2007. He replaces Dominique Maillard. His term will expire at the end of the Annual General Meeting of Shareholders convened to approve the financial statements for the year ending December 31, 2010.

Pierre-Franck Chevet is a graduate of *École Polytechnique* and of the Paris Graduate School of Economics, Statistics and Finance (ENSAE), and holds the rank of *Ingénieur général* in the *Corps des Mines*. He is Director General of Energy and the Climate at the Ministry of the Environment, Energy, Sustainable Development and Regional Development.

#### > OTHER OFFICES HELD

- Director representing the French State to the Boards of Directors of GDF-SUEZ (since 2008), La Poste, and the Institut Français du Pétrole;
- Government Commissioner to the Energy Regulation Commission;
- Government Commissioner to AREVA NC;

- Government Commissioner to ANDRA;
- Director of the French Environment and Energy Management Agency (ADEME);
- Member of the Steering Committee of the International Energy Agency (IEA) and the French Atomic Energy Board.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS

None.

### Gérard Errera (age 65)

Mr. Errera was appointed representative of the French State to the Supervisory Board by ministerial order of December 18, 2007 published in the *Journal officiel* on December 20, 2007. He replaces Mr. Philippe Faure. His term will expire at the end of the Annual General Meeting of Shareholders convened to approve the financial statements for the year ending December 31, 2010.

Gérard Errera is a graduate of *Institut d'études politiques* of Paris and an alumnus of *École nationale d'administration*. He held various positions at the French Ministry of Foreign Affairs, including Director General of political affairs and foreign affairs security, Plenipotentiary Minister, and Ambassador of France in London. He is the Secretary General of the French Ministry of Foreign and European Affairs.

#### > OTHER OFFICES HELD

- Director of EDF, *École nationale d'administration* (ENA), the Commission of Verification of Registered Works of Art, Cultures France, National Agency of Secure Shares (*Agence nationale des titres sécurisés*), Institution of Planning and Response to Health Emergencies (*Établissement de préparation et de réponse aux urgences sanitaires*), Audiovisual Outside France;
- Member of the French Atomic Energy Board;
- Member of the Board of the Arab World Institute (IMA).

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS

None.

### Bruno Bézard (age 45)

Mr. Bézard was appointed representative of the French State to the Supervisory Board by ministerial order of July 22, 2002 published in the *Journal officiel* on July 26, 2002. He replaced Nicolas Jachiet. His term expired after the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2005 and was renewed by ministerial order of April 26, 2006 published in the *Journal officiel* on May 11, 2006. His term will expire at the end of the Annual General Meeting of Shareholders convened to approve the financial statements for the year ending December 31, 2010.

Bruno Bézard is *Inspecteur général des finances*, a graduate of *École Polytechnique* and an alumnus of *École nationale d'administration*. On February 26, 2007, he was appointed Director General of the agency in charge of the French government's equity interests at the department of the Treasury and Economic Policy, Ministry of the Economy, Industry and Employment, by ministerial order published in the *Journal officiel* on February 27, 2007.



## Appendix 1 Report of the Supervisory Board Chairman on the preparation and organization of the Board's activities and internal control procedures

### 3. Preparation and organization of the Supervisory Board's activities

#### > OTHER OFFICES HELD

- Director of EDF, France Télécom, La Poste, Air France-KLM, Thalès, the Marseilles Seaport, Dexia and the Strategic Investment Fund.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS

- Director of Renault until 2003;
- Director of SNCF until April 2007;
- Director of France Télévisions until April 2007.

#### Members elected by and representing the employees

##### Jean-Claude Bertrand (age 57)

Mr. Bertrand was elected by the employee electoral college on May 28, 2002 in elections validated by the Work Council (*comité d'entreprise*) on July 12, 2002. He took office at the Supervisory Board meeting held on July 25, 2002. His term was renewed following elections held on May 24, 2007 and will expire following elections to be held in 2012.

Mr. Bertrand is a program manager with the management team of the Tricastin site.

#### > OTHER OFFICES HELD

- Director of Alexis Junior High School in Montélimar.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS

None.

##### Gérard Melet (age 51)

Mr. Melet was elected by the employee electoral college on May 28, 2002 in elections validated by the Work Council (*comité d'entreprise*) on July 12, 2002. He took office at the Supervisory Board meeting held on July 25, 2002. His term was renewed following elections held on May 24, 2007 and will expire following elections to be held in 2012.

Mr. Melet is Chief Buyer at the Procurement department of AREVA NC/La Hague.

#### > OTHER OFFICES HELD

None.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS

None.

##### Alain Vivier-Merle (age 60)

Mr. Vivier-Merle was elected by the electoral college consisting of engineers and managers on June 20, 2002 in elections validated by the Work Council (*comité d'entreprise*) on July 12, 2002. He

took office at the Supervisory Board Meeting held on July 25, 2002. His term was renewed following elections held on June 19, 2007 and will expire following elections to be held in 2012.

Mr. Vivier-Merle is a manager of strategy and marketing programs for AREVA NP in Lyon.

#### > OTHER OFFICES HELD

- Chairman of the Supervisory Board of the Framépargne employee savings plan;
- Member of the Supervisory Board of the Framépargne balanced mutual fund.

#### > OTHER OFFICES HELD DURING THE PAST FIVE YEARS

- Chairman of the Supervisory Board of Sogepan A until 2004;
- Member of the Supervisory Board of the AREVA employee savings plan's money market fund until 2004.

In addition, Mr. Marcel Otterbein replaced Mr. Patrick Germain as representative of the AREVA Work Council on February 21, 2007. He participated in the meetings of the Supervisory Board in an advisory capacity in 2008.

#### Comptroller General

**Mrs. Anne-Dominique Fauvet**, who was appointed head of the general economic and financial control mission of the CEA by order of the Ministry of the Economy, Finance and Industry on February 15, 2006 with responsibility for general control of AREVA, ceased exercising those duties on July 3, 2008.

**Mr. Bruno Rossi** was appointed acting manager of the Atomic Energy control mission of the general economic and financial control department by the June 24, 2008 decision of the Ministry of the Economy, Industry and Employment. Mr. Rossi is represented by **Mr. Toni Cavatorta**, who reports to him on his control of AREVA SA and attends meetings of the Supervisory Board and of its specialized committees.

#### Censors

AREVA's by-laws authorize the Supervisory Board to appoint one or several censors, whose mission is to assist the Supervisory Board in its oversight functions. They attend the meetings without the right to vote.

No censor had been designated as of the filing of this reference document.

#### Secretary of the Board

**Mr. Bernard de Gouttes**, Senior Vice President of Compliance of the AREVA group, is the Secretary of the Supervisory Board.

The members of AREVA's Supervisory Board may be contacted at the company's corporate office at 33, rue La Fayette, 75009 Paris, France.



### 3.3. Activities of the Supervisory Board

In 2008, the Supervisory Board met eight times (attendance rate: 82%). During these meetings, the Supervisory Board voted on the matters described below:

- **February 26, 2008:** As contemplated in article 23-2 of the by-laws, the Supervisory Board approved the Executive Board's recommendations concerning in particular the profit allocation and the distribution of a dividend of 6.77 euros per share and per investment certificate. On the recommendation of the Compensation and Nominating Committee, the Supervisory Board decided to propose that the next General Meeting of Shareholders set the total amount of directors' fees to be paid to the Supervisory Board in 2008. The Supervisory Board also examined the report of the Chairman of the Supervisory Board and the Executive Board's management report for 2007, and made comments on the latter. During this session of the Supervisory Board, a modification to the Board's rules of procedure related to the Audit Committee's missions was also ratified.
- **April 17, 2008:** On the recommendation of the Strategy Committee, meeting on April 2 on the participation of minority shareholders in the share capital of Georges Besse II, the Supervisory Board authorized the Executive Board (i) to create SET Holding, a wholly-owned subsidiary of AREVA NC, and (ii) to conclude negotiations with identified partners to allow them to become shareholders in SET Holding *via* a capital increase. In addition, the Supervisory Board received all explanations necessary on the quarterly report of the Executive Board and the group's R&D. The Supervisory Board was also informed that the General Meeting of Shareholders of the same day had voted in favor of the appointment of Mr. François David as a new independent member of the Supervisory Board. In addition, it made a decision concerning the achievement of objectives for 2007 by the members of the Executive Board.
- **May 26, 2008:** As provided in article 23-2 of the by-laws, the Supervisory Board authorized the Executive Board to sell all of the shares held in REpower to Suzlon.
- **June 26, 2008:** The Supervisory Board reviewed revision 1 of the budget, the matter of the future of AREVA's share capital, the Executive Board's quarterly report, the Bridge the Gap program (see Appendix 1, section 4.4.2. "Setting objectives"), the status of discussions with minority shareholders approached about acquiring a stake in Georges Besse II, the Audit Committee report on, in particular, the OL3 project in Finland, and the Strategy Committee report on, in particular, the renewal of the shareholders' agreement with Eramet. The Supervisory Board, on a recommendation of the End-of-life-cycle Obligations Monitoring Committee, approved the internal controls report appended to the update to the annual report prepared in accordance with article 20 of the Law of June 28, 2006.
- **August 29, 2008:** The Supervisory Board received all explanations required on the Inspector General's 2007 annual report on the status of nuclear safety and radiation protection, as well as a detailed briefing on the events occurring last summer, particularly the Socatri event. This session of the Supervisory Board was also called to present the consolidated financial statements for the half year ended June 30, 2008 and review AREVA's forecast documents as well as the situation of the OL3 project.

The Supervisory Board discussed the matter of the evolution of AREVA's share capital and received explanations on the offer submitted by AREVA in South Africa.

- **October 3, 2008:** AREVA's Supervisory Board authorized the sale of 49% of the share capital of UraMin Inc. held by two subsidiaries of AREVA NC to an acquisition vehicle controlled by CGNPC. The Supervisory Board also authorized AREVA SA to guarantee the commitments made by the subsidiaries of AREVA NC in the share purchase agreement to be concluded with CGNPC.
- **October 16, 2008:** The Supervisory Board approved:
  - the new four-year strategic plan for the subsidiary AREVA T&D;
  - implementation of the project submitted by the subsidiary AREVA NP for, in particular, the creation of a joint venture with Northrop Grumman Shipbuilding under AREVA NP's control to build a new heavy component manufacturing plant in the United States.

The Supervisory Board also authorized the Executive Board to:

- establish a commercial paper program;
- negotiate and conclude a line of credit with the EIB to finance its enrichment plant project at the Tricastin site;
- launch a share buy-back program to ensure the liquidity of shares held by the Framépargne employee savings plan, and to submit a resolution for this purpose to the General Meeting of Shareholders of December 18, 2008.

On a recommendation of the Compensation and Nominating Committee of December 9, the Supervisory Board also decided to bring commitments made by AREVA on executive severance pay into compliance with the TEPA Law (on work, employment and purchasing power). The Supervisory Board also examined the Audit Committee report dated October 15, 2008 on the OL3 matter in particular and the Executive Board's quarterly report.

- **December 18, 2008:** The Supervisory Board, on a recommendation of the Compensation and Nominating Committee of December 9, (i) decided to submit to the Annual General Meeting of Shareholders of April 30, 2009 a resolution regarding the directors' fees for 2008, and (ii) decided to implement the October 2008 recommendations of AFEF/MEDEF on the compensation of executive officers of publicly traded companies. At that same meeting, the Supervisory Board authorized the Executive Board to provide surety, endorsements and guarantees through December 31, 2009 and to launch one or more bond issues.

The Supervisory Board received the Executive Board's quarterly report and the reports of the End-of-life-cycle Obligations Monitoring Committee and the Audit Committee of December 11 and 12, 2008, which examine matters pertaining to the end-of-life-cycle liability coverage ratio for the former and the projected financial performance for 2008 and the draft budget for 2009 for the latter. The discussion in 2008 focused in particular on developments in the OL3 project and the initiation of arbitration proceedings for delays caused by the customer. It was decided that an additional Board meeting would be convened in the beginning of 2009 to reexamine the budget in view of the current economic situation. The meeting was scheduled for February 5, 2009.





## 3.4. Activities of the four committees of the Supervisory Board

The Supervisory Board may establish committees comprised of Board members, which functions under its responsibility. The Board establishes the composition and duties of each committee and the compensation, if any, of the members.

Prior to each meeting of the Supervisory Board, as necessary, the specialized committees carry out detailed analysis and regularly report on their work to the members of the Supervisory Board.

### Strategy Committee

As of December 31, 2008, the Strategy Committee had five members, chosen from among the members of the Supervisory Board. They are Frédéric Lemoine, Chairman <sup>(1)</sup>, Bruno Bézard, Alain Bugat, Oscar Fanjul <sup>(1)</sup> and Luc Rousseau. Bernard de Gouttes serves as Committee Secretary.

The Committee meets at least once per six-month period and as often as necessary to fulfill its duties. It is convened by its Chairman or at least two of its members. It is responsible for advising the Supervisory Board on the strategic objectives of AREVA and of its main subsidiaries and for assessing the risks and merits of major strategic decisions proposed by the Executive Board to the Supervisory Board. It ensures application of AREVA's strategic policy and its implementation at the subsidiary level. It orders studies to be carried out as it deems useful and recommends policies as it deems necessary.

The Strategy Committee met three times in 2008, with an attendance rate of 93%:

- **April 2, 2008:** The Committee issued a favorable recommendation on the report on opening Georges Besse II share capital to minority shareholders. The Committee proposed that this transaction and the planned creation of the holding company connected with it be authorized by the Supervisory Board due to the strategic importance of the matter, although such authorization is not formally required.
- **May 26, 2008:** The purpose of the Committee meeting was (i) the Eramet shareholders' agreement and recent amendments concerning in particular the duration of the agreement; (ii) the policy concerning the development of the reactor line, and (iii) the development policy for renewable energies, particularly biomass. The Committee was also consulted on the matter of the disposal of AREVA's shares in REpower.
- **September 29, 2008:** The Committee issued a favorable recommendation on the new T&D strategic plan and on the joint project with Northrop Grumman Shipbuilding.

### Audit Committee

As of December 31, 2008, the Audit Committee had four members, chosen from among the members of the Supervisory Board. They are Guylaine Saucier <sup>(1)</sup>, Chairman, Bruno Bézard, Jean-Claude Bertrand and Olivier Pagezy. Jean-Pierre Kaminski, manager of accounting standards and procedures in AREVA's Finance department, serves as Committee Secretary. The Chairman of the Supervisory Board is invited to attend Committee meetings, as are the Statutory Auditors, if required by the Audit Committee.

The Committee meets at least once quarterly and as often as necessary to fulfill its duties. It is convened by its Chairman or at least two of its members. The Committee clarified and described its role during its meeting of December 17, 2007. Once its positions have been validated by the Supervisory Board, the role of the Committee, which has no formal authority, is to assist the Supervisory Board in exercising its authority and attributions in the following fields: the integrity of the financial data published by the company, internal controls, the execution of the internal audit function, the independence and performance of the Statutory Auditors, risk management, financial planning, monitoring of major projects, and business ethics standards.

The Supervisory Board may also expand the scope of work of the Audit Committee by entrusting other fields to it as necessary. To discharge its duties, the Audit Committee may review specific points on its own initiative as it deems relevant to its mission.

In particular, the Audit Committee reviews the draft financial statements, draft budgets, internal and external audit plans, risk maps, internal control policies, the Values Charter and other relevant reports. It interviews the members of the Executive Board and its CEO, the Statutory Auditors, the head of internal audit, and the business ethics advisor. The Committee makes recommendations to the Supervisory Board based on its findings and may suggest modifications or additional investigations that it deems necessary.

The Audit Committee organizes a call for bids upon expiration of the term of the Statutory Auditors and recommends that the Supervisory Board renew the term of current auditors or appoint a new firm.

The Audit Committee prepares a work schedule each year to plan its mission.

(1) Independent members of the Supervisory Board.



### 3. Preparation and organization of the Supervisory Board's activities

Ten Audit Committee meetings were held in 2008, with an attendance rate of 95%:

- **January 30, 2008:** The Committee reviewed the draft press release on 2007 revenue for the AREVA group.
- **February 21, 2008:** The Committee examined the financial statements for 2007 and the accounting options used. The Statutory Auditors presented their summary report on the 2007 financial statements. The status of the OL3 project and the reporting methods for major projects received special attention. The Committee also reviewed the Chairman's report on internal controls and the draft management report.
- **April 16, 2008:** The Committee meeting was largely devoted to the Statutory Auditors' presentation on internal controls and the group's initiative to strengthen internal accounting and financial controls. The Committee also received a document with an evaluation of mining reserves and resources.
- **April 24, 2008:** The Committee reviewed the draft press release on first quarter 2008 financial data.
- **June 20, 2008:** The Audit Committee received a consolidated report on major projects, a benchmark briefing on quarterly data and a document on developments in accounting standards. The Committee commented on developments in the OL3 project and discussed revision 1 of the 2008 budget.
- **July 15, 2008:** The Committee received information on developments in the OL3 matter and the status of negotiations with EDF concerning the back end sector. The Committee asked to be briefed on financial communications scheduled for July 23. Information was provided concerning the accounting treatment for dilution gains.
- **August 27, 2008:** The Committee examined the financial statements for the half-year and discussed the terms of the draft press release. An update was presented on the OL3 project and on the execution of the internal audit plan for 2008, including a status report.
- **October 15, 2008:** The Committee was briefed on developments in the OL3 project. The Committee also reviewed (i) the document retracing risk mapping activities, (ii) the report on business ethics in the AREVA group and (iii) the report on major projects.
- **October 22, 2008:** The Committee reviewed the draft press release on third quarter 2008 financial data.
- **December 12, 2008:** The Committee reviewed the progress of the OL3 matter and the consequences of the financial crisis for AREVA, and examined the 2009 budget.

#### Compensation and Nominating Committee

As of December 31, 2008, the Compensation and Nominating Committee had three members, chosen from among the members of the Supervisory Board; they are Frédéric Lemoine <sup>(1)</sup>, Chairman, Bruno Bézard and Oscar Fanjul <sup>(1)</sup>. Bernard de Gouttes serves as Committee Secretary. The Committee meets at least once per six-month period and as often as necessary to fulfill its duties. It is convened by its Chairman or at least two of its members.

(1) Independent members of the Supervisory Board.

With respect to compensation, the Committee is responsible for recommending to the Supervisory Board executive compensation levels, retirement and insurance programs, and in-kind benefits for executive officers of AREVA based on comparable factors in the market and on individual performance assessments. With respect to nominations, the Committee reviews the files of individuals selected to serve as members of the Executive Board and conveys its opinion to the Supervisory Board. The Committee also gives the Supervisory Board its opinion on executive appointments for first-tier companies of the AREVA group.

The Compensation and Nominating Committee met four times in 2008 with an attendance rate of 100%:

- **January 30, 2008:** The Committee set the compensation of and objectives for the Executive Board for 2008 with a view to submitting them to the Supervisory Board for final decision. It also reexamined the total amount of directors' fees and individual amounts of directors' fees paid to certain members of the Supervisory Board, and discussed the search for new independent directors.
- **March 11, 2008:** The Committee examined the matter of setting the variable component of the compensation of members of the Executive Board for 2007 and gave its recommendations to the Supervisory Board.
- **September 4, 2008:** The Committee conferred on bringing severance pay for AREVA executives into compliance with the TEPA Law.
- **December 9, 2008:** During the meeting, and also the meeting of February 3, 2009, the Committee gave a favorable recommendation on the AREVA group's adherence to the AFEP-MEDEF recommendations of October 2008. The Committee also discussed the Executive Board's potential compensation for 2009, potential objectives for 2009 and directors' fees. The Committee was informed of Mr. Bugat's resignation and gave a favorable opinion on the appointment of Mr. Bigot as a member of the Supervisory Board and of the Strategy Committee and his election as Vice Chairman.

#### End-of-Life-Cycle Obligations Monitoring Committee

The General Meeting of Shareholders having appointed Mr. François David as a member of the Supervisory Board on April 17, 2008, and the Supervisory Board having designated him Chairman of the End-of-life-cycle Obligations Monitoring Committee on that same date, as of December 31, 2008, the Committee is comprised of four members designated from among the members of the Supervisory Board: François David <sup>(1)</sup>, Chairman, Pierre-Franck Chevet, Gérard Melet and Philippe Pradel. Patrick Herbin-Leduc, Chief Financial Officer of AREVA NC, serves as Committee Secretary. The Chairman of the Supervisory Board is invited to attend the Committee meetings.



The Committee meets at least once per six-month period and as often as necessary to fulfill its duties. It is convened by its Chairman or at least two of its members. The Committee is charged with contributing to the monitoring of the asset portfolio set up by AREVA subsidiaries to cover their future clean-up and dismantling expenses. In this capacity, and based on pertinent documentation submitted by AREVA, including a management charter, the Committee reviews the multi-year schedule of future clean-up and dismantling expenses for affected companies of the AREVA group; the criteria for establishing, managing and controlling the funds earmarked to cover expenses by these companies; and the investment management strategy for the related assets. The Committee provides the Supervisory Board with opinions and recommendations on these topics.

The Committee may give audience to financial consulting firms chosen by the fund management companies.

The End-of-Life-Cycle Obligations Monitoring Committee met three times in 2008, with an attendance rate of 58%:

■ **May 29, 2008:** The Committee examined the draft annual report update in connection with article 20 of the Law of June 28, 2006, the report on internal controls appended to that report update, and the status of dismantling liabilities and assets

earmarked to cover those liabilities. The Committee reviewed the solvency ratio, which confirmed the need to allocate financial resources based on the group's requirements and the need to establish management rules for any deviation from a 100% coverage ratio, which is the legal requirement. The Committee also reviewed the selection criteria used by asset managers for each asset category. The Committee issued a favorable recommendation on the annual report update and the annual report on internal controls. It did not comment on the management of earmarked financial assets and noted that existing assets are more than sufficient to cover the group's end-of-life-cycle liabilities as of year-end 2007.

■ **October 9, 2008:** The Committee met to review the ratio of dismantling assets to liabilities in view of the financial crisis. The purpose of the meeting was to discuss a potential adjustment to internal rules so as not to burden AREVA with an obligation to allocate significant funding to this program, since the fundamentals of end-of-life-cycle obligations have not changed and 100% coverage is not required by law until 2011.

■ **December 11, 2008:** The Committee reviewed obligations related to the 100% coverage ratio, which shall apply as of June 2011. It was agreed that the Committee would meet quarterly to monitor the coverage ratio.

## 4. System of internal controls

### 4.1. Introduction

This section is organized according to the frame of reference for internal controls published by the *Autorité des marchés financiers* (AMF), the French stock market authority, in January 2007.

The scope of internal control described below applies to AREVA as the parent company as well as to all of the companies it controls, regardless of their legal form of business.

#### 4.1.1. AREVA group commitments

The AREVA group defined and implements a number of fundamental commitments regarding the conduct and development of its operations. The environment for internal controls is based on these commitments, among other things.

The **Values Charter** is the reflection of the group's business culture and the expression of its sustainable development commitments. The AREVA group's values are integrity, an acute sense of professionalism, responsibility, sincerity, partnership, profitability

and customer satisfaction. The Values Charter sets forth values, action principles and rules of conduct that apply to all of the group's executives and employees as well as to the members of the Supervisory Board.

**Sustainable Development** is central to the AREVA group strategy, which rests on profitable growth, social responsibility, and respect for the environment. This translates into 10 commitments: Governance, Continuous improvement, Environmental protection, Financial performance, Risk management and prevention, Innovation, Commitment to employees, Community involvement, Dialogue and consensus building, and Customer satisfaction.

To implement these 10 commitments, the group adopted the AREVA Way initiative as an essential component of its budgetary and strategic processes. Under this initiative and in connection with sustainable development, all entities and functional departments assess their practices, organize processes for setting objectives, and carry out continuous improvement activities.



#### 4.1.2. Internal control standards

The AREVA group refers to the AMF's **definition of internal control**. According to the AMF's "frame of reference for internal control", the internal control system is characterized by:

- an organization with a clear definition of responsibilities, sufficient resources and expertise, and appropriate information systems, procedures, tools and practices;
- the internal dissemination of relevant and reliable information enabling each person to discharge his or her responsibilities;
- a system to identify, analyze and manage risk;
- control activities designed to reduce this risk; and
- continuous monitoring of the internal control system.

The group ensured that the approach taken is consistent with the standards of the AMF. In particular, it verified the consistency between:

- the "implementing guidelines for the internal control of accounting and financial data reported by issuers" included in the AMF frame of reference, and

- the system for self-assessment of internal controls within the group (Self Audit), which was carried out to ensure that all the standards are met (see Appendix 1, section 4.6., "Continuous oversight of the internal control system").

#### 4.1.3. Internal control objectives

Internal controls contribute to operational control, in terms of effectiveness, the protection of assets, compliance with legislation and regulations, the reliability and quality of information produced and reported, and implementation of instructions and guidance set by the Executive Board.

They provide reasonable assurance that the group's objectives will be met. However, no matter how well designed and implemented, internal control mechanisms are not sufficient to guarantee with certainty that these objectives will be met.

AREVA's internal control system is fully consistent with the group's commitments regarding the conduct and development of its operations.

## 4.2. Organization, resources, information system and operating procedures

Internal controls are implemented throughout the group by all employees under the overall responsibility of the Executive Board and management.

#### 4.2.1. Organization of the AREVA group

In matters of corporate governance, AREVA has opted for an organization that ensures the separation and balance of authority. Executive and management authority is vested in the Executive Board, while approval and control authority is vested in the Supervisory Board and the General Meeting of Shareholders.

AREVA's Executive Board and Executive Committee (ExCom), both comprised of executive officers of first-tier subsidiaries in particular, design and oversee the internal control systems.

Operational management is based on delegations of authority and signature ensuring that the decision-making process complies with the principles of corporate governance.

A Nuclear Executive Committee, whose members consist primarily of key managers in the nuclear sector in France, Germany and the United States, is consulted on all matters involving a significant financial commitment or of substantial strategic or marketing importance.

The group's operations are organized into four business divisions: Front End, Reactors and Services, Back End, and Transmission & Distribution. There are 20 business units within these divisions, each belonging to the group's various legal subsidiaries.

#### 4.2.2. Definition of responsibilities and authority

Organizational procedures and function definitions describe the roles and responsibilities of the various management levels and key managers of the organization.

Authority to conduct business is delegated at every level of the group as appropriate and in a manner consistent with applicable laws and regulations.

In addition, the various functional departments – Purchasing, Finance, International & Marketing, Strategy, etc. – have established their own delegations of authority and signature regarding spending commitments (procurement and Capex), financial transactions, and proposals and contracts.

The organization and delegations of authority are defined to comply with the principle of the separation of duties. In particular, governance and internal control principles applicable to delegations of authority set financial limits by type of transaction, for which information must be provided to or authorization received from the competent authority.



#### 4. System of internal controls

The Industrial department, created in 2008 to monitor the functioning of the AREVA group's industrial sites and supervise the Sustainable Development and Continuous Improvement department, strengthens the internal control monitoring system.

##### 4.2.3. Human resources management policy

The Executive Committee (ExCom) approves the group's human resources management policy, which is implemented by the Human Resources department in agreement with the other departments involved. The policy has four major thrusts:

- strengthen the group's culture by sharing core values and common practices;
- facilitate recruitment, mobility and talent development – in particular through training – to increase the group's market leadership;
- develop an innovative and responsible labor policy; and
- develop tools for human resources management performance.

##### 4.2.4. Information Systems

The mission of the Information Systems department is to ensure the availability of high-performance, cost-effective and secure information systems and to oversee the overall consistency of the group's information systems. To accomplish this, the department is organized to meet two major goals:

- orient the information system towards services to the businesses in alignment with the organization of the group's business processes, and
- standardize, streamline and consolidate the technical and functional infrastructure to ensure its performance and reliability, taking into account both economic and geographic considerations.

The department follows a client-oriented approach to supporting the businesses and the group's economic objectives by offering technology solutions that meet the needs of the group and its customers.

##### 4.2.5. Operating procedures

###### 4.2.5.1. General internal control procedures

Since its establishment, AREVA has worked continuously to strengthen its organization and its internal control procedures.

Its internal control procedures consist of rules, directives and operating procedures defined by the Executive Board, the functional departments and the Compliance department, which is responsible for business ethics, the internal audit, internal controls and AREVA group archives.

The preparation, distribution and implementation of these internal control procedures are a component of the group's action principles.

In addition, policies define general operating procedures upstream from specific business procedures. In particular, the group has set up the following policies:

- the procurement policy and the guide to ethics in procurement, which set rules, objectives and best practices in procurement and business ethics;
- the payment security policy, which defines the group's policy for the security of payments and the means to be used to limit the risk of fraud;
- the personnel protection policy, which aims to give all group employees an equal level of protection, whether they live in France or abroad or are on a business trip;
- the security policy, which establishes rules of conduct to reduce risks continually.

Consistent with the principle of subsidiarity and to ensure the assimilation of these principles, the heads of the group's main subsidiaries adapt the procedures to their specific circumstances prior to implementation within their entities.

###### 4.2.5.2. Accounting and financial reporting procedures

In addition to the role of the Audit Committee and the group's other governance bodies, internal control procedures comply with the principles hereunder.

###### > GENERAL ORGANIZATION

Information is collected and processed at two operational levels: the operating entity (level 1 of information production) and the business unit (base unit for management and performance analysis throughout the group).

Instructions for consolidation are issued by the group's Financial Control department for all half-year and annual financial statements. These instructions set forth:

- the schedule for preparing accounting and financial information for reporting purposes;
- the process for validating this information;
- items requiring particular attention, such as complex issues, changes in legal environment and new internal procedures; and
- the coordinators for consolidation at the corporate level, who are responsible for validating consolidation operations for a portfolio of entities and for preparing cross-cutting analyses for the entire group (corresponding to the notes to the consolidated financial statements).





The group's Finance department launched an initiative to model the group's main financial processes and establish a complete, up-to-date database shared by all stakeholders involved in these processes (corporate departments and subsidiaries). This system:

- documents the processes while acting as an interface to applicable group procedures;
- ensures appropriate control of the processes, including identification of the persons involved, the risks and related control systems; and
- identifies areas for performance improvement and process optimization.

The processes modeled may be found on a dedicated intranet page.

Financial communications revolve around the four divisions – Front End, Reactors and Services, Back End, and Transmission & Distribution – and are based on corporate financial data, thus ensuring broad consistency.

#### > IMPLEMENTATION AND CONTROL OF ACCOUNTING PRINCIPLES

The reporting entities' financial statements are prepared in accordance with the group's accounting and financial principles, which cover the main headings of the group's financial statements. These rules apply to all entities included in the group's consolidation scope. These principles include:

- a glossary that defines the main headings of the financial statements and the group's performance indicators;
- an annotated chart of accounts; and
- accounting procedures issued by the Financial Controls department.

These principles are supplemented by procedures and instructions issued and reviewed on a regular basis by the other units of the Finance department (Financial Operations and Cash Management department, Financial Communications department, Tax department) and by the subsidiaries, and include procedures and instructions dealing specifically with internal controls and fraud.

The standards and procedures function of the Financial Controls department defines and distributes information relating to implementation of the financial and accounting standards, procedures, principles and rules. It also monitors changes in regulations to ensure that the financial statements are prepared in accordance with IFRS rules adopted by the European Union.

#### 4.2.6. Software

In addition to office equipment used by employees, the group has specific software customized for the management of its operations.

A wide variety of tools are used, including facility control systems, integrated management systems, methods and scorecards, and contribute to the operational control of each business.

In particular, the group has established a single, secure reporting and consolidation tool shared throughout the group under the authority of the Finance department.

In addition, organizational memoranda and standards and procedures applicable to the entire group are distributed using a dedicated software application.

AREVA launched the AREVA Segregation of Tasks & Roles Optimization project (ASTRO) to strengthen internal controls and streamline access to information systems. The main objective of this project is to make the access management process secure by ensuring that user roles are defined according to best practices for separation of duties and by automating their management with the SAP Governance, Risk and Compliance suite (SAP GRC). A pilot program was completed in July 2008. ASTRO is now being deployed in all of the group's SAP core systems. Its deployment is being rolled out as new SAP applications are deployed throughout the group (through 2010).

#### 4.2.7. Practices

Internal control relies on all of these elements as well as on practices implemented by all employees, which are themselves based on the group's commitments (sustainable development, Values Charter, etc.). "Best practices" are identified to facilitate their dissemination and sharing so as to ensure effective continuous improvement in matters of internal controls.

AREVA University is an important vehicle for interaction in this regard. Through its activities, it aims to develop AREVA's values and business culture, to facilitate the exchange of best practices, and to involve all employees in implementing the group's strategy.

With the creation of an "accounting and finance internal control" function, the group now has an organization charged with disseminating a culture of internal controls in accounting and finance, ensuring the in-house sharing of best practices, and monitoring external developments in regulations and best practices.



## 4.3. Dissemination of information

Bottom-up and top-down information channels have been established to communicate relevant and reliable information in a timely manner. Examples are provided below.

### ■ Bottom-up information:

- accounting and financial information is processed and reported in accordance with specific procedures using shared tools to record and control the data (*i.e.* a single, secure reporting and consolidation software program shared by the entire group and supervised by the Finance department);
- AREVA Way assessments and sustainable development indicators, particularly for environmental, social and societal aspects, are established using a common tool and rolled up to the relevant corporate departments;

- a common software program is used to measure the progress of action plans, indicative of the achievement of strategic objectives, and serves as an additional channel for bottom-up reporting.

### ■ Top-down information:

- the relevant departments and the group's entities are informed of resolutions by the corporate decision-making bodies;
- the group monitors laws and regulations regarding safety, security, health, the environment, accounting and tax. This information is disseminated throughout the group in an appropriate manner. Organizational memoranda, rules, standards and procedures are disseminated in accordance with established organizational standards and procedures.

Communications to stakeholders are subject to appropriate processes to ensure the quality of the information provided.

## 4.4. Managing risk and setting objectives

### 4.4.1. Risk identification, analysis and management

The group drew up a risk map when it was established to take into account the potential impact of events on the achievement of the group's operational objectives. Working with the entities, AREVA's Risk Management and Insurance department updates the risk map on an annual basis. The risk map is submitted to the Supervisory Board's Audit Committee, with the Audit Director attending. In particular:

- The management teams of the business units have approved the assessment of risk in their operations. For example, the group's entities have collected, analyzed and measured the risk factors of their respective operations. They have also prepared remediation plans and management procedures to minimize the risk and have designated the people in charge and the schedule for completion;
- The main risk factors and the procedures for managing risk are identified and described in the reference document in the section regarding risk management and insurance (see section 4, "Risk factors"). In particular, matters pertaining to nuclear and industrial safety, which are an absolute priority in the group, are discussed in that section.

In addition, the Industrial department is tasked with supervising industrial risk management and, on a practical level, working with the relevant business units to ensure the implementation and effectiveness of action plans used to control and ultimately reduce risk.

Moreover, the risk associated with each heading of the balance sheet, income statement and off-balance sheet information is at least identified by one of the group's tools, *i.e.* the self-assessment questionnaire (see section 4.6., "Continuous monitoring of the internal control system"). This identification, along with the group's tools and procedures, is used to manage the risk by implementing the corresponding action plans. The Finance department matches the group's tools to the risk associated with each balance sheet item.

The Finance department regularly reports to the Audit Committee on the group's major investment and commercial projects. This report is used to monitor projected profitability and changes in the risks associated with these projects.

### 4.4.2. Setting objectives

Risk management is a facet of the process to set the group's objectives, which supplements the AREVA Way initiative supporting continuous improvement (see section 4, "Risk factors" and AREVA Way; see section 4.1.1., "AREVA group commitments").

Medium and long term objectives are set, broken down, estimated and tracked every year in multi-year action plans at each level of the organization (division, business unit and region). The resulting Strategic Action Plan (SAP) is approved by the Supervisory Board.





The group has established the Bridge the Gap program (BTG), whose objectives are (i) to secure the resources the group needs to meet the needs of its existing customers and to participate in new market opportunities, and (ii) to adapt production resources and operating processes by anticipating the group's needs, widely instituting a project-based mode of operation, and strengthening cooperation across the group.

Short term objectives are defined in the framework of the budget process, which is consistent with the Strategic Action Plan. The Executive Committee reviews and approves the budgets of the business units and functional departments.

## 4.5. Control activities

The functional departments are responsible to the Executive Committee for the correct implementation of policies. In particular, the departments in charge of financial control define and ensure the application of management control rules document accounting and financial management processes, and ensure compliance with rules on delegations of authority pertaining to financial commitments.

Each functional and operational level establishes appropriate controls to ensure that the objectives are met. Reporting and budget revisions are used to monitor budget progress and performance in terms of achieving the objectives.

By definition, each organization is responsible for its own internal controls. These controls rely on the mobilization of human, physical and financial resources, the organization of these resources, the deployment of specific objectives within the organization, and the implementation of controls for prevention or detection.

Preventive controls are performed according to specific procedures, whether manual or computerized, involving validations at appropriate levels of the organization, among other things.

Detection controls consist of after-the-fact verifications connected with specific supervision of the work performed and analysis of variances or anomalies. Information systems, performance indicators, etc. are used to facilitate this supervision.

In addition, auditing and expert bodies are charged with controlling the most significant issues in relation to the group's specific goals.

In particular, as regards accounting and financial reporting:

- each entity has set up a system of controls before transactions are recorded;
- controls are performed at the different stages of the consolidation process:
  - either automatically by the consolidation software (control of debit/credit balances, data traceability, data integrity, access control), or
  - manually by the consolidation department, financial controllers and business analysts; and
- the group's Tax department performs tax reviews of the group's main companies.

## 4.6. Continuous oversight of the internal control system

The AREVA group optimizes its internal control systems on a continuous basis under the supervision of the Executive Board and the Executive Committee and with the oversight of the Supervisory Board's Audit Committee.

The Compliance department was created in 2008 and is responsible, among other things, for ensuring the following internal control processes:

- An annual compliance letter process that applies to all senior executives of the subsidiaries, business unit directors and corporate directors of the group, confirming compliance with the principles of the group's Values Charter and protecting the identity of whistleblowers to prevent any subsequent retribution or discrimination in their regard;
- The Internal Audit department, which, in performing its duties, verifies compliance with internal controls and the effectiveness of established internal control procedures within the group. Audit missions are implemented in accordance with an annual audit

plan approved by the Executive Board and reviewed by the Audit Committee. The plan is based on an independent assessment of risk performed by the Audit department. In particular, this assessment takes into account the risks identified using the full range of the group's tools (risk map of the Risk and Insurance department, but also the risk identification carried out by the Environment department, the Safety, Health and Security department, and others).

The Audit department may intervene in any area related to internal controls. Its activities are carried out in accordance with an audit charter according to the standards of the profession defined by the Institute of Internal Auditors (*Institut français de l'audit et du contrôle interne*, IIA-IFACI) and a code of business ethics.

The resulting recommendations give rise to performance improvement plans, which are monitored in liaison with the managers involved.



## Appendix 1 Report of the Supervisory Board Chairman on the preparation and organization of the Board's activities and internal control procedures

### 4. System of internal controls

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■ In addition to audits scheduled in the audit plan, the group's entities have performed a self-audit of their internal controls each year since 2007 following a standard questionnaire that complies with the "Implementing guidelines for internal controls of accounting and financial data" of the frame of reference published by the AMF. The questionnaire, reviewed by the council of Statutory Auditors, was deployed in all 300 of the consolidated group's entities in 50 countries. It covers eight macro-processes – Development/New Markets, Management/Organization, Operations, Sales Administration, Finance/Management, Human Resources, Asset Security, and Information Systems – and helps ensure that internal controls are part of the continuous improvement process. The self-audit findings provided by the group's entities are reviewed by the Audit department and contribute to oversight of the overall system.

The "Internal accounting and financial controls" function and the deployment of new tools and processes in group projects are important drivers for strengthening internal accounting and financial controls.

No serious internal control dysfunctions or inadequacies have been discovered in this system that might have a major impact on the group's operations or financial statements.

This year's report does not contain an analytical section. This is consistent with practices in France and the recommendations of the Autorité des Marchés Financiers, as described in its November 27, 2008 report on corporate governance and internal controls.

The Chairman of the Supervisory Board  
Frédéric Lemoine

- 1. Statutory Auditors' report prepared in accordance with article L. 225-235 of the French Commercial Code (*Code de commerce*), on the report prepared by the Chairman of the Supervisory Board of AREVA..... 407
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## 1. Statutory Auditors' report prepared in accordance with article L. 225-235 of the French Commercial Code (*Code de commerce*), on the report prepared by the Chairman of the Supervisory Board of AREVA

*This is a free translation into English of the statutory auditors' report issued in French prepared in accordance with article L. 225-235 of the French Commercial Code on the report prepared by the Chairman of the Supervisory Board of AREVA on the internal control procedures relating to the preparation and processing of accounting and financial information issued in French and is provided solely for the convenience of English speaking users.*

*This report should be read in conjunction with, and construed in accordance with, French law and the relevant professional standards applicable in France.*

To the Shareholders,

In our capacity as Statutory Auditors of AREVA SA and in accordance with article L. 225-235 of the French Commercial Code (*Code de commerce*), we hereby present our report on the report prepared by the Chairman of the Supervisory Board of your Company in accordance with article L. 225-68 of the French Commercial Code for the year ended December 31, 2008.

It is the Chairman's responsibility to prepare, and submit to the Supervisory Board for approval, a report on the internal control and risk management procedures implemented by the Company and containing the other disclosures required by article L. 225-68 of the French Commercial Code, particularly in terms of corporate governance.

It is our responsibility:

- to report to you our observations on the information contained in the Chairman's report in respect of the internal control procedures relating to the preparation and processing of accounting and financial information; and
- to attest that this report contains the other disclosures required by article L. 225-68 of the French Commercial Code, it being specified that we are not responsible for verifying the fairness of these disclosures.

We conducted our work in accordance with professional standards applicable in France.



## Appendix 2 Reports of the Statutory Auditors

### 1. Statutory Auditors' report prepared in accordance with article L. 225-235 of the French Commercial Code (Code de commerce), on the report prepared by the Chairman of the Supervisory Board of AREVA

The professional standards require that we perform the necessary procedures to assess the fairness of the information provided in the Chairman's report in respect of the internal control procedures relating to the preparation and processing of the accounting and financial information. These procedures mainly consisted in:

- obtaining an understanding of the internal control procedures relating to the preparation and processing of the accounting and financial information on which the information presented in the Chairman's report is based and the existing documentation;
- obtaining an understanding of the work that enabled the preparation of this information and the existing documentation;
- determining if any major deficiencies in the internal control procedures relating to the preparation and processing of the accounting and financial information that we would have noted in the course of our engagement are properly disclosed in the Chairman's report.

On the basis of these procedures, we have nothing to report on the information in respect of the company's internal control procedures relating to the preparation and processing of the accounting and financial information contained in the report prepared by the Chairman of the Supervisory Board in accordance with article L. 225-68 of the French Commercial Code.

We hereby attest that the Chairman's report includes the other disclosures required by article L. 225-68 of the French Commercial Code.

Paris-La Défense and Neuilly-sur-Seine, February 25, 2009

The Statutory Auditors

Mazars  
Jean-Luc Barlet

Juliette Decoux

Deloitte & Associés  
Étienne Jacquemin

Patrice Choquet



## 2. Statutory Auditors' special report on regulated agreements and commitments

*This is a free translation into English of the Statutory Auditors' special report on regulated agreements and commitments that is issued in the French language and is provided solely for the convenience of English speaking readers. This report on regulated agreements and commitments should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France. It should be understood that the agreements reported on are only those provided by the French Commercial Code and that the report does not apply to those related party transactions described in IAS 24 or other equivalent accounting standards.*

To the Shareholders,

As Statutory Auditors of your company, we hereby report to you on regulated agreements and commitments with related parties.

### I - Agreements and commitments authorized during the year

Pursuant to article L. 225-88 of the French Commercial Code (*Code de commerce*), the following agreements and commitments, which were previously authorized by your Supervisory Board, have been brought to our attention.

It is not our responsibility to identify such agreements and commitments, if any, but to communicate to you, on the basis of the information provided to us, the principal terms and conditions of those agreements and commitments brought to our attention, without expressing an opinion on their usefulness and appropriateness. It is your responsibility, pursuant to article R. 225-58 of the French Commercial Code (*Code de Commerce*), to assess the interest attached to the conclusion of these agreements and commitments for the purpose of authorizing them.

We have performed the procedures that we considered necessary in accordance with the professional guidelines of the French National Institute of Statutory Auditors (*Compagnie Nationale des Commissaires aux Comptes*) relating to this engagement. These procedures consisted in agreeing the information provided to us with the relevant source documents.

#### AREVA commitments under article L. 225-90-1

On October 16, 2008, the Supervisory Board, at the recommendation of the Compensation and Nominating Committee, decided to bring the commitments given by AREVA with regard to executive management severance pay into compliance with the French TEPA Law.

The members of the AREVA Management Board, Mrs. Anne Lauvergeon, Chairperson, and Messrs Gérald Arbola, Didier Benedetti and Luc Oursel, were each granted entitlement to severance pay equal to twice the total of their most recent fixed annual compensation at the date of termination of their duties, plus the average variable annual compensation paid in respect of the last three years.

The Supervisory Board adopted the following new rules:

- in the event of removal of a member of the Management Board by Annual Shareholders Meeting, the resignation of a member of the Management Board at the request of the Supervisory Board or the non-renewal of the term of office of a member of the Management Board at the request of the Supervisory Board (and not because the member refuses this renewal), the payment to this member of the severance pay provided in the terms and conditions of employment and approved by the Supervisory Board and the Minister for the Economy and Finance, shall be contingent on the following condition: having received over 60% of the maximum variable compensation due in respect of two of the last three years, where this variable compensation is based on both quantitative and qualitative objectives;
- conversely, if less than 50% of the maximum variable compensation was received in two of the last three years, the severance pay shall not be paid;
- if less than 60% of the maximum variable compensation was received in two of the last three years, but this percentage was between 50% and 60% for at least one year, the decision to pay all or part of the severance pay shall be made by the Supervisory Board, without any automatic entitlement to this indemnity;
- specific case of Mr. Luc Oursel up to the end of 2008: where the term of office lasts less than two years, the severance pay shall be paid if the individual has received over 60% of the maximum variable remuneration in respect of one of the two years.



## II - Agreements and commitments authorized in previous years and having continuing effect during the year

Pursuant to the French Commercial Code (*Code de commerce*), we were informed that the following agreements and commitments authorized in previous years have had continuing effect during the year.

### With AREVA NC

On July 8, 2004, the Supervisory Board authorized the signature of an agency agreement under which AREVA NC gave AREVA authority to manage or organize and control, in the name of AREVA NC and on its behalf, assets earmarked to fund end-of-life-cycle and radioactive waste management expenses. This agreement has no set expiration date. It may be terminated by either party subject to three months notice. Services billed in 2008 in respect of the fiscal year totaled 79,553 euros.

### With FCI (company sold on November 3, 2005)

Pursuant to the sale of FCI's Military/Aerospace/Industry Division during fiscal year 2003, the Supervisory Board meeting of December 10, 2002 authorized various joint sureties in favor of the purchaser of this division.

The only guarantee remaining in effect in 2008 concerning the sale was maintained and capped at 33.25 million euros, in accordance with the provisions of article 8.12 (c) of the Share Purchase Agreement signed on September 19, 2005 between AREVA and the purchaser of FCI. No amount was paid by AREVA in 2008 in respect of this guarantee.

### With AREVA NP

The vendor warranties granted by AREVA to AREVA NP in connection with the sale of Intercontrole continued in effect during the fiscal year. No amount was paid by AREVA in 2008 in respect of these warranties.

### AREVA commitment under article L. 225-90-1

On March 22, 2007, on the favorable recommendation of the Compensation and Nominating Committee meeting of March 9, 2007, the Supervisory Board approved the terms of compensation of Mr. Luc Oursel as new member of the Executive Board and, in application of article L. 225-90-1 of the French Commercial Code, authorized the commitment made by AREVA to provide Mr. Oursel with deferred compensation due or which may become due in the form of severance pay equal to twice the compensation for the last full calendar year (fixed compensation plus the last bonus received) should his functions cease.

These measures were approved by the Minister of Environment, Sustainable Development and Regional Development and the Minister of Economy, Finance and Employment, in accordance with article 3 of Decree no. 53-707 of August 9, 1953, as amended.

This agreement was amended by the Supervisory Board on October 16, 2008.

Paris-La Défense and Neuilly-sur-Seine, February 25, 2009

The Statutory Auditors

Mazars

Jean-Luc Barlet

Juliette Decoux

Deloitte & Associés

Étienne Jacquemin

Patrice Choquet



## Appendix 3 Human Resources report

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## 1. Key data

	2008	2007	2006
<b>1. The workforce at year-end is consistent with the consolidation scope</b>			
<b>By division</b>			
Front End	14,240	12,577	11,995
Reactors and Services	19,477	16,500	14,936
Back End	10,906	10,638	10,697
Transmission & Distribution	29,966	25,248	22,988
Corporate and other operations	825	620	495
<b>Total</b>	<b>75,414</b>	<b>65,583</b>	<b>61,111</b>
<b>By geographical area</b>			
France	34,328	32,224	31,240
Europe (excluding France)	16,520	14,556	13,456
North and South America	9,966	8,717	7,479
Africa and Middle East	3,914	2,638	2,519
Asia-Pacific	10,686	7,448	6,417
<b>Total</b>	<b>75,414</b>	<b>65,583</b>	<b>61,111</b>
<b>By category</b>			
Engineers and management staff	40%	38%	37%
Technical and administrative personnel	35%	36%	37%
Skilled workers	25%	26%	26%
<b>2. Labor data</b>			
Women executives	9.2%	8.7%	4.80%
Women managers	18.10%	16.72%	16.85%
Women in non-management positions	19.65%	18.42%	17.40%
Number of hours of training per employee per year	29.59	25.8	21.1
Disabled personnel (excluding USA)	1.75%	1.76%	1.92%
Absenteeism rate	no data for 2008	0.04	0.04
Number of hours worked	123,007,094*	110,601,352*	102,482,992*
Number of overtime hours paid	4,990,999	4,305,491	4,395,214
<b>3. Occupational safety and radiation protection data</b>			
Average employee dose from radiation exposure (mSv)	1.22	1.19	1.22
Total individual external dose to AREVA group employees over 12 consecutive months (man-millisievert)	19,463	18,760	19,157
Total individual internal dose to AREVA group employees over 12 consecutive months (man-millisievert)	5,837	5,341	4,999
Average subcontractor dose from radiation exposure (mSv)	0.50	0.49	0.48
Accident frequency rate with lost time (excluding commuting accidents)	3.19	3.55	4.66
Accident severity rate (excluding commuting accidents)	0.1	0.11	0.14
Number of fatal accidents	6	6	3

\* Change of consolidation scope resulting in a change in hours calculated in relation to those published in the Reference Document of 2007.



## 2. Changes in number of employees and human resources data

### 2.1. Change in number of employees

The AREVA group had 75,414 employees at year-end 2008, compared with 65,583 employees at year-end 2007, representing an increase of 15%.

The group's workforce thus had a net increase of nearly 17,000 employees, attributable mainly to the increase in AREVA's businesses and related recruitment:

- more than 1,300 new employees in the Mining business unit;
- about 3,000 employees in the Reactors and Services division, including approximately 2,000 in AREVA NP and more than 700 in the Renewable Energies business unit;
- more than 5,000 new employees in all AREVA T&D business units combined, including 3,000 in the Products business unit.

In 2008, 15,049 new employees joined the group, with 70% of all new employees recruited in China, the United States, Germany, India and France, in order of importance.

Changes in the scope of consolidation were limited in 2008, representing less than 3.7% of the workforce compared with 2007. Changes in the consolidation scope primarily concerned:

- the T&D division, with acquisitions including Waltec (500 employees in Brazil), Nokian (300 employees in Finland and China) and Huadian (about 350 employees in China);

- the Renewables Energies business unit, with the acquisition of Koblitz in Brazil (500 employees);
- the Mining business unit, with the integration of UraMin Inc. in Africa (a total of 300 employees in South Africa, Namibia and the Central African Republic); and
- the AREVA TA business unit, with a total of 180 new employees in Great Britain (RM Consultants) and in France (SMP and Sud Mécanique).

For the group as a whole, fixed-term jobs represent 8% of the workforce, i.e. approximately 6,000 people (27% of whom are in interim jobs). Interim jobs are up 26% from 2007; most of these jobs are in France (71%), Germany (12%) and India (8%).

Engineers and managers represented 40% of the workforce in 2008, a two-point increase compared with 2007. Technical and administrative personnel represent 35% of the workforce. Skilled workers represent 25%, a one point drop from 2007.

The geographical breakdown of the workforce changed very little. Nonetheless, the headcount went from 71% to 68% in Europe, remained stable at 13.5% in North and South America, and rose in Africa/Middle East from 4% to 5% and in Asia-Pacific from 11.5% to 14%.

### 2.2. Changes in demographic profiles and health data

#### Changes in demographic profiles

The number of hours of training per employee per year was up sharply in the group's international operations. Training per employee came to 29.59 hours in 2008, up 15% compared with 2007 (25.8 hours). This increase reflects the group's steady focus on employee training.

The number of women in executive positions rose 0.5% from 2007 to 9.2%.

At year-end 2008, women represented 18.1% of the group's management personnel and 19.65% of its non-management personnel. This data was collected with the HR reporting tool rather than the Sustainable Development reporting tool, which have a significantly different scope. The HR tool captures all enti-

ties in which the AREVA group's interest exceeds 50%, including a number of small non-industrial entities that were not identified before.

#### Changes in occupational safety and radiation protection data

##### Radiation protection

The average dose from exposure to radiation increased somewhat in 2008, returning to 2006 levels. The average dose to group employees increased from 1.19 mSv in 2007 to 1.22 mSv in 2008. The Nuclear Services, Clean-up and Mining business units had the group's highest levels of employee exposure.



## Appendix 3 Human Resources report

### 3. People are at the heart of AREVA's development strategy

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For subcontractor personnel working at AREVA sites, the average radiation exposure is much lower and in 2008 was 0.50 mSv, practically the same as in 2007, at 0.49 mSv. The Mining and Recycling business units have the group's highest levels of subcontractor employee exposure.

In 2008, as in 2007, 12 group employees working at customer sites received an individual dose greater than 20 mSv, although not exceeding the regulatory limit (50 mSv/yr in the United States). The maximum individual dose received remained close to 20 mSv, at 24.4 mSv. More than 83% of the group's employees and 92% of the subcontractors working at AREVA plants received individual doses of less than 2 mSv over 12 consecutive months. It should be noted that, in France, annual exposure to naturally occurring radiation is approximately 2.5 mSv.

#### Occupational Safety

The accident frequency and accident severity rates for the AREVA group dropped again between 2007 and 2008, going from 3.55 to 3.19 and from 0.11 to 0.10 respectively. These annual results are consistent with the goal set for 2010, *i.e.* an average frequency rate of less than 3. They remain far below the French industry average of 25.7 for accident frequency and 1.28 for accident severity (source: French Social Security Administration, CNAMTS, 2007).

Unfortunately, six fatal work-related accidents occurred in 2007, five of them involving subcontractor personnel.

### 3. People are at the heart of AREVA's development strategy

AREVA's strong growth around the globe creates a unique challenge in terms of human resources. Based on current growth assumptions, approximately 50% of the employees who will make up the group's workforce in 2014 have yet to be hired. This means that 40,000 new employees will have to be hired in the next few years. Already, the group has integrated more than 22,000 employees under open-ended employment contracts in the past three years. This substantial long-term effort demonstrates the group's appeal on the labor market and the appropriateness of its Human Resources policy.

This challenge places the women and the men who are the current and future employees of AREVA at the center of the group's development strategy. This is reflected in the HR policy called Talent Building deployed at every level of the group and in every country. The fundamentals underlying the program are respect for shared values, a sustainable development initiative, and a policy of diversity, all of which drive performance.

#### 3.1. The Values Charter, a guidepost for all employees

While the company's culture reflects the skills contributed by each employee, a set of common rules applicable to everyone is necessary for responsible and sustainable growth. The Values Charter establishes the rules of conduct that apply to day-to-day decisions and professional activities at AREVA.

For employees, the values constitute a guidepost to their rights and responsibilities to the company and its stakeholders. Translated into 11 languages, the Values Charter is widely distributed throughout the group and is given to each new employee.

#### 3.2. Sustainable Development, an integral part of HR policy

Sustainable development, embodied in the AREVA Way continuous improvement initiative, has been the keystone of AREVA's industrial strategy since the company was established in 2001. AREVA Way outlines the group's 10 commitments to its stakeholders.

Among these commitments, the "Commitment to employees" affirms the group's determination to be a considerate and responsible employer that fosters its employees' professional development while providing good working conditions.

This commitment is a daily practice of managers and the Human Resources function. All units must carry out a self-assessment based on 21 criteria covering the full range of employment-related issues. This initiative enables each entity to measure performance improvement in key areas of the strategy and to establish action plans consistent with the group's overall objectives.

### 3.3. Diversity, a priority and a strategic asset

AREVA believes that a company should reflect the society in which it operates, in all its facets. Diversity is also a key performance driver, for it increases the opportunities for understanding and the sharing of different skills and world views, all of which fuel innovation.

Four topics are at the forefront of AREVA's action: professional equality between men and women, ethnic and cultural diversity, job opportunities for people with disabilities, and age pyramid

management. Consistent with this approach, the group has fostered agreements with labor partners at the European level to organize the initiative and establish objectives.

The Department of Human Resources is responsible for implementing the equal opportunity policy, with the objective of changing the company's outlook and modus operandi.

### 3.4. Helping each talent achieve excellence: a promise from a leading employer

To foster excellence, AREVA launched a career development and skills acquisition initiative called Talent Building. Talent Building includes policies, processes and tools designed for strategic objectives, including:

- identifying talent at every level of the organization so as to build and retain skills;

- offering employees career development opportunities at the group level and a wide range of job experience (on site, in a project team, at headquarters, in another country, etc.).

## 4. A strategy for meeting AREVA's HR challenges

AREVA's Human Resources strategy is designed to support the group's development. Significant progress was achieved in 2008 in the four major lines of action:

- to be a preferred employer in recruiting new talent;

- to integrate and develop in an environment of strong growth and demographic renewal;
- to involve employees in achieving performance over the long term; and
- to deploy an innovative and responsible labor relations strategy.

### 4.1. Being a preferred employer to recruit new talent

AREVA has become one of the world's biggest recruiters in the energy sector, leaping from 5,000 new hires per year to 15,000 per year in just four years. To hire the best talent in a highly competitive environment, AREVA continually improves its processes and deploys innovative solutions to maintain this level of recruitment.

#### 4.1.1. One new hire every 45 minutes

##### Exceeding objectives throughout the group

With nearly 15,000 new hires in 2008, AREVA welcomes one newcomer somewhere in the world every 45 minutes. Most of the entities had a record year. AREVA NP is one of the group's biggest employers, exceeding its targets for the year with 3,000 new hires around the globe, particularly for the Plants business unit. AREVA NC secured the resources necessary to hire more than 1,330 employees in 2008, including 563 new hires in the Mining business unit. AREVA T&D recruited a record 5,060 new



## Appendix 3 Human Resources report

### 4. A strategy for meeting AREVA's HR challenges

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employees, increasing the share of newcomers to nearly 20% of its workforce. The Renewable Energies business unit, which has had significant external growth since it was established two years ago, successfully filled most key management positions in its leading entities in 2008. In terms of geography, hiring affected all countries in which the group operates: France remains the top country in terms of recruitment, with about 4,700 new hires, followed by India with 1,600 new hires, Germany with 1,400, the United States with 1,200 and China with 900.

#### Improving operating efficiency

To achieve these results, the group has lined up tools and personnel equal to the challenge.

Available in seven languages, e-Talent is an on-line recruitment tool offering real-time access to every job opening in every one of the group's geographical areas to internal and external job candidates. Available in seven languages, e-Talent now has an international administrator charged with updating the tool, training HR users, and coordinating a network of recruiters via a dedicated portal.

The Mining business unit established local recruitment cells to meet significant hiring needs at its four geographic mining platforms in Niger, South Africa, Kazakhstan and Canada. The challenge is enormous. The future Imouraren mine, for which a mining permit was received in 2008, will employ nearly 860 people locally in 2012. Already, more than 900 people among 12,000 applicants have been preselected and tested.

In France, the corporate organization in charge of recruiting young graduates and experienced engineering professionals improved productivity significantly: the number of people hired was up 47%, for a net staff increase of 19%.

#### Strengthening our pool of experts to ensure excellence in technology

In addition to hiring new personnel to meet the short-term needs of its growing businesses, AREVA is also replenishing its pool of scientific and technical experts.

More than 30 experts have joined AREVA since the beginning of the year. The expertise building program launched throughout the group in late 2007 has given rise, among other things, to the GapExpert program at AREVA NC. In 2008, some 20 junior experts were hired and assigned to the business units to build a reserve of experts for the future.

AREVA T&D is also building new teams of technical experts needed to support international growth. The "deployment of expertise" program launched in June 2008 has already led to the recruitment of 50 new technical experts in China, including 31 engineers with less than 5 years of experience and 8 experienced engineers with more than 10 years of experience. This program is supported by a training and development plan that includes international exchanges with AREVA T&D's European and American centers of expertise. The program will be expanded in

2009. A new Technology Center will be opened in Shanghai to contribute comprehensive technical expertise to all AREVA T&D business lines in China.

The Department of Research and Innovation created a cross-business innovation team comprised of six senior experts. Their mission is to provide support to the business units in their areas of expertise.

In the same spirit, the group is strengthening its relations with doctoral students. A new program was launched to call attention to this group in-house by increasing its visibility and showcasing its contributions. The group hopes to increase the number of PhD's by identifying new thesis subjects.

#### 4.1.2. Towards deployment of an international employer brand

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In 2005, AREVA designed its first campaign to promote its brand as an international employer. This campaign helped build awareness of the group and strengthened its appeal to potential candidates in France.

In 2008, the decision was made to start the next phase. AREVA's brand as an employer must be deployed beyond traditional countries to support the internationalization of the group and of its hiring. The new global campaign will be tailored to the aspirations of young graduates in several target countries. It will start in March 2009 in six countries or regions (Germany, China, the United States, France, India and the Middle East).

#### 4.1.3. Productive partnerships with schools and universities

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##### AREVA's image among students is constantly improving

According to the 2008 Universum poll of more than 14,000 students in France, AREVA is ranked second as a preferred employer among students from the top engineering schools. This confirms the improvement noted in recent years. The goal for 2009 is to continue this positive trend and to be ranked as one of the top five energy companies in key countries in which the group is based.

##### Expanding Campus Management worldwide

AREVA's increasingly positive image is due among other things to an active presence on the campuses of top schools and universities, where it can reach potential candidates directly. A network of campus managers, formed to build partnerships and see that AREVA participates in campus job fairs, conducted more than 150 events in 2008 in the countries in which the group operates.

Campus Management operations are growing quickly and adapting to local practices. In India, the number of students recruited more than tripled in 2008. AREVA T&D recruited more than 450 young graduates, or 19% of all engineers and managers hired this year.

To go beyond our usual recruiting grounds, we created a list targeting the best schools for mining and geology in Europe, Africa, South America and the South Pacific.

In France, campus managers received support from about a hundred employees who serve as ambassadors to their *alma maters*. A seminar and an on-line community will support the efforts of these ambassadors in early 2009. This network will eventually be expanded to other countries, with Germany the next in line.

### Improving on-the-job training and training programs for students

On-the-job training is a legitimate way to replenish and rejuvenate the workforce.

One of the goals of the new coaching program in France is to increase the quality of integration for young people training in the workplace. A special professional training program was developed for their coaches.

On-the-job training is rising in other European countries as well. In Germany, AREVA NP sponsored more than 130 vocational trainees in 2008. The number of participants will continue to increase in the years to come. AREVA NP Germany plans to hire at least 800 people per year through 2015.

In France, the policy governing on-the-job training programs is now implemented at the corporate level. One of the goals is to develop international on-the-job training programs and the number of participants in the French VIE program to promote cultural exchange. The number of trainees in their second year of university studies will be increased to diversify profiles. AREVA will create networks and processes to follow up with trainees and increase the percentage of those hired. The 500 post-graduate trainees participating in our programs each year, usually in their third year of university studies, are a natural reservoir of future job candidates.

#### 4.1.4. Innovative recruitment methods

### Stepping forward to meet the candidates

AREVA goes beyond traditional hiring methods to stand out from other recruiters and meet new talent in every country in which it is based.

For the past several years, the group has organized a "Meet Your Future" forum several times a year to meet nearly 300 preselected candidates in one day. Candidates learn about the company through exhibits and management presentations and are

interviewed by operating managers and recruitment specialists. Nearly 100 young graduates joined AREVA after each of the forums organized in 2008.

A bilingual web campaign, the "Mining Project Days", was organized to provide information on the Mining business unit's projects. The goal was to identify candidates and recruit 40 experienced professionals for the business unit's new projects. Selected candidates met the project managers during a half-day Meet and Greet session.

### AREVA on Facebook

Following a recruitment session on the Second Life virtual site in June 2007, AREVA launched a Facebook program in 2008 to evaluate pioneering web-based initiatives further. AREVA group employees who are members of this well-known social network have the option of adding the "Work with me" application to their profile to inform their friends about all or some of the group's job offers.

This application is inspired by referral programs, which represent up to 30% of all hiring in some countries, such as Indonesia.

### A job bus

In the Saône-et-Loire department of France, AREVA and the French Metalworkers Union (UIM) launched an innovative operation called "1,000 jobs for you and near you" with several local partners and governments. The team in charge of promoting employment in the regional metal industry traveled throughout the department by bus to meet potential candidates in 14 cities. More than 1,000 people were met.

#### 4.1.5. Practical results in equal employment opportunity

AREVA has established new recruiting processes such as participating in special job fairs, "job dates", etc. to meet candidates with disabilities.

In 2008, consistent with its contractual commitment, AREVA hired more than 150 people with disabilities in France.

The AREVA T&D site at Guardamiglio in Italy is setting the example in hiring employees with disabilities. Already, 6.8% of its workforce is comprised of people with disabilities, who represented 4.5% of all people hired in 2008.

In Germany, the AREVA T&D site in Mönchengladbach worked with a specialized government agency and hired ten deaf and hard-of-hearing workers for its production facilities.

The percentage of women in AREVA's workforce continued to rise in line with the group's goal of 20% women in management committees. Women represent almost 40% of all engineers and managers hired by the group, double the percentage in the French





market for the job categories for which AREVA is hiring. Progress was made in jobs where the percentage of women is traditionally low, particularly in the mining professions (geologists, mining engi-

neers, etc.), where the female population has risen 136% in three years from 11 employees in 2006 to 26 employees in 2008.

## 4.2. Integrating and developing in an environment of strong growth and demographic renewal

AREVA offers a variety of career development opportunities to its employees and new hires. The objective of the group's HR policy is to retain skilled talent and to present them with development opportunities at every stage of their career, from the integration of new hires to employment of seniors.

### 4.2.1. Setting up a worldwide integration program for new hires

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#### A shared global system to welcome and integrate new employees

To keep pace with the high recruitment volume, integration meets a need for a shared foundation, whether for skills or for values, and facilitates the development of a professional network.

The group's integration program, developed in 2007, was rolled out in 2008. A comprehensive system of communications focused on integrating newcomers is offered to HR managers in every entity. HR specialists have access to a complete range of communication tools to organize the various phases of the integration process and convey a consistent message. These tools include the newcomer's handbook, presentations, games for orientation sessions and videos.

#### Developing an innovative integration program in Europe

AREVA's integration program includes a number of events to promote the group's culture. In France, 800 newcomers participated in the four AREVA Integration Days held in 2008.

Starting in 2009, the group will offer an 11-day professional training program for newly hired European engineers and managers. The program will be provided by AREVA University at a new training campus in Aix-en-Provence.

The program draws on the most modern educational techniques – workshops, case studies and educational games – and includes tours of nuclear sites and AREVA facilities in the region.

#### Designing targeted programs for specialized professionals

*Ad hoc* programs are required to meet specific requirements for certain jobs or in certain countries.

For example, AREVA NP launched a dedicated integration program for directors of major projects to bring them up to speed as quickly as possible. The program provides in-depth training on the nuclear business and creates opportunities to build a network of contacts.

AREVA T&D developed Fast-Track programs, first in India and then in China, with the first "class" graduating in 2008. Recent university graduates participating in this program receive very complete integration training lasting from one to two years that alternates between formal training and on-the-job experience in several different sectors of the company. Training is customized for each newcomer, thus fast-tracking his or her development while explaining the various aspects of the transmission and distribution business.

The Mining College offers professional training programs for engineers of the Mining business unit with less than three years of experience. The programs are tailored to the needs of the business unit and cover the latest technology developments. In 2008, the Mining College held 46 sessions in France, Niger and Mongolia, for more than 240 participants, including 70 new hires. Other countries, such as Canada and South Africa, are also included in the program.

### 4.2.2. Successful deployment of development and skills management tools and processes

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#### Rolling out the People Review

AREVA continued to deploy the People Review process throughout the group for all engineers and managers. This "collective review" of employees is carried out by managers with help from HR. The goal is to analyze the career outlook of engineers and managers and to identify the development actions required.

AREVA's new entities are integrated in the group process very rapidly, as was the case for companies acquired by AREVA TA in 2008. This will also be the case in 2009 for the two new entities acquired by the Renewable Energies business unit in Brazil and Germany.



### Launching the Agora HR information system to optimize career development

AREVA NP is the group's first entity to use the new Agora career development tool. Agora is a talent management tool used by the employee, his or her manager and the HR manager to improve dialogue between the parties and the efficiency of the performance management and People Review processes.

An e-learning training module was developed for the information system. Agora will be in service in all nuclear operations around the globe by 2011.

### Strengthening the development of leadership skills

AREVA's Leadership Model was updated in 2007 to meet today's challenges. Deployment throughout the group began in 2008 and will continue in 2009.

To define individual development actions, each manager will be asked to assess the level of his or her leadership skills as part of the annual performance appraisal process with his or her supervisor. Beginning in 2008, the Leadership Model will be incorporated into the group's new Agora Human Resources Information System for nuclear operations.

In AREVA T&D, 60 executives are taking part in a 360° initiative in which their leadership attributes are evaluated by their team, their manager, their peers and customers. The results are analyzed, leading to the construction of individual development plans, and changes to be made to collective processes are identified. This program will be expanded in 2009 to include 350 employees at the following level of management.

### Multiple initiatives to promote mobility and career development in support functions

The HR team dedicated to career management for the support functions generated a number of initiatives in its first year of operation. It developed an e-learning module for the Finance function, designed and deployed a skills baseline for the IT department, and defined a professional training program for the Sustainable Development and Continuous Improvement department. The HR Professions team is also in charge of providing individual career development support to employees in cross-business functions. In 2008, the 10 team members interviewed more than 500 employees and organized more than 150 mobility actions.

The main project for 2009 is to identify bridges between functions to allow employees to enjoy a motivating and enriching career path while encouraging training and mobility to meet AREVA's business challenges.

At AREVA NC, the Clean-up business unit developed Comet, a tool that lists 31 professions in the operating area, with a description of activities, skills, the qualifications required and possible bridges between jobs. Comet is a tool for both employees and managers. This successful initiative will be expanded to other AREVA NC entities in 2009.

### 4.2.3. A commitment to training and professionalization

#### A new Training department

Professional training is a key component of career development and individual mobility. The Corporate Training department created in May 2008 is testimony to its importance.

The new department's mission is to develop international programs for group as well as for outside entities that supplement the business units' own training programs. It offers technical training through the Technical Training Center and management training via AREVA University, which partners with prestigious institutions such as the Harvard Business School, Stanford University and the HEC business school in France.

#### Continual improvement in training

A number of professional training programs were developed to increase the level of proficiency of employees in certain professions or support functions. In 2008, we strengthened our offering for service and production jobs, on-site maintenance specialists, finance jobs and administrative assistants.

The number of hours of training per year per employee in 2008 rose to 25 hours for the group as a whole and to 28 hours in France. The number of employees who received training increased as well: 77% of all employees received training during the year, up 9 points from 2007. The number of people who received no training in the last three years went down, from 5.5% in 2006 to 3.5% in 2008. The number of requests received and accepted under the individual right to training (French DIF) rose to 2,500 in 2008, up 60% compared with 2007.

#### Programs to meet market challenges

AREVA's entities implemented numerous management and technical training initiatives to meet specific needs.

In AREVA NP, team leaders at all levels have access to the CAP Management training module, which promotes a shared management culture in the group. In 2008, AREVA TA offered the "Developing our management skills" program to its 85 managers. All new TA managers will participate in the program starting in 2009.

AREVA T&D created a Global Sales and Marketing Academy for all members of its sales force. In 2008, 2,500 sales and marketing employees received generic training on sales methods. New modules will be developed in the future to meet individual needs after a detailed analysis of their transformation skills.

Thanks to its global footprint, AREVA is able to design and deploy new programs outside France. That is the case of the training module for the Plants business unit at AREVA NP: the module was designed in Germany and is offered in France and the United States. Similarly, AREVA T&D's training programs developed in Asia for local needs will be increasingly deployed in other countries with similar needs.

#### 4.2.4. Launching an innovative employment policy for older employees

AREVA is facing a two-pronged challenge: the retirement age has gone up, and a large number of experienced employees are scheduled to leave the company in the years to come. AREVA must therefore meet the specific expectations of employees nearing the end of their careers while ensuring the transmission of knowledge between older employees about to retire and younger generations.

A new program initiated in May 2008 establishes two new interviews for older employees, at ten years and two years before retirement. The program focuses on career management, better retirement planning, organizing the transmission of specialized

knowledge and skills, and employee involvement in documenting and transmitting their skills. Program participants are supported by a community of champions, including about a hundred managers and HR specialists in France.

An original business framework is also offered to employees interested in collaborating with the group after retirement: some 50 retired employees have already created their own business and continue to work for AREVA, its customers and its partners.

#### 4.2.5. A sharp increase in international mobility

The nature and dimension of the group present opportunities for an international career.

Almost 700 AREVA employees worked as expatriates at the end of 2008. The number of expatriates increased by 30% in 2008 compared with 2007, *i.e.* the same rate of growth as was recorded by the group for the three previous years combined. Fueled by the strong development of international projects around the globe, this trend is expected to continue in 2009.

AREVA's expatriate population came from 22 countries, with France, Germany and the United States providing 90% of the total. Expatriates were seconded to 54 countries, with the United States, France, Finland and China representing more than 50% of this population.

### 4.3. Involving employees in achieving performance over the long term

AREVA's international growth depends on the group's ability to create a favorable environment for performance, where all employees participate in collective improvement and are evaluated and rewarded individually.

#### 4.3.1. The Employee Opinion Survey: a high participation rate

The first Employee Opinion Survey (EOS) was performed throughout the group in 2006. It resulted in several action plans, which were still being implemented in 2008. The results are widely disseminated in the group, for instance through a dedicated intranet site (AREVA NC and AREVA TD) or through video events (AREVA NP).

Approximately 70% of all employees, *i.e.* 50,000 in all, participated in the second EOS in October-November 2008. This remarkable percentage bears witness to the dedication of our employees – 80% of whom had indicated that they were proud to work for AREVA in 2006 – and confirms the program's relevance. Results for 2008 will be consolidated at the level of each subsi-

diary, business unit, local site and business. Feedback will be provided to the group's employees by their managers. The results will also serve as a platform for new action plans.

Local HR specialists will be offered training in 2009 to help them analyze and explain the results and organize their action plans.

#### 4.3.2. Developing the skills of managers in charge of monitoring employee performance

The annual performance and career development assessment (PDA) puts each employee in charge of managing his or her own performance. Throughout the group, each employee and his or her manager use the same format to assess the employee's performance over the past twelve months, examine their respective expectations, and agree formally on an individual development plan.

The Employee Opinion Survey confirmed the significant improvement in the quality and effectiveness of the dialogue that takes

place during the interview. The priority is to continue to develop manager skills, for both the interview itself and the design of follow-up action plans. Training programs continued in this respect in 2008, particularly at AREVA NP, in the Renewable Energies business unit, at Multibrid and at Koblitz, which joined the group recently. At AREVA Koblitz in Brazil, managers were also trained in the feedback process, which is an essential component of good performance management.

Starting in 2009, the annual performance assessment will be integrated into Agora, the online career management tool that is being rolled out throughout the group. Agora helps improve preparations for the interview, its formal documentation, and follow up in the People Reviews.

#### 4.3.3. Developing effective compensation systems

AREVA uses a global compensation approach based on attractive pay packages, the opportunity to share in the company's success, and training and career opportunities within the group.

This approach revolves around:

- a core principle: AREVA recognizes and rewards its employees' performance and potential;
- a talent development and management policy; and
- shared compensation methods aligned with local market practices.

To attract and retain the best talent, the group's policy is to offer an attractive compensation package compared with our competition: global industrial groups in sectors such as energy, mechanical systems, high technology and engineering, and utility services. To achieve this goal, AREVA performs annual compensation surveys for markets in which the group operates.

Efforts are also carried out to achieve transparency and convergence. To meet an expectation expressed in the 2006 EOS, AREVA NC provides individual compensation information to each of its employees in France. Its individual compensation summary recaps all of the components of the employee's compensation for the year: fixed and variable compensation, contributions, benefits, the employee savings plan, professional development... This communication initiative improves the transparency of the company's compensation system.

In China, AREVA T&D is implementing a convergence program for all aspects of the compensation package. This initiative applies to all units in China and concerns every aspect of the compensation package, including health insurance, retirement and other insurance programs. One of the goals is to facilitate mobility.

To support international expansion and mobility, AREVA also established a harmonized expatriation policy effective January 2008 for all group entities.

#### 4.3.4. Incentive compensation and profit sharing at record levels

The funds managed by AREVA's group savings plan totaled 590.6 million euros as of December 31, 2008. A total of more than 100 million euros was paid in 2008 for 2007, including 42.5 million euros for incentive compensation, 53.4 million euros for profit sharing, and more than 8 million euros in matching contributions when incentive compensation is invested with the plan.

Fundamental work continued in 2008 to improve the savings plan, including the exchange process between funds, information to the fund holders on trading deadlines, improvement of services (electronic access, elimination of the toll phone line, etc.).

### 4.4. Pursuing an innovative and responsible labor relations strategy

Human resources policy is a reflection of the company's preparedness and sense of responsibility. AREVA favors collective bargaining to conclude formal agreements and binding commitments contributing to continuous improvement.

#### 4.4.1. Far-reaching dialogue on equal opportunity in 12 European countries

In 2006, AREVA signed a European agreement on equal opportunity with the European Metalworkers' Federation. This agreement served as a foundation for the "Open Dialogue for Equal Opportunity" initiative (ODEO) launched in 2008.

With support from the European Commission, ODEO is a joint initiative of AREVA, the European Work Council and the European Metalworkers' Federation. AREVA's goal is to achieve quick, concrete results for the employment of people with disabilities and equal rights for men and women in all European Union countries.

More than 51 AREVA sites in Europe participated in a European seminar, a dozen workshops and more than 80 meetings among stakeholders. Specific action plans were developed for each site, such as employee awareness programs and the sharing of best practices.

In France, an agreement concerning the employment of people with disabilities had already been signed in 2007. It includes a set of objectives in areas such as employee awareness, hiring practices and procurement policies. Hiring and procurement objectives were met in 2008. Efforts were also made to improve accessibility (site access, computer tools, and phone communications). In 2009, the program will enter a new phase dedicated to employment continuity. AREVA entities in countries other than France launched new initiatives as well. The Renewable Energies business unit, for instance, established a leave program for employees with a disabled family member.

AREVA employees launched their own initiative: WE, a network for dialogue on equal rights for men and women in the group. The network already has 350 members in France and plans to develop a global presence, beginning with Germany.

#### 4.4.2. AREVA one of the first companies to sign the French Parenting Charter

The French Parenting Charter signed in April was made part of AREVA's program for equal rights. The Charter is a commitment to creating "a work environment where mothers and fathers can reconcile their family and professional lives". AREVA is also a member of the French Observatory on Parenting (*Observatoire de la parentalité*) launched in 2008 to promote best practices and encourage the translation of the Parenting Charter into concrete action within the company.

AREVA is already known for its best practices in this area. Young parents have access to company day care centers able to receive 180 children at 7 sites in France and Germany, where such practices are still fairly unusual. Maternal and parental leave are also a priority. Some entities are implementing a formal interview process when an employee takes parental leave or returns to work, in Germany, Spain, France, Poland, Switzerland and other countries. In June, AREVA NC signed an agreement providing for company contributions when Time Savings Accounts (CET) are used for parental leave, in addition to company contributions to insurance plans when employees are on parental leave.

#### 4.4.3. Maintaining a constructive contractual policy

AREVA and its subsidiaries signed a number of agreements on a wide variety of topics in 2008: workforce management, compensation, mobility, working hours, employee savings plans and issues related to equal opportunity in all its facets.

Collective bargaining promotes a climate favorable to dialogue and consensus building in the group. For example, all AREVA NP labor organizations signed an agreement on compensation. Groundwork laid over the past several years with labor organizations at the Tricastin and La Hague sites culminated in a series of agreements on skills/workforce management and planning. These agreements are respectful of the sites and their expertise. Similar negotiations are ongoing in the Clean-up business unit and at the Pierrelatte production site.

#### 4.4.4. Ensuring the health and safety of group and subcontractor personnel

##### Occupational safety

Protecting employees and subcontractor personnel who work at our sites is a top priority for the group.

Because occupational safety is integral to AREVA's businesses, it is factored into the design of facilities and ensured throughout their operating life. Safety is also a criterion in subcontractor selection.

In 2006, the group revised and strengthened its safety policy and set preliminary objectives for 2010 (accident frequency rate <3; accident severity rate <0.15). No change was made to the policy's four fundamental commitments:

- define a clear and specific safety organization;
- make safety an integral part of our business;
- establish an accident prevention program and a continuous improvement initiative; and
- formalize an occupational safety management system.

The policy aims for a single objective: zero accidents.

To accomplish this and in support of its revised policy, the group continued to roll out tools and support measures designed to help management and personnel achieve their objectives, particularly in 2008 by:

- offering training to safety engineers at AREVA University to supplement the training offered to senior managers since 2006;
- distributing a company directive to all entities worldwide to help management improve subcontractor performance in occupational safety; and
- organizing meetings to exchange and share experiences with important customers to improve safety management at our major projects.

In 2008, AREVA continued to make progress along the road to zero accidents and is in line with the objectives it set for 2010.

For example, the group ended the year with an average accident frequency rate of 3.19, two and a half times lower than that of 2003.

The accident severity rate is now 0.10, which is below the 2010 objective.

Unfortunately, although the general trend is on a positive heading, risk management conditions among subcontractors were disappointing in 2008, with six fatal industrial accidents occurring, five of which involved subcontractor personnel. A number of activities were undertaken to improve performance in 2009, including the implementation of the company directive referred to above.

With respect to AREVA's 120 sites classified as having significant environmental aspects (SEA), 101 of them are now certified under OHSAS 18001.

In addition, to continue to make progress towards the level of performance sought by the group and to supplement its management system, AREVA undertook a vast program on attitudes and behaviors in 2008 based on a "Human and Organizational Factors" initiative that is being deployed in liaison with the Safety, Environment, Quality and Continuous Improvement functions.

The program will give management additional leverage to drive sustainable progress towards the group's objectives in these different fields.

### Maintaining a high level of radiation protection

Inspections performed in 2008 in the area of radiation protection confirmed that the risk was managed properly and that dose management is a constant priority. Still, recent events indicate that proactive management of radiation issues remains essential, particularly in the area of source management.

French radiation protection specialists met at the Somanu-Jeumont site in May 2008 and at Marcoule in November. In March, specialists in charge of managing radioactive sources at the group's French sites met at AREVA's corporate office. These meetings were an opportunity for lively discussion, sharing of best practices, coordination of cross-cutting activities, and feedback on the difficulties in implementing the regulations.

As early as 2006, AREVA demonstrated its ability to meet the requirements of the most stringent regulation in the world (20 mSv

per year maximum), even in countries where the regulations are less demanding. Results for 2007 and 2008 show how difficult it is to maintain this level of performance. Twelve workers received a dose exceeding 20 mSv during service operations at utility customer facilities. While below the local regulatory level, the maximum dose was 24.4 mSv.

### Health

The health policy approved by the Executive Committee in 2007 was deployed in 2008. Activities were implemented in three strategic areas:

- contribute to better health through health surveillance of the group's employees and of subcontractor personnel working at its sites, based on an analysis of risks inherent in working conditions;
- promote public health actions by deploying health improvement programs for its employees linked to the public health programs of the countries in which it is based; and
- expand activities to improve working conditions.

For 2008, the priority objectives are:

- to identify all carcinogenic, mutagenic and reprotoxic substances (CMR), and to study the feasibility of replacing them, as provided in a group directive;
- to limit noise pollution (group directive);
- to continue to establish health observatories near mining sites in Gabon, Niger, Kazakhstan and Canada;
- to participate in initiatives to fight HIV/AIDS, particularly in France and in Niger;
- to involve the group's health network in initiatives to promote employment continuity and equal opportunity for people with disabilities; and
- to implement the program to prevent psycho-social risks:
  - implementation of a program focused on listening and providing support at 16 French sites,
  - evaluation of working conditions at three pilot sites in France.

Deployment of AREVA's health policy will continue in all the subsidiaries in 2009. Reviews will be performed to measure the level of progress in each first-tier subsidiary and to adjust the group's objectives and the relevant indicators.

## 5. A global HR organization to support the group's strategy

The HR function is an essential driver for the success of AREVA's Talent Building strategy. AREVA has opted for a structure that combines a global vision with local action, with a special focus on professionalization.

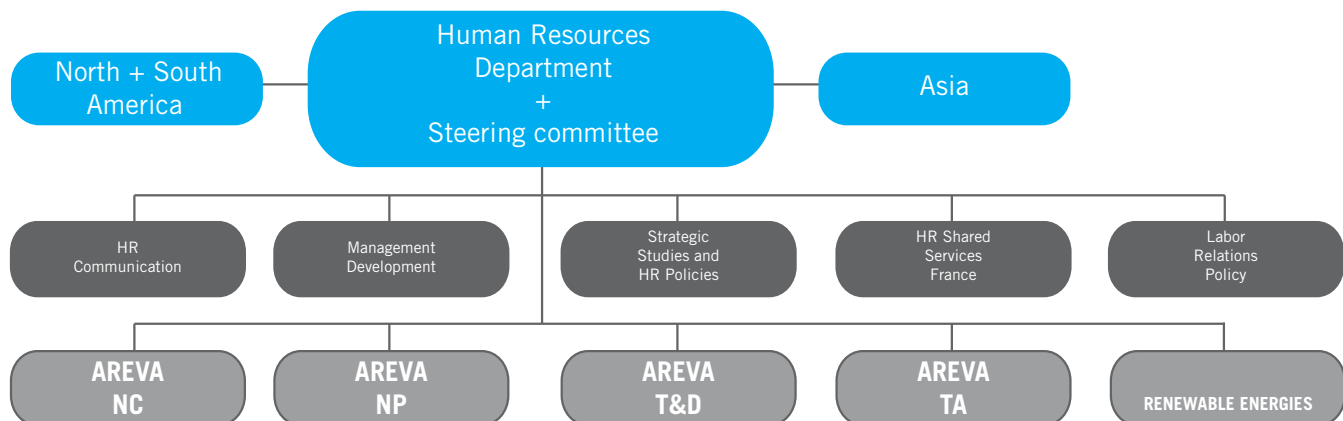
### 5.1. A global HR network, local support

AREVA's 75,000 employees work in more than 100 countries where the group has manufacturing and/or marketing operations. AREVA's Human Resources function is decentralized in the regions and the business units to provide day-to-day local support to managers and their teams. More than 1,000 HR specialists around the globe are directly in charge of deploying the Talent Building policy in the spirit of the subsidiarity principle.

This policy rests on a common strategic vision and shared talent management processes. These processes are defined by specialized departments at the group level, but they are customized by local HR specialists based on cultural, social or market considerations in the region of operation. These specialists can count on the support of their local management, which is responsible for the deployment of common policies and the implementation of the group's strategy.

This organization also requires a constant sharing of information, lessons learned and practices. Tools such as seminars, workshops and dedicated intranet sites are used to coordinate networks of professionals involved in these processes at various levels: the group, the business units or the regions.

In 2009, a network of HR communicators will be established in six major countries. The objective is to develop a cross-cutting vision of issues of interest to the country and to provide the broader HR community with a comprehensive international view of the projects. This network will also promote initiatives to improve awareness of HR policies at the local level.



## 5.2. Skills development and professionalization in the HR function

The HR function is working to increase the professional expertise of its specialists and to promote the development of HR talent.

Training and professionalization initiatives in the HR function are being expanded continuously to cover a broad range of topics. For example, a special training module on equal opportunity is now offered to recruitment specialists. AREVA NC offers a program for Labor Relations specialists.

A new HR Talent Builder training program was designed in 2008. It is intended for HR specialists, to whom it offers resources to develop their own strategic activities consistent with AREVA's HR strategy. The first session is scheduled for March 2009 in Aix-en-Provence.

Work to acquire the skills that are critical to the function is also in progress.

AREVA T&D offers a customized training and development program focused on essential expertise and strategic challenges for its HR teams. In 2008, cross-business task forces produced several recommendations that have since been included in the function's strategic plan. For instance, a Human Resources organization was set up to provide support to countries with a limited workforce.

AREVA encourages the use of modern operating methods in its organizations, particularly collaborative work in professional communities. In France, 300 platforms have already been established. For example, recruiters will share a common intranet portal serving both as an exchange forum and as a repository for tools and information. Campus managers and ambassadors will soon have access to a similar site.



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Risk management related to nuclear operations is a major objective of the programs deployed by the group. The extent and specifics of risk management merit its own organization, methods and resources.

The group's diverse businesses and the wide range of cultures and regulations in countries in which AREVA operates cover a number of environmental issues. Through the group's environmental policy and relations with stakeholders, supplemented by specific measures for nuclear risk management and prevention, AREVA is able to take all of these issues into account.

## 1. Environmental policy

AREVA's environmental policy was updated in 2007 for the 2008 to 2011 period. It applies to all of the group's entities, both in France and abroad, with implementation a function of local conditions. The policy is based on six commitments:

- **Managing**  
Ensure compliance with regulatory requirements and the group's standards by performing periodic environmental reviews and deploying Environmental Management Systems (EMS) at all sites.
- **Innovating**  
Integrating environmental impact reduction into the design of products, services, processes and infrastructure for their entire lifecycle.
- **Preventing risk**  
Developing and harmonizing environmental monitoring and deploying assessment procedures to prevent environmental hazards in the chemical, radiological and biological fields.
- **Preventing environmental liabilities**  
Preventing liabilities by preserving biodiversity and the environment's future use.

- **Minimizing the environmental footprint**  
Improving environmental performance at constant revenue by reducing:
  - the use of resources in natural environments and the consumption of energy and materials;
  - the impact of releases to the atmosphere and to aquatic environments;
  - hazardous and non-hazardous conventional waste.
- **Measuring and reporting**  
Promoting dialogue with stakeholders by extending the publication of environmental reports to include all sites with Significant Environmental Aspects (SEA) <sup>(1)</sup>.

This program is implemented through the AREVA Way process by quantifying objectives and updating them annually based on risk mapping efforts, stakeholder expectations, best internal and external practices, environmental reporting, an external benchmark, and dialogue with the operating entities.

The corresponding action plans are specific to the significance of the site's risk. The group has a total of 87 SEA sites in 2008, including 13 regulated nuclear facilities (INB), 4 high-threshold Seveso sites, 5 low-threshold Seveso sites, and 5 uranium mining complexes.

(1) In AREVA's frame of reference, sites with Significant Environmental Aspects include: nuclear sites, sites with facilities representing major man-made risk per Seveso regulations, mine sites, plants with facilities subject to public inquiry, and industrial or office building sites which make a significant contribution to the group's environmental accounting.



The action plans are organized around three key tasks:

- Environmental management:
  - of the sites: ISO 14001 certification of sites with Significant Environmental Aspects;
  - of products and services, through eco-design.
- Risk prevention:
  - chronic risks: polluted soils and environmental health risks;
  - man-made chemical hazards.
- Performance improvement:
  - minimizing water use;
  - conserving energy;
  - reducing emissions and releases, in particular direct emissions of greenhouse gases;
  - reducing conventional waste volumes.

Performance improvement is tracked by AREVA's Environment Committee, which meets monthly. Monitoring tools include:

- the scorecard for deployment of AREVA's environmental policy;
- analysis of entity performance objectives charts and action plans on principle 6, "Environmental Protection" of the AREVA Way continuous improvement process;
- environmental data and indicators from the sustainable development reporting system, with the measurement protocol revised in 2007 to improve data reliability and the in-house data validation process, and some indicators simplified or eliminated in 2008;
- topical environmental reviews (more than 120 in 2008) conducted at SEA sites.

## 1.1. Environmental management at the sites

### Environmental Management Systems

AREVA's goal was to implement environmental management systems (EMS) at all sites and to secure ISO 14001 or equivalent certification for the nuclear sites before the end of 2005, which has been done. For other sites with significant environmental aspects, EMSs are to be completed before the end of 2011, or within a period of three years after their acquisition.

In 2008, all of the sites maintained their certification and 3 new sites were certified, bringing the total to 117 certified sites:

- Reactors and Services division: AREVA Dongfang;
- Back End division: TN Tokyo, Mécagest.

As of the end of 2008, 79% of the sites with significant environmental aspects had been certified under ISO 14001. Of these sites, all of the AREVA group's nuclear SEA sites and low- and high-threshold Seveso sites were ISO 14001-certified. The new sites acquired that meet the criteria for classification as SEA sites must be certified within a period of three years.

### Status of certifications in 2008

	Front End	Reactors and Services	Back End	Transmission & Distribution	Total
Number of SEA sites <sup>(1)</sup>	26	8	3	50	87
Number of certified SEA sites	22	4	3	40	69
Percent of certified SEA sites	85%	50%	100%	80%	79%
including number of certified nuclear sites	9	2	2	-	13
Percent of certified nuclear sites	100%	100%	100%	-	100%

(1) In AREVA's frame of reference, sites with Significant Environmental Aspects include: nuclear sites, sites with facilities representing major man-made risk per Seveso regulations, mine sites, plants with facilities subject to public inquiry, and industrial or office building sites which make a significant contribution to the group's environmental accounting.



#### Training and awareness

AREVA works to bolster personnel training and to raise awareness concerning environmental responsibilities, particularly as regards energy conservation and the reduction of greenhouse gas (GHG) emissions. This goes beyond activities conducted in connection with the Environmental Management System.

The Environment department also partnered with AREVA University to launch the first sessions of the “Environment: Risks and Opportunities” training module specifically for AREVA environment network members. Three sessions were organised, two took place in France, and one in India. These sessions are specifically designed for members of AREVA’s Environment network. By the end of 2008, more than 120 people had been trained. The training program is part of a wider initiative called the “Professionalization Program”, which aims to promote Sustainable Development and Continuous Improvement, identify skills, and pool experience and best practices. This initiative was launched in 2007.

The posters for the eco-efficiency awareness kit are available in eight languages – French, English, German, Spanish, Portuguese, Chinese, Indonesian and Turkish – on the Environment department’s intranet site. The posters emphasize behavior based on the universal concept of eco-attitude, which consists of promoting environmentally responsible behavior among employees.

The group’s different standards and directives specify management procedures for certain environmental goals. More than 7,000 copies of AREVA’s group-wide *Green Way* guidelines, published in French, English and Spanish, have been distributed. The guidelines will be updated in 2009.

#### Regulatory intelligence

In 2006, a group tool called Regulatory Intelligence Area (RIA) was rolled out initially to all AREVA NC plant sites in France. RIA is a repository for regulatory intelligence with a view to securing ISO 14001 and OSHAS 18001 certifications and renewals. It

will serve to demonstrate that each plant site complies with regulations, and is aligned with the principles of the legal liability of plant managers and their representatives. In 2007, it was rolled out at all AREVA plant sites in France. This tool will be updated in 2009.

#### Environmental spending

This indicator was added to sustainable development and continuous improvement reporting in 2004. It applies to France and is based on the definition of environmental spending appearing in the annual statistical survey put out by SESSI, the French Ministry of the Economy, Finance and Industry’s department of industrial studies and statistics. Environmental spending in 2008 came to 197 million euros for French operations, an increase of 76 million over 2007, with spending at La Hague up 55 million euros (applications for dismantling permits), at Tricastin up 7.4 million euros, and at FBFC Romans up 9.7 million euros.

#### Provisions and guarantees related to the group’s end-of-life-cycle operations and environmental hazards

A provision totaling 5.894 billion euros was in place as of December 31, 2008 for environmental hazards, including mine reclamation and mill dismantling, nuclear facility dismantling, radioactive waste retrieval and packaging, final waste disposal, routine clean-up, and clean-up and reclamation of mines and plant sites. Nuclear facility dismantling and waste retrieval and packaging accounted for 5.674 billion of this amount, 5.404 billion of which is borne by AREVA (see section 20.2, “Notes to the consolidated financial statements”, note 13., “End-of life cycle operations”).

## 1.2. Environmental management of products through eco-design

By understanding the environmental impacts generated by a product at each stage in its life cycle, its design can be optimized to reduce those impacts at the source: this is what eco-design approaches try to achieve.

For the third consecutive year, all group entities performed self-assessments based on the two eco-design criteria added to the AREVA Way self-assessment model, one concerning eco-design organization and the other relating to eco-design practices. The results helped group entities determine both their current and

target levels of ecodesign so that the latter could be recorded in performance progress charts and performance improvement plans.

During the environmental policy review, considerable work was accomplished to improve the roll-out of eco-design initiatives group-wide. The goals were spelled out, and a systematic schedule of roll-out activities is being drawn up based on the entities’ self-assessments.

The Front End and Back End divisions completed eco-design studies on several capital investment projects with the help of the group's engineering companies.

In connection with the roll-out of the environment strategy, a task force began to work on defining a common environmental management initiative for the group's nuclear engineering activities.

The Transmission & Distribution division's program in this field has already made good progress. New training and awareness raising sessions were held and the eco-design intranet is kept current by all users. R&D is focusing on limiting the use of hazardous substances, on defining and documenting end-of-life-cycle and recycling procedures, and on reducing SF<sub>6</sub> emissions.

## 2. Environmental risk management and prevention

### 2.1. Maintaining a high level of safety and managing risk

In 2008, in the area of nuclear and industrial safety, the General Inspectorate launched the development of an information system to reinforce group-wide sharing of lessons learned from events. It also published post-event guidance and information notes to continue its cross-business programs on best practices and lessons learned, and started an inspection program on the analysis and management of anomalies. This series of inspections is a continuation of the safety culture inspections and will provide a better idea of the organization, processes and specific guidelines used by the group's different entities to manage lessons learned. It has also been decided to conduct a series of inspections in 2009 based on preliminary analysis before changes are made to facilities. These inspections will serve to verify that all required preventive measures have been taken before proceeding with any major modifications to a facility or its environment.

Above and beyond a mere review of facility compliance with applicable requirements, the General Inspectorate analyzes existing safety systems and their mode of operation, and the work processes of the operating units. The analysis helps identify potential deficiencies and recognizes best practices that should be broadly implemented. These lessons learned are helping to build a shared culture among the group's industrial operators and facilitate assessment of the safety culture of its operating teams.

Since 2001, the General Inspectorate has carried out 246 inspections, including 32 in 2008. The inspections focused mainly on the following topics:

- radiation protection;
- analysis and processing of anomalies;
- fire safety management; and
- the prevention of water pollution.

In each case, the inspections performed in 2008 demonstrated that the entities involved had organizations and practices in place to ensure that safety requirements are correctly recognized and applied, which is a strength.

Nonetheless, several areas for improvement were identified, in particular the need to strengthen training in safety and human and organizational factors, and to broaden the sharing of experience.

Two highly publicized Level-1 INES events took place during the summer of 2008 in fuel cycle facilities. The first one occurred at the Tricastin site, the second at Romans. Following analysis, these events gave rise to the implementation of a wide-ranging program of actions for further improvements in prevention, specifically in the areas of environmental protection, preliminary analysis before modifications, and crisis management.

In 2008, 23 events were reported and classified as Level 1 on the INES scale, and 111 events as Level 0 for all of the group's nuclear operations.

During that period, there was a significant increase in Level 0 events and, to a lesser extent, Level 1 events. The Level 0 events consist of "deviations" without safety significance under the guidelines for the activities in question. Level 1 events are "anomalies" characteristic of operations beyond the authorized operating regime, but with very limited consequences.

The main reason for these increases is that the French nuclear regulatory authority ASN is interpreting the criteria for reporting events more narrowly, leading it to demand for greater accountability on the part of operators. A number of events were initially brought to the attention of the ASN in periodic reports, but the ASN requested a formal declaration for them and classified them as Level 0. Ten events that the operator reported as Level 0 were reclassified by the ASN as Level 1.



Due to these more stringent requirements, the group is reinforcing its use of lessons learned in compliance with its continuous improvement initiative to ensure the highest level of safety in its facilities.

Nonetheless, as in previous years, analysis of the events reported in 2008 indicates that a significant share of the causes involved human and organizational factors (HOF). The entities took these factors into account in 2008 in their analyses, making it easier for the group to identify some of them and to implement suitable action plans to address them. The continued roll-out of the HOF

initiative in 2009 should yield continued improvement in this area. In 2009-2010, group-wide implementation of AHEAD, an operational tool for analysis of lessons learned, is likely to improve its grasp of these issues even more.

As per its commitment, the group published the General Inspectorate's 2007 annual report on its website in 2008. This report presents the status of nuclear safety and radiation protection at AREVA group nuclear facilities in France and abroad, as observed through the program of inspections and analyses carried out by the nuclear safety inspectors and specialists in 2007.

## 2.2. Monitoring releases and the environment

AREVA devotes considerable resources to monitoring releases and environmental monitoring, in advance of monitoring performed by government agencies.

The resources deployed by AREVA to monitor releases take into account regulatory reporting requirements for the European Pollutant Emission Register (EPER), reduction of greenhouse gas emissions with the preparation of the second National Quota Allocation Plan for the 2008 to 2012 period, and the renewal of release permits for the nuclear facilities.

The M60-3 Committee of the nuclear equipment standards organization BNEN (*Bureau de normalisation des équipements nucléaires*) set up a standardization program for measurements of effluent radioactivity in 2007. AREVA is very involved in this program and has appointed a representative from each of its major nuclear sites to participate.

The past year has been devoted to preparations for the establishment of the national environmental radioactivity measurement

network. The AREVA group is an active participant in the national measurement network. Five of the group's laboratories – AREVA NC La Hague, AREVA NC Pierrelatte, Eurodif Production, FBFC Romans and SEPA Bessines – have already been certified for the analyses they are to perform. Other permits to cover the entire spectrum of measurements to be performed in connection with monitoring programs are pending. The operators have acquired the tools they need to submit required data as of 2008. The ASN and French radiation protection and nuclear safety institute IRSN plan to post all of the measurements on the Internet in 2010.

The events of the summer of 2008 demonstrated that the group's laboratories can respond very quickly and still produce high-quality measurements. One important ongoing project in this area is to develop a robust set of sampling guidelines to be shared by all operators. This project should be completed by the end of 2009.

As part of its environmental monitoring program, the AREVA group performs some 100,000 measurements annually on samples taken at 1,000 locations.

## 2.3. Radiological impact of the sites

The radiological impacts of nuclear sites on the most exposed members of adjacent populations (reference groups) are measured by an exposure indicator, the additional effective dose, expressed in millisieverts per year (mSv/yr). Radiological impacts are calculated for each nuclear site based on radioactive liquids and gases released from the site and an analysis of potential exposure pathways to the affected public.

Following the recommendations of the Nord-Cotentin Radioecology Group GRNC (*Groupe de Radio-écologie Nord-Cotentin*), the La Hague site performs sensitivity analyses each year. AREVA NC La Hague calculates the radiological impacts on five townships around the site in which radiological monitoring stations are

located. If the calculated impacts on one of the townships is greater than the impacts on the reference populations, this is made public *via* the plant's environmental report.

The radiological impact assessment model for La Hague was the subject of collaborative efforts by French and international experts and associations under the umbrella of the Nord-Cotentin Radioecology Group (French acronym: GRNC). This highly complex assessment model factors in various types of radiation (alpha, beta and gamma), the three potential pathways (external exposure, ingestion and inhalation), and the specific behavior of each radionuclide in the human body. Independent experts conducted epidemiological studies to supplement the model and directly



assess the health effects of radioactive releases on exposed members of the public. All of the studies conducted over the past 20 years have concluded that the site has very little impact, with the total annual impact (additional effective dose) for one year being equivalent to approximately one day of exposure to naturally occurring radiation in the Nord-Cotentin region of France.

Through its websites and monthly publications, AREVA provides regular and completely transparent data on the results of environmental sampling and analysis, which are overseen by the French nuclear safety authorities. In France, the Local Information Commissions (*Commissions locales d'information*, CLI) set up by the government in the vicinity of major energy facilities, including nuclear sites, facilitate direct interaction with the local community. AREVA provides them with all the information they may need.

As part of its continuous improvement initiative, the group also set a goal of continuing to control its radiological impacts and standardizing its radiological impact assessment models at all sites with radioactive releases. The methodology used at La Hague was

extended to the group's other major nuclear sites, adapted for local conditions, such as life styles and consumption patterns. The impacts there are also very low, at less than 0.01 mSv.

The group had also set a goal of implementing and maintaining measures to limit the impacts of external radiation at the site boundary to 1 mSv/yr. This corresponds to an extreme theoretical scenario in which an individual stays at the site boundary for an entire year without interruption, *i.e.* 8,760 hours. If acceptable solutions in the spirit of the ALARA principle (as low as reasonably achievable) are not found, compliance with the 1 mSv/yr limit must be demonstrated using more realistic exposure scenarios.

In this regard, the objective was met for all sites in 2008 through the reconfiguration of storage areas. To refine the assessment when required and verify the sustainability of the system, the sites implemented heightened exposure monitoring measures following the example set by Comurhex Malvézi, where the search for a solution for sustainable storage management continues.

## 2.4. Preventing environmental health risks

In 2008, the group continued to perform or update health risk assessments under its new environmental policy. Each site identified as a site with significant environmental aspects (SEA) must complete or update a health risk assessment (HRA) proportionate to the risk involved by the end of 2011. The method uses the calculated health hazard index to characterize potential health effects that could arise in the neighboring population chronically exposed to chemical releases. The assessments are performed at sites in France and abroad, based on normal operating scenarios for the facilities.

Health risk assessments have also been performed or revised in connection with the group's industrial projects (operating license, upgrades). Whether or not the regulatory authorities request them, these assessments are systematically included in license proceedings.

For sites with significant environmental aspects, a detailed inventory of each industrial and office site was completed pursuant to AREVA's Asbestos Directive. Based on thorough analysis of site reports concerning the presence of asbestos or asbestos-containing materials in buildings and processes, an asbestos inventory was established. An important item of this directive concerns the

elimination or replacement of production equipment components containing asbestos, when they are determined to be hazardous, with less toxic materials before December 2007. Reviews on the topic of asbestos were conducted. The conclusions show that there is still asbestos in the production equipment at some sites. Action plans have been set up to comply with the Directive.

Vigilance in the prevention of Legionnaire's disease is still a priority for the entities concerned. Several days were devoted to the promotion of best risk management practices. Two diagnostic audits performed in 2007 on risk-prone facilities at mine sites abroad served to test new measuring methods that take operational parameters into consideration.

The French agency for environmental and occupational health safety, AFSSET, called on AREVA in a matter before it concerning the risks linked to the use of nanomaterials and manufactured nanoparticles. According to the group's available consolidated data, our processes do not currently use nanomaterials or manufactured nanoparticles. Nevertheless, given the potential issues surrounding this type of material, we have established an institutional watch and are working with research organizations and academic institutions on research and development projects.



## 2.5. Prevention programs for technology risks and natural hazards

The implementing regulations of the Law of July 30, 2003 on the prevention of technology risks and natural hazards and compensation for damages introduced a new tool for controlling urban development around “high-threshold” Seveso sites (a facility at Pierrelatte, Comurhex’s Pierrelatte and Malvési sites, Jarrie’s Cezus site): Technology Risk Prevention Plans (TRPP). These plans serve to:

- reduce risk;
- deal with real-life situations and plan for the future; and
- stimulate dialogue among stakeholders, including local governments.

Progress at the four group sites in question varies, depending on the priority level set by the Ministry of the Environment and Sustainable Development. The TRPP requirements for Comurhex Malvési (the group’s only Priority 1 site) have been in progress since late 2008. The draft TRPP supplementary and prescriptive orders should be finalized in early 2009. At the Cezus Jarrie site, the prescriptive process should start in early 2009. The hazards study for AREVA NC Pierrelatte was submitted in March 2008 and is currently being assessed by a third party expert.

Also, the risk studies for the operating license applications for the Comurhex II Pierrelatte and Malvési projects were finalized and sent to the regulatory authority in the last quarter of 2008.

The group rolled out its international risk analysis handbook at the mines and at some AREVA NP sites during training sessions and through the launch of the Somaïr site’s hazards study.

In addition, in the field of emergency management, the group continues to use the emergency response agreement with the CASU, an emergency response support unit of the French national institute for the industrial environment and risk (INERIS), which was renewed in 2007, as it did during an unannounced special response plan drill called by the Prefect at the Cezus Jarrie site.

The Environment Department, working with the environment network, carried out or participated in more than 120 environmental reviews, including some 40 compliance reviews on environmental risks and liabilities, 2 supplier reviews and more than 20 reviews based on *Green Way*, a manual containing the group’s minimum environmental protection standards. Some of these reviews were conducted in association with the Audit Department, the Risk and Insurance Department, and the General Inspectorate of the Nuclear Safety Department. There will be follow-up on the action plans for major non-conformities.

## 2.6. Soil management

In the area of soil management, the goal of the environmental policy is to carry out before 2011 soil diagnostics, update available documentation and, as necessary, set up a monitoring and long-term management plan for environmental liabilities. This goal should be fully pursued at plant sites with significant environmental aspects, including regulated nuclear facilities and mine sites. The plan was launched in early 2007 for the AREVA NC, AREVA NP and AREVA T&D subsidiaries and was actively pursued in 2008.

AREVA T&D started updating soil characterization studies for sites considered to have the most significant environmental aspects. Groundwater clean-up operations started at the Saint-Ouen site in the spring of 2008. A management plan for the Aix-les-Bains site was submitted to the Prefecture in 2008. Although approval of the clean-up plan by a prefectural order is not expected until early 2009, cleaning operations started in the summer.

At the Villeurbanne site, groundwater pollution abatement was completed, and groundwater monitoring began under a prefectural order.

Soil and groundwater diagnostics were also performed in 2008, either to supplement data at existing sites such as Brisbane

Rocklea or to provide initial data at new sites such as Waltech Blumenau in Brazil.

For AREVA NP, water monitoring was set up at the Montreuil and Paimbœuf sites, following on from the 2007 diagnostics. Additional soil studies were begun at the Jarrie and FBFC Pierrelatte sites, as were diagnostics at the Chalon site (Services) and the Creusot Forge site. Cleaning operations at the Creusot forge pond began in late 2008 and will be completed in early 2009.

A number of impact studies were completed in the Mining business unit:

- Imouraren (Niger): environmental compliance certificate received;
- Tamgak (Niger): environmental compliance certificate received in December 2008;
- Trekopje (Namibia): impact study approved; and
- Midwest (Canada): impact study filed with the government, but mining postponed for economic reasons.

The Environment department carried out environmental reviews at the mining sites of McClean in Canada, Katco in Kazakhstan, and Somaïr and Cominak in Niger. Action plans to supplement soil



diagnostics at the Niger mine sites (Somaïr and Cominak) and in Kazakhstan (Katco) are ongoing.

Studies to model the impact of tailings storage sites were also launched in 2008.

In the Chemistry business unit, the AREVA NC Miramas site continued site rehabilitation operations in 2008 along with the dismantling of some of its facilities. The first zone was cleaned up and the site's 2008-2012 soil management plan was drawn up. Project logistics were put in place to monitor air and water, recover the leachate and ensure site safety.

As part of the environmental action plan for the Tricastin site, AREVA agreed to cover the storage hill for technological waste (dry active waste) and to remove the buried diffusion barriers. Feasibility studies for the covering operations began in late 2008. Samples taken from 160 sampling points were analyzed to monitor

the quality of groundwater, surface water (rivers and lakes), and more generally the site's environment. Environmental monitoring was stepped up in 2008 by increasing the number of sampling points and samples taken and at the same time implementing action plans to eliminate accidental leaks to the environment. Additional soil and groundwater characterizations are in progress, specifically at the Eurodif site and in the northern part of the Tricastin site.

At the Comurhex Malvési site, the regulation pond, originally an open-pit mine pond has been monitored since it was closed down. Final reclamation of the pond will be completed under a management plan to be drawn up by 2011. In May 2008, AREVA presented a status report and the group's action plans for managing the settling and evaporation ponds to the working group of the national radioactive materials and waste management plan. The next order will take these ponds into account.

## 2.7. Protecting and restoring ecosystems

Monitoring and preserving biodiversity is a special concern for AREVA. Our study of plant and animal life at the site begins in the design phase and continues throughout facility operations and into site rehabilitation. Special care is devoted to native species and to how species introduced or reintroduced during reclamation adapt to the local biotope (plant and animal habitat).

In 2006, an "AREVA and biodiversity" study was carried out to identify the biodiversity objectives for each of the group's business units. It was updated in 2008 to take major industrial and mining projects (Imouraren and Trekkopje) into account.

Following the inventory of plant and animal life initiated in 2005, a new study was carried out in 2008 on the aquatic and riparian (subaquatic) environment near the Tricastin platform. Both studies served to provide more information on the impacts of AREVA operations on biodiversity and to confirm that there was no change in the species observed in the area in terms of species type and population numbers.

As part of a proposed mine opening at the Trekkopje site in Namibia, AREVA commissioned an in-depth inventory of the species there.

The impacts of future operations on animal and plant life were also assessed in connection with the different license applications filed in 2008 (Comurhex II Malvési, Comurhex II Pierrelatte, and AREVA NC La Hague).

The sites at risk with respect to the classification of areas protected for biodiversity were mapped for France in 2008. The aim is to resituate each French industrial site in its natural local context (Natura 2000 network, natural areas with important ecological and wildlife or ornithological aspects, etc.).

Concrete actions to protect species have also been carried out at sites that border on a national park where there are fields of endemic lichen, such as the Trekkopje site in Namibia. The original layout for 40 kilometers of water pipeline crossed one of these fields, but the route was lengthened by about ten kilometers to skirt the field to protect it.

### 3. Environmental performance improvement

#### Key data

	2008	2007	2006
<b>Consumption</b>			
Quantity of energy consumed (MWh), excluding Eurodif	3,021,467	2,925,200	2,806,108
Quantity of water tapped (m <sup>3</sup> )	39,170,551	38,355,220	35,109,800
Quantity of water consumed (m <sup>3</sup> ), excluding cooling water at Eurodif and Marcoule	16,265,921	19,438,368	20,600,920
Consumption of hazardous chemicals:			
Nitric acid (MT)	17,267	17,204	22,619
Sulfuric acid (MT)	187,740	168,106	153,090
Hydrofluoric acid (MT)	5,707	7,461	7,044
Ammonia (MT)	4,497	5,390	4,943
Chlorine (MT)	7,358	7,879	7,336
Chlorinated solvents (MT)	211	158	157
Hydrochloric acid (MT)	410	401	514
Sodium hydroxide (MT)	9,982	9,760	9,671
Oil (MT)	20,375	20,146	24,344
<b>Waste</b>			
Quantity of hazardous waste (MT) <sup>(1)</sup>	18,110 <sup>(7)</sup>	13,835 <sup>(3)</sup>	15,563
Quantity of non-hazardous waste (MT) <sup>(1)</sup>	70,997 <sup>(8)</sup>	63,910 <sup>(4)</sup>	58,521 <sup>(2)</sup>
Hazardous waste: percentage recycled <sup>(1)</sup>	55% <sup>(7)</sup>	45% <sup>(3)</sup>	40%
Non-hazardous waste: percentage recycled <sup>(1)</sup>	74% <sup>(8)</sup>	69% <sup>(4)</sup>	59% <sup>(2)</sup>
Process sludge (MT)	51,635	57,760	60,824
Sludge from cooling water treatment (MT)	14,402	3,392	8,548
<b>Releases</b>			
Total nitrogen releases into aquatic environments (MT)	263.5 <sup>(5)</sup>	779.7	802
Aqueous releases of copper (kg)	10.6 <sup>(5)</sup>	18.1	36
Aqueous releases of chromium (kg)	11.4 <sup>(5)</sup>	6.5	26
Aqueous releases of lead (kg)	0.52 <sup>(5)</sup>	0.42	0.41
Aqueous releases of uranium (kg)	707.5 <sup>(5)</sup>	698.3	980
Direct greenhouse gases (MT CO <sub>2</sub> e)	771,648	990,836	1,118,137
CO <sub>2</sub> emissions from facilities subject to National Quota Allocation Plan (MT CO <sub>2</sub> e)	53,611	92,877	97,766
Toxic gas releases: volatile organic compounds (kg VOC)	1,188,973	1,173,128	1,079,906
Releases of acid-forming gases: SO <sub>x</sub> (MT)	379	583	704
Releases of acid-forming gases: NO <sub>x</sub> (MT)	487	549	494
Releases of acid-forming gases: NH <sub>3</sub> (MT)	208	169	337
Releases of ozone-depleting gases (kg CFC 111e)	1,127	1,635	1,511
<b>Nuclear Risks</b>			
Dose impact from the La Hague site (mSv)	0.007	<0.01 <sup>(6)</sup>	0.009
Number of INES events	111	Level 0: 64	Level 0: 75
	23	Level 1: 17	Level 1: 10
	0	Level 2: 00	Level 2: 01

(1) After a review performed in 2006, our reporting protocol changed, with the three categories of hazardous industrial waste (HIW), ordinary industrial waste (OIW) and inert waste (IW) replaced by two new categories: hazardous waste (formerly HIW) and non-hazardous waste (which combines the former OIW and IW categories). The data for 2004 and 2005 were recalculated in accordance with these new definitions.

(2) Excluding waste from the Georges Besse II site.

(3) Excluding exceptional waste from Somair, AREVA NC Pierrelatte and AREVA NC Miramas.

(4) Excluding exceptional waste from Georges Besse II and AREVA NC Miramas.

(5) Excluding AREVA NC La Hague: data not available as of the writing of this report.

(6) Final data not available as of the writing of this report.

(7) Excluding exceptional waste from T&D Aix-les-Bains.

(8) Excluding exceptional waste from Comurhex Pierrelatte and AREVA NC Miramas.

Source: AREVA.



### 3.1. Energy conservation

In 2008, the Mining business unit was the group's largest energy consumer. Energy consumption for the Mining business unit increased by more than 11%, notably due to an increase in Somaïr operations and the ramp-up of Katco and UraMin Inc. Namibia.

Other noteworthy developments are:

- a 4.5% decrease at the AREVA NC La Hague site's energy consumption due to the switch to steam production by electric boilers and the resulting lower consumption of heavy fuel oil;
- a decrease in the Comurhex Pierrelatte site's power consumption;
- the replacement of most of the heavy fuel oil consumed at AREVA T&D's Gebze site with natural gas;
- an increase in energy consumption at the Equipment business unit's Saint Marcel and Creusot Forge sites;
- an increase in power consumption at the OL3 site due to increased construction activity; and

- an increase in electricity and natural-gas consumption due to stepped-up operations at the AREVA T&D Aix-les-Bains site.

The following total energy consumption figures do not include the Eurodif process. In 2008, a total of 3,021,468 MWh of energy was consumed, for an increase of 3.3% in relation to 2007. The raw data are not adjusted by business. Adjusting the raw data for constant operations based on revenue gives a 23% decrease for the 2004-2008 period.

The largest consumers are implementing action plans based on the findings of preliminary energy efficiency studies, with the goal of stabilizing and ultimately reducing the group's energy consumption.

All of our methodological tools – including the eco-efficiency awareness kit, best practice handbooks, best available technologies, and energy news – are designed for all group employees.

### 3.2. Water usage

As in 2007, and following the changes of 2006, there was no major change to the consolidated group in 2008.

The total quantity of water consumed, excluding geothermal uses and cooling water for the Tricastin site (Eurodif), was 16.3 million m<sup>3</sup> in 2008, compared with 19.4 million m<sup>3</sup> in 2007. The change from 2004 to 2008, at constant revenue, is a decrease of 50%.

Highlights in 2008 include:

- installation of a geothermal system at the Villeurbanne site in France, which helped conserve 178,810 m<sup>3</sup> of water in 2008;
- the closed loop cooling system at the Chemistry business unit's Comurhex Malvési site, which started up in August 2007, saved 1,353,807 m<sup>3</sup> of water per year and reduced the site's water consumption by 83% compared with 2006, when the site was the group's 7<sup>th</sup> largest water consumer;
- continuation of the drinking water/industrial water project at AREVA NC Pierrelatte, which saved 402,140 m<sup>3</sup> in 2007 and 898,467 m<sup>3</sup> in 2008; and
- an increase in operations at the Cezus Jarrie and AREVA T&D Aix-les-Bains sites, generating an increase in their water consumption of 290,659 m<sup>3</sup> for the former and 4,360 m<sup>3</sup> for the latter.

AREVA has thus successfully improved its management of the water cycle, particularly at the production sites, so that less water is tapped from the natural environment. This requires in-depth knowledge of water consumption patterns and actual costs associated with managing the water cycle, as well as a concerted effort by site personnel and subcontractors.

These efforts translate into:

- improved management of water systems and processes: several campaigns were conducted to identify leaks, both at plant sites and in office buildings; equipment was modified, sometimes resulting in the elimination of wasteful processes; and changes in technology continue in this area;
- raising awareness and building the “eco-attitude” of personnel and subcontractors to promote the recycling and reuse of water and prevent unnecessarily excessive consumption, which has been particularly effective at the office buildings;
- continuing actions already in progress, most notably at the AREVA NC Pierrelatte site and at Cezus Jarrie.

Mining operations at the Imouraren site in Niger also started in 2008. Reporting procedures for the site and the development of mining operations in Namibia resulted in an increase in water consumption of 247,693 m<sup>3</sup> for Namibia; consumption of 22,201 m<sup>3</sup> was reported for Imouraren.



### Example

In the leak reduction program, sites such as Comurhex Pierrelatte continued to pursue initiatives started in 2007.

Some sites have set up innovative systems to reduce their water consumption:

- a closed loop at the Cezus Rugles site conserved 74,089 m<sup>3</sup> in 2008 compared with 2007;

## 3.3. Consumption of materials

The group is continuing to reduce its consumption of chemicals by identifying major direct or indirect impacts using analytical tools specific to the environment (life cycle analysis, health risk assessment), primarily through internal recycling (acid recycling at the Cezus Paimbœuf, Montreuil Juigné and Rugles sites).

AREVA has been tracking paper consumption throughout the group since 2004.

It distributed a list of 20 best practices to all entities. The updated eco-efficiency posters address paper consumption, among other things, and paper reduction programs are being implemented at the site level.

- a geothermal system at the Oberentfelden site in Switzerland reduced consumption in 2008 compared with 2007, although this was offset by an increase in the number of employees at the site.

For example, printers have been reconfigured for two-sided printing and efforts undertaken to build the “eco-attitude” in personnel, leading to reduced consumption:

- Mécagest Recycling BU: 42.6% less paper purchased due to a 47.7% reduction in per person consumption;
- TN Inc. (Logistics BU): 53% less paper purchased due to a 60.9% reduction in per person consumption;
- Montpellier Fabrègues (Products BU): 33% less paper purchased due to a 43.4% reduction in per person consumption.

Group-wide, paper consumption per employee dropped from 32.5 kg in 2004 to 21.5 kg in 2008. This amounts to 1,456 metric tons of A4/US letter paper purchased in 2008, compared with 1,538 metric tons in 2007. The change from 2004 to 2008, at constant revenue, is a 46% reduction.

## 3.4. Waste

The sustainable development reporting protocol was slightly simplified in 2006 to facilitate an understanding of the definitions, in particular at sites abroad. Now there are only two waste categories:

- hazardous waste; and
- non-hazardous waste (which combines common industrial waste and inert waste).

This version of the reporting protocol was maintained in 2008.

### Conventional waste

A total of 146,560 metric tons of conventional waste was produced in 2008, in raw data terms, as follows:

- 37,605 MT of hazardous waste, 33.5% of which came from routine operations;
- 108,956 MT of non-hazardous waste, 57.5 of which came from routine operations.

In 2008, large-scale projects at some sites, including clean-up at the AREVA T&D Aix-les-Bains site, construction preparations

at Comurhex II Pierrelatte, and soil reclamation at the Miramas site, resulted in the production of hazardous and non-hazardous waste from significant exceptional operations. The total tonnage of waste produced was lower than in 2007, with hazardous waste production rising and non-hazardous waste production falling.

Correcting the data for these unusual events gives production of 18,110 MT of hazardous waste and 70,997 MT of non-hazardous waste.

For the scope corresponding to this data, the percentages of recycled material are:

- 55% for hazardous waste (excluding waste related to exceptional operations at the AREVA T&D Aix-les-Bains site);
- 74% for non-hazardous waste, excluding the soil from stripping operations at the Comurhex II Pierrelatte and Miramas worksites.

The recycling rate rose from:

- 32% in 2004 to 55% in 2008 (45% in 2007) for hazardous waste;
- 44% in 2004 to 74% in 2008 (69% in 2007) for non-hazardous waste.



In all, this represents an improvement in the recycling rate for all conventional waste of more than 71% for the 2004 to 2008 period.

Programs for improving final waste reduction are ongoing in all of the group's facilities to:

- minimize and manage waste generation at the source;
- promote sorting by providing bins for waste separation or by creating in-house waste sorting centers;
- recycle and reuse waste by selecting the most suitable processing methods; and
- improve the processing and packaging of non-reusable waste.

### Example

The AREVA T&D Fabrègues site set up a recycling system for its concrete waste that increased the recycling rate from 19% in 2007 to 85.8% in 2008. The Cezus Paimbœuf site replaced land disposal for its non-hazardous waste with a waste-to-energy incineration process that can recover 100% of such waste.

By implementing a Lean 6 Sigma recycling project, the Lynchburg Mill Ridge and Lynchburg Old Forest sites in the United States were able to increase their average recovery rate from 10% in 2007 to about 19% in 2008.

AREVA University's "Environment: Risks and Opportunities" training module contains a presentation on waste treatment to give production sites abroad a better idea of the potential for improvement.

A decision-making tool was also developed in-house to facilitate waste processing choices. The software program is designed to compare processing methods and assign scores based on regulatory, technical, economic, environmental and social criteria.

### PCBs and PCTs

PCBs (polychlorinated biphenyls) and PCTs (polychlorinated terphenyls) are toxic chemicals that were formerly used to manufacture and operate electrical distribution equipment. AREVA's subsidiaries began to eradicate them several years before the 2010 date set for their elimination by European directive 96/59 of September 16, 1996, and AREVA has made a commitment to phasing out the remaining equipment under a plan approved by the French Ministry of Ecology and Sustainable Development and included in the national plan approved by decree on February 26, 2003.

In 2008, 90 transformers containing these substances were eliminated in France, compared with the 87 announced in the elimination plan sent to the Ministry. As of December 31, 2008, 116 machines had yet to be eliminated.

### Radioactive waste

Waste generated by nuclear operations is classified according to two criteria:

- the intensity of the radioactivity it contains (very low-, low-, medium- and high-level waste); and
- its half-life, *i.e.* the time it takes for the initial radioactivity of the waste to be reduced by half. Short-lived waste has a half-life of less than 30 years; long-lived waste has a half-life of more than 30 years.

Each type of waste requires a specific management method.

In France, very low-level waste (VLLW) is disposed of at the disposal center operated by Andra in Morvilliers.

Short-lived low-level waste (LLW) and medium-level waste (MLW) is disposed of in a near-surface disposal facility, also operated by Andra, the Centre de l'Aube in Soullaines.

For long-lived medium-level (MLW) and high-level waste (HLW), research is being carried out pursuant to Program Law 2006-739 of June 28, 2006 on the sustainable management of radioactive materials and waste. This law defines the schedule for setting up facilities to develop deep geologic repositories.

The law is an extension of the process launched in 1991 by the "Bataille Law" on research on end-of-life-cycle nuclear operations in France. The law is fundamental insofar as it programs the construction required for the management and disposal of all radioactive waste in France and sets up the technical, financial and political governance for these operations. This process sets the framework for waste processing and packaging operations in the AREVA group's French facilities. It organizes:

- the management of long-lived, low-level graphite and radioactive waste in a future disposal facility that Andra will open in 2013;
- the management of waste with or without available disposable methods as part of a tri-annual review of the French national radioactive materials and waste management plan report;
- the management of mill tailings disposal;
- the packaging by 2030 of all long-lived medium-level waste produced before 2015;
- the future of the high-level waste generated by the treatment of foreign fuels; and
- the development of deep geologic disposal, with a preliminary design report set for 2015 and the opening of a repository in 2025.

The group's operations generate waste such as technological (dry active) waste, ion exchange resins and sludge, and sometimes waste from facility dismantling operations. This waste is only a slight fraction of the total quantity of radioactive waste generated by nuclear power, representing but a few percentage points in terms of radioactivity.

Every year, we endeavor to reduce these waste volumes. The group established performance indicators to report on progress in this field in a consolidated summary-level manner.

AREVA also continued in 2008 to expand its initiative for the comprehensive management of legacy waste and stored materials at the group's sites by systematically using inventory management software, conducting programs for legacy waste retrieval and packaging, and planning for the management of waste from facility dismantling.

Andra, the French national waste management agency, is preparing an exhaustive inventory of radioactive waste in France. This inventory is public and the 2006 version may be consulted on its website. It provides all available information on radioactive waste inventoried in France, including waste held at the group's sites. AREVA is participating actively in carrying out the 2009 inventory, which will update the 2006 version by providing more details on updated data and on forecast data on radioactive waste and materials. This more thorough exercise is in line with the new framework defined by the 2006 law.

The group also contributes to the responsible management of radioactive waste generated by the nuclear industry by offering solutions for its safe storage, processing, packaging and often transport. "Group-held" waste, as opposed to "group-generated" waste, as defined in article L. 541-2 of the French Environmental Code, consists mainly of long-lived high-level waste (HLW) belonging to AREVA's electric utility customers. This waste is returned to the customer at the end of the used fuel treatment process.

For the French utility EDF, the group offers a service which includes the interim storage of radioactive waste in suitable and safe facilities pending the availability in 2025 of a deep geologic repository for its long-term management, as stipulated by the French Law of June 28, 2006. EDF remains the owner of the waste. AREVA assumes responsibility for holding it, within the limits of the provisions relating to nuclear liability stipulated in the TSN Law of June 13, 2006 on nuclear accountability and safety, which incorporates provisions relating to nuclear liability.

The other waste, which can be disposed of directly, consists of low- and very low-level waste that is routinely shipped to the disposal site and is not stored in significant quantities at the group's sites.

Waste from used fuel belonging to foreign customers is returned to those customers as soon as it is technically feasible to do so, in accordance with the French Law of June 28, 2006.

## Examples

Several sites have invested in improvements to radioactive waste storage and packaging and to prepare for the removal of dismantling waste from future jobsites.

- At the Cezus Jarrie site in France, the retrieval process and insolubilization treatment for radium-bearing waste that has been stored in the treatment building built in late 2007 was finalized in 2008.
- At the Malvési site, an initiative for inventorying waste, zoning, and finding disposal methods for waste currently without an outlet was finalized in 2008 when the site's waste study was updated.
- At the Marcoule site, the contaminated lead recycling program recycled 400 MT of lead in 2008 from the dismantling of AREVA, CEA and EDF facilities in France. The lead is melted down in a dedicated furnace at the Marcoule dismantling facility and the lead ingots are sent to a manufacturer in Marseille, which remelts and custom-forms the lead for new nuclear industry projects.
- At the Pierrelatte site, the project to dismantle the Eurodif plant by 2013 has selected the design approach to the treatment of dismantling waste: fusion, enabling the recycling of the more than 100,000 metric tons of steel to be processed.

Optimization of the disposal of very low level waste (VLLW) continued in 2008 to increase the quantities of waste accepted at Andra's disposal center, in accordance with the increase in the facility's annual capacity.





### 3.5. Releases in water

The nuclear fuel cycle typically processes small quantities of materials. Small quantities of reagents are used for uranium mining and chemistry and for used fuel treatment.

In 2006, feedback from prior year reporting showed that, due to regulatory requirements, a theoretical release value (volume released times detection threshold) had to be computed for sites with reporting results below the detection threshold. This overestimated value was also included in the reporting system. In 2006, the release indicators were split into two parts:

- the actual measured value for data above the detection thresholds; and
- the theoretical computed value for data below the detection thresholds.

It was decided in 2008 to focus only on the releases for which there are actual measured values. Consequently, the indicators for theoretical computed values are no longer reported. This is also the case for the indicator for tin releases, which concerned a single group site.

Some chemical releases are a function of operations at certain facilities, such as those of the Chemistry business unit and more specifically those conducted at the AREVA NC Pierrelatte site, and

are not reproducible from one year to the next. This is particularly true for nitrogen, with 264 MT\* of total nitrogen released in 2008, compared with 780 MT in 2007.

All of the group's French plant sites combined released 708 kg\* of uranium into aquatic environments in 2008 (698 kg in 2007), including the 74 kg released accidentally from the Socatri site. By way of comparison, the Rhone River alone carries along around 70 MT of natural uranium each year (source: Environmental Report of the Tricastin site).

An event classified by the ASN as Level 1 on the INES scale occurred at the Socatri site in France in 2008. During the night of July 7-8, a tank containing uranium-bearing effluents (0.7% natural uranium) spilled over. About 20 m<sup>3</sup> of solution flowed over the floor into the storm water system and the stream that crosses the Tricastin site. As a result, 74 kilograms of natural uranium was released into the environment.

Following this event, a broader environmental monitoring plan for surface water and groundwater was implemented, both onsite and offsite. After analysis of analytical results from all of the water samples taken, the ASN stated in late August that "thus far, the environment does not appear to have been affected by the event."

### 3.6. Atmospheric releases

The group's operations release certain gases which, though limited, contribute to global warming, depletion of the ozone layer and atmospheric pollution. These are primarily:

- direct emissions of greenhouse gases (GHG) associated with the burning of fossil fuels, certain fluorinated emissions (SF<sub>6</sub>) from chemical operations and from the manufacturing of electrical equipment, and certain nitrogenous emissions (N<sub>2</sub>O) from operations that use nitric acid;
- indirect greenhouse gas emissions associated with the consumption of electricity and thermal power;
- gaseous releases such as volatile organic compounds (VOC), acid-forming gases, or ozone-depleting gases.

#### Greenhouse gases

In 2008, the AREVA group's direct greenhouse gas emissions amounted to 771,648 metric tons of CO<sub>2</sub> equivalent, a 22.4% drop from 2007. At constant revenue, these emissions dropped

56.7% from 2004 to 2008. Of these emissions, 46% are linked to fossil fuels, 27% to sulfur hexafluoride (SF<sub>6</sub>) and 22% to nitrous oxide (N<sub>2</sub>O).

There was a 4% decrease in SF<sub>6</sub> emissions in 2008 compared with 2007, at constant operations.

Normally accounting for a third of the group's total emissions, N<sub>2</sub>O emissions from the Malvési site have decreased significantly following events impacting the site's operations this year.

An installation on the precipitation facility's ventilation system to decompose N<sub>2</sub>O into oxygen and nitrogen will enable the elimination of these emissions by September 2009.

The La Hague site, whose boilers were the group's only facilities subject to the national quota allocation plan (PNAQ), saw its GHG emissions drop 37.5% in 2008 compared with 2007, whereas its energy consumption only dropped by 4.5% for comparable operations. This result was achieved principally by replacing the heavy fuel oil boilers with electric ones.

\* Excluding AREVA NC La Hague.





## Appendix 4 Environmental report

### 3. Environmental performance improvement

In 2008, AREVA decided to extend its environmental reporting to indirect GHG emissions from freight and people transport, and set up three new indicators, specifically to monitor GHG emissions linked to:

- business trips (air travel);
- short-term rentals; and
- long-term rentals.

Reporting on freight transportation started during the 2008 annual campaign. The reliability of reporting will increase over the coming quarters.

To achieve carbon neutrality, AREVA is mobilizing to reduce its own emissions. The goal is a 50% reduction from 2004 levels by the end of 2011. To achieve this, the group is improving its industrial processes to use energy wisely, making carbon light substitutions and promoting more eco-efficient attitudes internally.

AREVA opted for carbon compensation to neutralize its direct residual emissions. It finances external sustainable development projects that lead to emission reductions, and as a priority in countries where the group operates. To be sure of the high quality of these projects (auditable reductions, application of quality-assured standards, etc.), the group entered into a partnership with Eco-Act, which conducts economic development projects that protect the environment and communities.

In 2008, the group helped finance the following projects:

- Bioelectricity using biomass in Brazil;
- Hydroelectricity in India and China; and
- Biomass and forest conservation in Brazil.

#### Volatile organic compounds

Measured VOC emissions totaled 1,189 MT in 2008, compared with 1,173 MT in 2007, *i.e.* an 8% reduction at constant operations based on revenue.

### 3.7. Radioactive releases

Through concerted effort, radioactive releases have dropped sharply over the past 30 years. For example, the radiological impact from La Hague has been divided by five, going from a dose to the reference group of around 70  $\mu\text{Sv}$  in 1985 to around 10  $\mu\text{Sv}$  in 2006. This dose remains relatively constant from one year to the next. This has paved the way for compliance with the more stringent regulatory standards in the European Union, which were transposed into French law, and which currently set the maximum effective dose to members of the public at 1 mSv/yr. That level is less than the average exposure to naturally occurring radiation in France of 2.4 mSv/yr, as well as in other countries around the world, where it ranges from 1 to 10 mSv/yr, according to the

United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR).

Nevertheless, the group is continuing its research into the feasibility of further reducing radioactive releases from the La Hague plant, particularly in connection with the plant's release permit.

Since 1995, the group's French nuclear sites have published and publicly distributed annual environmental reports in which radioactive releases and trends are described in detail. These releases are subject to verification monitoring and unannounced inspections by the regulatory authority.

### 3.8. Odor and noise pollution

Having taken the necessary action in 2003, this is no longer identified as a critical item within the group.

## 4. Strengthening relations with external stakeholders

The group's commitment to sustainable development is giving a new dimension to its relations with stakeholders by making dialogue and consensus building a key building block of the group's social responsibility.

"Dialogue and consensus building" is both a commitment and principle number 9 of the AREVA Way self-assessment model.

Our group is convinced that dialogue, consensus building and interaction constitute the best way to work together to find creative solutions for sustainable development issues. Through the group's dialogue initiatives, we listen to our stakeholders and their issues and concerns, with an eye on continuous improvement. This in turn enriches the group's current and prospective initiatives.

With this in mind, several initiatives have been undertaken, both at the group level and at the site level.

### 4.1. Consensus building at the corporate level

In 2004, the group turned over the organization of a consensus building program involving a panel of stakeholders to Comité 21, a leading authority on sustainable development in France.

As part of this initiative, the AREVA group and its stakeholders accepted a methodological framework designed by Comité 21 to ensure that the initiative would be fully credible and effective.

The first consensus building meeting was organized as two consecutive sessions on September 14, 2004 and February 9, 2005. The second one took place on December 15, 2006 and January 10, 2007, and the third on October 8-9, 2008.

These Stakeholders Sessions achieved the following objectives:

- informing stakeholders of the group's operations and developments and, where necessary, reporting on commitments made during previous sessions;

- organizing interaction between the company and stakeholders on how well this information meets their expectations, and receiving their opinions and proposals on how to update the goals and further the group's deliberations.

After each consensus building meeting, Comité 21 writes a summary of stakeholder expectations and proposals. These summaries are available on our website, [www.aveva.com](http://www.aveva.com).

The participants hail the quality of these meetings. The stakeholders highlight the company's progress, its efforts to be accountable, and its mobilization. They would like these consensus building meetings to continue.

In the future, the focus will be on broadening the scope of the initiative, either through the composition of the group of stakeholders involved or through the geographical location of the event, to confirm its international dimension.

## 4.2. Mapping of local stakeholders

The group mapped local external stakeholders at its sites, a practice based on methods that were developed in 2003-2004 in collaboration with a strategic sustainable development consulting agency.

The goal of the exercise is to help sites clarify, organize and strengthen relations with stakeholders, including associations, local residents, elected representatives and governments, and the media.

The mapping exercise itself gives tangible meaning to our Dialogue commitment.

This exercise is prompting the sites to compare their own perceptions of local stakeholder expectations with the actual expectations of these stakeholders, based on local economic, social, societal and/or environmental issues.

Independent players and standard setters in the field of sustainable development expertise and advice consultants aided the group in this initiative, in particular by interviewing stakeholders in the countries involved.

Above all, the exercise concerns the group's major regulated nuclear facilities and Seveso-regulated industrial chemical sites; *i.e.* sites that are considered to have a larger potential environmental impact and which therefore warrant closer relations with stakeholders. These are to be repeated regularly for each site. Given their own stakeholder issues, other sites such as the mines are also becoming involved in the exercises.

By the end of 2008, about 30 mapping exercises had been carried out for a total of 25 sites located in France, Great Britain, Germany, Canada, the United States, and India. Hundreds of stakeholders were interviewed.

The sites involved in these exercises are now rolling out action plans to continue, reinforce, reorient, or develop the actions deemed to be most suitable, internally and externally. The action plans also aim to strengthen dialogue, relations and partnerships between our industrial sites and local players.

Since 2007, a Dialogue and Consensus Building intranet module has provided all of the group's sites with the necessary tools to organize and widely practice dialogue with their stakeholders.

## 4.3. AREVA's partnership and patronage program

The AREVA group's partnership and patronage program is translating the company's policy of dialogue with stakeholders into concrete achievements in France and overseas.

To support development aid programs in countries in which the group operates, the AREVA Foundation joins forces with local associations in partnerships spanning several years. It works in three main areas of partnership and patronage:

- North-South development, by encouraging local initiatives such as microcredit or the renovation of health care facilities, in particular for sick or underprivileged children;
- knowledge sharing through programs that provide schooling support or adult training; and
- energy and climate change by setting up concrete activities with local populations.

These goals were defined in consultation with the group's employees and are consistent with their know-how and with the company's core business.

The AREVA Foundation encourages employees to mobilize in favor of the associations it supports.

The Foundation is presided over by a Board of Directors made up of AREVA group representatives and qualified, recognized figures from outside the group.

Through its partnership and patronage program, the AREVA group rolls out more than 20 new projects a year in some 15 countries in which it is based, including Brazil, Canada, China, France, Niger, South Africa and the United States.



## Appendix 5 Annual General Meeting of Shareholders of April 30, 2009

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### 1. Order of business

1. Reading of the Executive Board's management report for the year ended December 31, 2008 (including information on the social and environmental consequences of the company's operations, as required by article L. 225-102-1 of the French Commercial Code).
2. Reading of (i) the Supervisory Board's observations on the Executive Board's report, on the corporate financial statements and on the consolidated financial statements for the year ended 2008; (ii) the report of the Chairman of the Supervisory Board on the preparation and organization of the Board's activities and internal control procedures; and (iii) observations from the Statutory Auditors pursuant to articles L. 225-68 and L. 225-235 of the French Commercial Code.
3. Reading of the report on the corporate financial statements and of the report on the consolidated financial statements for the year ended December 31, 2008 from the Statutory Auditors.
4. Reading of the Statutory Auditors' special report on regulated agreements and commitments pursuant to articles L. 225-86 and L. 225-90-1 of the French Commercial Code.
5. Approval of the corporate financial statements and of the consolidated financial statements of the company (balance sheet, income statement and notes for the year ended December 31, 2008).
6. Approval of regulated agreements and commitments pursuant to articles L. 225-86 and L. 225-90-1 of the French Commercial Code.
7. Discharge for the members of the Executive Board, the Supervisory Board and the Statutory Auditors.
8. Allocation of net income for the year.
9. Setting of directors' fees allocated to the Supervisory Board for 2009.
10. Ratification of the cooptation of a new member of the Supervisory Board.
11. Modifications to commitments made by AREVA pertaining to the severance compensation of AREVA's executive management, to ensure compliance with the TEPA law as per article L. 225-90-1 of the French Commercial Code.
12. Granting of authority to execute formalities.

### 2. Proposed resolutions

#### First resolution

The Shareholders, having heard the Executive Board's management report, the Supervisory Board's observations on this report, the Chairman of the Supervisory Board's report on the conditions for the preparation and organization of the Supervisory Board's activities and on the internal control procedures in place, the reading of the Statutory Auditors' reports, and the additional explanations provided verbally, approve in their entirety the reports of the Executive Board, the Supervisory Board and the Chairman of the Supervisory Board, as well as the balance sheet, the income statement and the notes to the corporate financial statements and to the consolidated financial statements for the year ended December 31, 2008, as presented.

Consequently, the Shareholders approve the management actions taken and accounted for by the Executive Board, and discharge the members of the Executive Board and of the Supervisory Board as well as the Statutory Auditors of their duties for the past fiscal year.

#### Second resolution

The Shareholders, having heard the reading of the Statutory Auditors' special report on the regulated agreements and commitments pursuant to articles L. 225-86 and L. 225-90-1 of the French Commercial Code, hereby approve all of the agreements and commitments concluded or in effect during fiscal year 2008.



### Third resolution

The Shareholders, taking into consideration income for the year of 1,036,002,395.77 euros, hereby decide to allocate distributable net income, in accordance with the law, as follows:

- Income for the year 1,036,002,395.77 euros
- Legal reserve (fully accrued)
- Retained earnings 649,678,255.79 euros
- Distributable net income (article L. 232-11 of the French Commercial Code) 1,685,680,651.56 euros
- Dividend to Shareholders and investment certificate holders 249,871,042.05 euros

Subsequent to this allocation, retained earnings amount to 1,435,809,609.51 euros. The net dividend per share and per investment certificate is set at 7.05 euros. Dividend distributions to natural persons are subject to a 40% tax exemption. Dividends will be paid on June 30, 2009.

The Shareholders note that the amount of dividends distributed for the three previous fiscal years were as follows:

<i>(in euros)</i>	
Year	Dividend
2005	9.87
2006	8.46
2007	6.77

### Fourth resolution

The Shareholders set the total amount of annual directors' fees allocated to the Supervisory Board at 500,000 euros.

This decision applies to the current year and shall remain in effect until modified.

### Fifth resolution

On the recommendation of the Supervisory Board, the Shareholders, ratify the cooptation of Mr. Bernard Bigot as a member of the Supervisory Board, carried out by the Supervisory Board on February 5, 2009 to replace Mr. Alain Bugat, who has resigned, for the remainder of his predecessor's term, *i.e.* until the Annual General Meeting convened to approve the financial statements for the year ending December 31, 2010.

### Sixth resolution

The Shareholders, having heard the special report of the Statutory Auditors referring to the Supervisory Board's decision of October 16, 2008 to bring commitments made by AREVA concerning the severance compensation of its executives into compliance with the TEPA law, approves those modifications in accordance with article L. 225-90-1 of the French Commercial Code.

- The members of AREVA's Executive Board – Mrs. Anne Lauvergeon, Chairman, and Messrs. Gérald Arbola, Didier Benedetti and Luc Oursel – were, in the past, each granted the benefit of severance pay representing twice the combined total of the latest fixed amount of their annual compensation on the date of termination of their employment and the average annual amount of their variable compensation of the past three years.

The Shareholders approve the following new rules, which were adopted by the abovementioned Board:

- In the event of the dismissal of a member of the Executive Board by the Shareholders, of the resignation of a member of the Executive Board at the request of the Supervisory Board, or of the non-renewal of the term of a member of the Executive Board by the doing of the Supervisory Board (and not because the member of the Executive Board declines renewal), the payment of severance compensation to that executive pursuant to his or her employment contract and approved by the Supervisory Board and the Ministry of the Economy and Finance, shall be contingent on the following condition:
  - the executive must have received more than 60% of the maximum amount of the variable component of his or her compensation for two of the three preceding years, the variable compensation being based on both quantitative and qualitative objectives.
- Severance compensation shall not be paid if less than 50% of the maximum amount of the variable component of compensation has been paid for two of the last three years.
- The Supervisory Board, at its entire discretion, shall decide whether or not to grant all or part of the severance pay if less than 60% of the maximum amount of the variable component has been paid for two of the last three years and 50% to 60% of the maximum amount of the variable component has been paid for at least one year.

### Seventh resolution

The Shareholders grants full authority to the bearer of an original, an excerpt or a copy of this meeting report for purposes of filing, publishing and recording same, and for other purposes as he shall decide.

# A

## Appendix 6 Information made public by the AREVA group over the past 12 months

- Information published by AREVA and available under the heading “Informations réglementées” of the [www.areva.com](http://www.areva.com) website and/or on the website of the AMF, [www.amf-france.org](http://www.amf-france.org)..... 446
- Information filed by AREVA with the Court Registrar of the Paris Commercial Court..... 449
- Information published by AREVA in the *Bulletin des Annonces Légales Obligatoires* (BALO), available on the BALO website ([www.balo.journal-officiel.gouv.fr](http://www.balo.journal-officiel.gouv.fr)) ..... 449
- Financial advertising ..... 450

Annual information document drawn up in accordance with article 222-7 of the General Regulations of the French financial market authorities AMF (*Autorité des Marchés Financiers*). In accordance with these regulations, the tables below list the information made public by AREVA since January 1, 2008 to satisfy legal or regulatory obligations concerning financial instruments, financial instrument issuers, and financial instrument markets.



## Information published by AREVA and available under the heading "Informations réglementées" of the [www.areva.com](http://www.areva.com) website\* and/or on the website of the AMF, [www.amf-france.org](http://www.amf-france.org)

Date	Information
January 3, 2008	Transmission & Distribution: AREVA acquires Nokian Capacitors Ltd. and strengthens its leading position on the transmission market.
January 10, 2008	Nuclear revival in the United Kingdom: AREVA is ready.
January 13, 2008	AREVA strengthens its presence in Niger with the signing of a win-win partnership agreement.
January 14, 2008	Signature of a Partnership Agreement for a Nuclear Power Plant Project in the United Arab Emirates.
January 14, 2008	Qatar: AREVA awarded unprecedented Transmission and Distribution contract.
January 17, 2008	AREVA acquires leading Biomass company in Brazil.
January 23, 2008	Renewables: AREVA to supply Germany with offshore wind turbines worth 500 million euros.
January 25, 2008	Transmission & Distribution: AREVA awarded two contracts with major Indian utilities.
January 31, 2008	South Africa: AREVA submits ambitious global offer.
January 31, 2008	2007 sales revenue.
February 5, 2008	Fuel: AREVA wins nuclear fuel contracts worth over 200 million euros.
February 6, 2008	Transmission & Distribution: AREVA awarded two contracts in the UAE totaling 86 million euros.
February 13, 2008	AREVA, official partner of the 2008 Beijing Paralympic Games.
February 19, 2008	Enrichment: AREVA completes a major stage in the Georges Besse II project.
February 26, 2008	2007 annual results.
February 27, 2008	STMicroelectronics: re-balancing of the shareholdings and amendment to the shareholders' agreement.
February 28, 2008	South Africa: AREVA signs T&D contract and reaffirms strong commitment to nuclear sector.
February 29, 2008	South Africa: AREVA signs key nuclear skills development agreements.
March 13, 2008	Transmission & Distribution: AREVA awarded 150 million euro contract by DEWA (Dubai Electricity and Water Authority).
March 18, 2008	The EPR™ reactor moves forward in UK licensing process.
March 20, 2008	AREVA reinforces its development in the mining sector through a partnership with Technip and SGN.
March 31, 2008	Back End: first success for AREVA in the United Kingdom.
April 3, 2008	AREVA purchases RM Consultants Ltd, a British nuclear firm specialized in risk management, and strengthens its presence in the United Kingdom.
April 3, 2008	U.S. DOE awards GNEP contract extension to AREVA and Mitsubishi alliance.
April 10, 2008	Japan: AREVA finalizes several contracts in the front end of the nuclear fuel cycle, totaling 2 billion euros.
April 11, 2008	AREVA and MHI enlarge their cooperation to the Nuclear Fuel Business.
April 23, 2008	E.ON chooses the AREVA EPR™ reactor for its nuclear power plant projects in the United Kingdom.
April 23, 2008	AREVA University / Panthéon-Sorbonne University: first class of South African 'Project Leaders' graduates.
April 24, 2008	Transmission and distribution: AREVA strengthens its position in Algeria with a 32-million euro contract
April 24, 2008	Revenue and data for the first quarter of 2008.
April 28, 2008	Japan: AREVA signs a contract to supply MOX fuel to Kansai.
April 29, 2008	Transmission & Distribution: AREVA awarded 32-million euro contract in Algeria.
May 6, 2008	AREVA selects Bonneville county, Idaho, for its U.S. uranium enrichment facility.
May 21, 2008	AREVA denies claim published on Capital.fr.

\* For the English version, see the Finance library of the [www.areva.com](http://www.areva.com) website.



## Appendix 6 Information made public by the AREVA group over the past 12 months

Information published by AREVA and available under the heading "Informations réglementées" of the [www.areva.com](http://www.areva.com) website and/or on the website of the AMF, [www.amf-france.org](http://www.amf-france.org)



Date	Information
May 23, 2008	Shaw AREVA MOX Services awarded multi-billion dollar construction option for DOE facility.
May 23, 2008	Transmission & Distribution: AREVA to invest 66 million euros in Turkey.
May 29, 2008	ERAMET: SORAME/CEIR and AREVA renew their shareholders' agreement.
June 2, 2008	United States: AREVA wins portion of Hanford Tank operations contract.
June 3, 2008	GDF-SUEZ acquires an equity stake in AREVA's new uranium enrichment plant.
June 5, 2008	Wind power: AREVA sells its minority stake in REpower.
June 11, 2008	AREVA and Kazakhstan sign a strategic agreement in the front end of the nuclear cycle.
June 16, 2008	Brazil: AREVA awarded service contracts for Angra 1 and 2 nuclear power plants.
July 2, 2008	AREVA invests in Le Creusot to manufacture EPR™ reactor vessels in France.
July 7, 2008	ATMEA1: the IAEA completes reactor safety features review.
July 11, 2008	United Kingdom: AREVA and partners selected as preferred bidder for Sellafield site.
July 16, 2008	Anne Lauvergeon to visit SOCATRI on Friday.
July 17, 2008	SOCATRI: first conclusions of the internal audit and AREVA general inspection.
July 18, 2008	Defective pipe discovered at Cerca Romans.
July 24, 2008	First half 2008 sales revenue.
July 25, 2008	Transmission & Distribution: AREVA awarded substation package contract for Terminal 3 at the New Delhi International Airport.
August 1, 2008	AREVA to supply nuclear fuel assemblies for Taiwan Power Company worth more than \$200 million.
August 27, 2008	Tricastin: AREVA to invest extra 20 million euros to improve environment around facilities.
August 27, 2008	Jordan: AREVA and JAEC to form mining partnership.
August 29, 2008	First half 2008 financial results.
September 4, 2008	Bioenergies: AREVA wins contract worth 33.5 million euros in Brazil.
September 12, 2008	Transmission & Distribution: AREVA reinforces its partnership with Shanghai Electric.
September 25, 2008	Renewables: AREVA and Duke Energy to jointly develop biomass power plants in the United States.
September 29, 2008	Transmission & Distribution: AREVA and GE Consumer & Industrial India announce strategic alliance.
October 2, 2008	Jordan: AREVA and JAEC sign an agreement on uranium exploration.
October 7, 2008	China: AREVA strengthens its partnership with CGNPC.
October 8, 2008	United States: major contract award moves AREVA's EPR™ reactor closer to construction.
October 17, 2008	Olkiluoto 3: progress update.
October 23, 2008	Revenue and data for the first nine months of 2008.
October 23, 2008	AREVA, Northrop Grumman join forces to create world-class facility in U.S. to manufacture heavy components for American nuclear energy industry.
October 31, 2008	United States: AREVA Team Awarded Yucca Mountain Contract.
November 4, 2008	Japan Steel Works, Ltd. (JSW) and AREVA sign a major industrial agreement on large forged part procurement.
November 5, 2008	Transmission & Distribution: AREVA to deliver a second converter station to Uruguay.
November 12, 2008	American Nuclear Society honors AREVA's Chalon Saint-Marcel plant.
November 13, 2008	Transmission & Distribution: AREVA wins the largest industrial upgrading project in Bahrain.
November 21, 2008	Recycling: AREVA signs a second agreement to supply MOX fuel to Japanese utility Kansai.
November 21, 2008	Bulgaria: AREVA participates in the construction of the Belene nuclear power plant.
November 24, 2008	United Kingdom: AREVA and partners seal management and operations contract for Sellafield site.
November 25, 2008	Canada: AREVA delays its Midwest project.
November 26, 2008	AREVA Foundation and Institut Pasteur renew partnership in China.
November 26, 2008	Bioenergies: AREVA wins contracts worth 30 million euros in Europe.
December 3, 2008	United Kingdom: AREVA appoints UK President and reaffirms commitment to United Kingdom.



## Appendix 6 Information made public by the AREVA group over the past 12 months

Information published by AREVA and available under the heading "Informations réglementées" of the [www.areva.com](http://www.areva.com) website and/or on the website of the AMF, [www.amf-france.org](http://www.amf-france.org)

Date	Information
December 4, 2008	United Kingdom: AREVA signs industrial partnerships and prepares for new build project delivery.
December 12, 2008	AREVA Team Awarded Savannah River Site Liquid Waste Operations Contract.
December 15, 2008	ERAMET: SORAME-CEIR and AREVA to pursue cooperation.
December 16, 2008	EDF selects AREVA bid for nine replacement steam generators.
December 18, 2008	India chooses AREVA as its first foreign uranium supplier.
December 19, 2008	AREVA and EDF create long-term used fuel management partnership.
December 23, 2008	AREVA strengthens its ties with Brazil in the nuclear and transmission & distribution sectors.
December 19, 2008	AREVA Update.
December 22, 2008	Japan: MHI, AREVA, MMC and MC Jointly Establish a Full-fledged Nuclear Fuel Fabrication Business in Japan.
December 22, 2008	Transmission & Distribution: AREVA wins a major contract for an offshore wind farm project in the United Kingdom.
January 5, 2009	Niger: AREVA to mine the Imouraren deposit.
January 27, 2009	SIEMENS to withdraw as AREVA NP shareholder.
January 27, 2009	Transportation: SYTRAL awarded a 58 million euros contract to AREVA for the renovation of Lyon automated subway.
January 28, 2009	Conversion: AREVA wins long-term EDF contract worth several hundred million euros.
January 29, 2009	2008 revenue: +10.4% to 13.2 billion euros.
January 30, 2009	Switzerland: AREVA and KKL sign a long-term contract to manage spent nuclear fuel from the Leibstadt power plant.
January 30, 2009	AREVA pleased with the announcement of the construction of France's second EPR™ reactor.
February 3, 2009	Enrichment: AREVA wins 5+ billion euros EDF contract.
February 4, 2009	India: AREVA and NPCIL sign a Memorandum of Understanding to supply 2 to 6 EPR™ reactors.
February 12, 2009	Correction concerning AREVA's management of legacy uranium mines in France
February 18, 2009	Mitsubishi Heavy Industries, Ltd. (MHI), AREVA, Mitsubishi Materials Corporation (MMC) and Mitsubishi Corporation (MC) create a Joint Venture of Full-fledged Nuclear Fuel Fabrication Business.
February 24, 2009	EPR™ projects in Italy: AREVA is pleased with its customers' confidence.
February 25, 2009	2008 annual results.
February 27, 2009	AREVA becomes the title sponsor of the Golden League of Paris Saint-Denis athletics meeting.
March 4, 2009	Siemens release: AREVA asserts its rights.
March 26, 2009	AREVA signs mining partnership agreement with Democratic Republic of Congo.
March 30, 2009	Enrichment: Kansai and Sojitz acquire an equity stake in AREVA's Georges Besse II plant.
March 30, 2009	Transmission & Distribution: AREVA inaugurates eight factories to meet India's growing demand for energy.
March 31, 2009	Renewables: AREVA signed a Memorandum of Understanding for 80 offshore wind turbines worth more than 700 million euros.



## Information filed by AREVA with the Court Registrar of the Paris Commercial Court

Date	Information
June 6, 2008	2007 Annual Report, including: <ul style="list-style-type: none"> <li>• the 2007 consolidated financial statements and Statutory Auditors' report;</li> <li>• the 2007 corporate financial statements and Statutory Auditors' report;</li> <li>• the Executive Board's management report, presented to the Annual General Meeting of Shareholders of April 17, 2008;</li> <li>• the report of the Chairman of the Supervisory Board and the Statutory Auditors' report on internal control procedures;</li> <li>• the resolutions proposed to the Annual General Meeting of Shareholders of April 17, 2008.</li> </ul> Originals of the Statutory Auditors' reports on the consolidated and corporate financial statements. Recommendation for allocation of earnings.

## Information published by AREVA in the *Bulletin des Annonces Légales Obligatoires (BALO)*, available on the BALO website ([www.balo.journal-officiel.gouv.fr](http://www.balo.journal-officiel.gouv.fr))

Date	Information
February 11, 2008	Consolidated revenue as of December 31, 2007
March 7, 2008	Notice of Meeting of the Annual General Meeting of Shareholders of April 27, 2008
April 2, 2008	Financial statements for 2007: Corporate financial statements, Consolidated financial statements, and Recommendation for allocation of earnings
June 4, 2008	Attestation of the Statutory Auditors following the Annual General Meeting of Shareholders of April 17, 2008
July 24, 2008	Consolidated revenue as of June 30, 2008
September 15, 2008	Management report as of June 30, Consolidated half-year financial statements and Statutory Auditors' Report on half-year financial information
March 23, 2009	Notice of Meeting of the Annual General Meeting of Shareholders of April 30, 2009



## Financial advertising

February 27, 2008	<b>Les Échos</b>	2007 financial results
February 27, 2008	<b>Le Figaro</b>	2007 financial results
February 27, 2008	<b>La Tribune</b>	2007 financial results
February 29, 2008	<b>La Vie Financière</b>	2007 financial results
March 1, 2008	<b>Investir</b>	2007 financial results
September 1, 2008	<b>Les Échos</b>	Half-year 2008 financial results
September 1, 2008	<b>Le Figaro</b>	Half-year 2008 financial results
September 6, 2008	<b>Investir</b>	Half-year 2008 financial results
February 26, 2009	<b>Les Échos</b>	2008 financial results
February 26, 2009	<b>Le Figaro</b>	2008 financial results
February 26, 2009	<b>La Tribune</b>	2008 financial results
February 28, 2009	<b>Investir</b>	2008 financial results
February 28, 2009	<b>Le Journal des Finances</b>	2008 financial results



## Appendix 7 Table of concordance between the Executive Board's Management Report and the 2008 Reference Document

This Reference Document contains all of the items of the AREVA Executive Board's Management Report, pursuant to articles L. 225-100 and L. 225-100-2 of the French Commercial Code.

You will find hereunder the cross-references between the Reference Document and the various sections of the Management Report presented by the company's Executive Board.

Headings of the Executive Board's Management Report		Sections of the 2008 Reference Document
<b>1</b>	<b>Assets, financial position, financial performance</b>	-
<b>1.1.</b>	<b>Analysis of and comments on the group's financial position and performance</b>	<b>Section 9.1.</b>
1.1.1.	Overview	Section 9.1.
1.1.2.	Key data	Section 9.2.
1.1.3.	Events subsequent to year-end	Section 9.5.
1.1.4.	Outlook	Section 12.2.
<b>1.2.</b>	<b>Human Resources report 2008</b>	<b>Appendix 3</b>
<b>1.3.</b>	<b>Environmental report</b>	<b>Appendix 4</b>
<b>2</b>	<b>General information on the Company and its share capital</b>	-
<b>2.1.</b>	<b>Information on AREVA</b>	<b>Section 5.1.</b>
2.1.1.	Legal name (article 2 of the by-laws)	Section 5.1.1.
2.1.2.	Establishing decree	Section 5.1.3.
2.1.3.	Corporate structure of the company and applicable legislation (article 1 of the by-laws)	Section 5.1.4.
2.1.4.	Purpose of the company (article 3 of the by-laws)	Section 5.1.4.
2.1.5.	Registered office (article 4 of the by-laws)	Section 5.1.4.
2.1.6.	Statutory term (article 5 of the by-laws)	Section 5.1.3.
2.1.7.	Business registry, business code, registration number	Section 5.1.2.
2.1.8.	Availability of documents	Section 24.1.
2.1.9.	Annual financial statements (articles 43-44-46-48 of the by-laws)	-
2.1.10.	Information on General Meetings of Shareholders and voting right certificate holders	Section 21.2.3.
<b>2.2.</b>	<b>Information on share capital and voting rights</b>	<b>Section 21.1.</b>
2.2.1.	Share capital	Section 21.1.1.
2.2.2.	Changes in share capital since 1989 (article 7 of the by-laws)	Section 21.1.2.
2.2.3.	Shareholders and voting rights of AREVA	Section 18.1.
2.2.4.	Treasury shares	Section 21.1.4.
2.2.5.	Form of shares, investment certificates and voting right certificates (article 11 of the by-laws)	Section 21.1.5.
2.2.6.	Transfer of shares, investment certificates and voting right certificates (article 12 of the by-laws)	Section 21.1.6.
2.2.7.	Rights and obligations attached to shares, investment certificates and voting-right certificates (article 14 of the by-laws)	Section 21.1.7.
2.2.8.	Liens	Section 21.1.8.
2.2.9.	Breaching shareholding thresholds	Section 21.1.9.

Headings of the Executive Board's Management Report		Sections of the 2008 Reference Document
<b>2.3.</b>	<b>Investment certificate trading of AREVA</b>	<b>Section 18.2.</b>
2.3.1.	Trading exchange	Section 18.2.2.
2.3.2.	Custodian services	Section 18.2.3.
2.3.3.	Historical data	Section 18.2.4.
<b>2.4.</b>	<b>Dividends</b>	<b>Section 20.5.</b>
2.4.1.	Dividend payment (article 49 of the by-laws)	Section 20.5.1.
2.4.2.	Dividend data	Section 20.5.2.
2.4.3.	Dividend policy	Section 20.5.3.
<b>2.5.</b>	<b>Organization chart of AREVA group companies</b>	<b>Chapter 7</b>
<b>2.6.</b>	<b>Equity interests</b>	<b>Section 25.1.</b>
<b>2.7.</b>	<b>Shareholders' agreements</b>	<b>Section 25.2.</b>
<b>3</b>	<b>Regulated agreements</b>	-
<b>3.1.</b>	<b>Agreements authorized during the year</b>	<b>Appendix 2-2</b>
<b>3.2.</b>	<b>Prior year agreements remaining in effect during the year</b>	<b>Appendix 2-2</b>
<b>4</b>	<b>Information regarding Executive Management and Supervisory</b>	-
<b>4.1.</b>	<b>Composition of Executive and Supervisory</b>	<b>Section 14.1.</b>
4.1.1.	Composition of the Executive Board	Section 14.1.
4.1.2.	Composition of the Supervisory Board	Section 14.2.
<b>4.2.</b>	<b>Executive officers' compensation</b>	<b>Section 15.1.</b>
4.2.1.	Compensation paid to the members of the Executive Board	Section 15.1.1.
4.2.2.	2006 bonus calculation (paid in 2007)	Section 15.1.2.
4.2.3.	2007 bonus calculation (paid in 2008)	Section 15.1.3.
4.2.4.	2008 bonus calculation (to be paid in 2009)	Section 15.1.4.
4.2.5.	Pensions and retirement benefits	Section 15.1.5.
4.2.6.	Directors and Officers liability insurance	Section 15.1.6.
<b>4.3.</b>	<b>Compensation of the members of the Supervisory Board</b>	<b>Section 15.1.7.</b>
<b>4.4.</b>	<b>Directors and officers shares of share capital</b>	<b>Section 15.2.</b>
<b>4.5.</b>	<b>Stock options allowing subscription or acquisition of shares for no consideration</b>	<b>Section 17.2.2.</b>
<b>5</b>	<b>Annual General Meeting of Shareholders of April 30, 2009</b>	-
<b>5.1.</b>	<b>Order of business</b>	<b>Appendix 5-1</b>
<b>5.2.</b>	<b>Proposed resolutions</b>	<b>Appendix 5-2</b>
	First resolution	Appendix 5-2
	Second resolution	Appendix 5-2
	Third resolution	Appendix 5-2
	Fourth resolution	Appendix 5-2
	Fifth resolution	Appendix 5-2
	Sixth resolution	Appendix 5-2
	Seventh resolution	Appendix 5-2
<b>5.3.</b>	<b>Five-year financial summary</b>	<b>Section 20.4.4.11.</b>



# European Regulation of April 29, 2004: Table of Concordance between the 2008 Reference Document and the 2007 Reference Document

2008 Reference Document in accordance with Appendix 1 of European Commission Regulation no. 809/2004 of April 29, 2004

2007 Reference Document

General comments		General comments	
<b>Chapter 1.</b>	<b>Person responsible</b>	<b>Chapter 1.</b>	<b>Person responsible for the 2007 reference document and persons responsible for auditing the financial statements</b>
1.1.	Person responsible for the 2008 reference document	1.1.	Person responsible for the 2007 reference document
1.2.	Attestation by the person responsible for the reference document	1.2.	Attestation by the person responsible for the reference document
<b>Chapter 2.</b>	<b>Statutory auditors</b>	<b>1.3.</b>	<b>Persons responsible for auditing the financial statements</b>
2.1.	Statutory auditors	1.3.1.	Statutory Auditors
2.2.	Deputy auditors	1.3.2.	Deputy Auditors
<b>Chapter 3.</b>	<b>Selected financial information</b>		
	Summary data	5.1.2.1.	Summary data
<b>Chapter 4.</b>	<b>Risk factors</b>		
<b>4.1.</b>	<b>Overall organization of risk management and control</b>	<b>4.14.1.</b>	<b>Overall organization of risk management</b>
4.1.1.	Organization of Risk and Insurance department	4.14.1.1.	Organization of Risk and Insurance Department
4.1.2.	Risk mapping	4.14.1.2.	Risk mapping
4.1.3.	Risk management	4.14.1.3.	Risk management
<b>4.2.</b>	<b>Managing risk related to the group's industrial operations</b>	<b>4.14.2.</b>	<b>Managing risk related to the group's industrial operations</b>
		4.14.2.1.	Regulations applicable to the group's nuclear facilities in France and abroad
		4.14.2.2.	Nuclear safety in the group's nuclear facilities
4.2.1.	Nuclear risk management and prevention	4.14.2.3.	Nuclear risk management and prevention
4.2.2.	Management and prevention of chemical hazards	4.14.2.4.	Prevention and management of chemical hazards
<b>4.3.</b>	<b>Risk factors</b>	<b>4.14.3.</b>	<b>Risk factors</b>
4.3.1.	Risks related to the international dimension of the group's operations and to the competitive environment	4.14.3.1.	Risks related to the international dimension of the group's operations and to the competitive environment
4.3.2.	Risks related to the group's nuclear operations	4.14.3.2.	Risks related to the nuclear divisions
4.3.3.	Other risks related to the group's operations	4.14.3.3.	Other risks related to the group's operations
4.3.4.	Contractual and commercial risks	4.14.3.4.	Contractual and commercial risks
4.3.5.	Environmental and health risks	4.14.3.5.	Environmental and health risks
4.3.6.	Legal and regulatory risks	4.14.3.6.	Legal and regulatory risks
4.3.7.	Risks related to the group's structure	4.14.3.7.	Risks related to the group's structure
<b>4.4.</b>	<b>Market risks</b>	<b>4.14.4.</b>	<b>Market risks</b>
<b>4.5.</b>	<b>Risk coverage and insurance</b>	<b>4.14.6.</b>	<b>Risk coverage and insurance</b>
4.5.1.	Special coverage relating to nuclear facility operations	4.14.6.1.	Special coverage relating to nuclear facility operations
4.5.2.	Other worldwide group insurance programs	4.14.6.2.	Other worldwide group insurance programs
4.5.3.	Other insurance	4.14.6.3.	Other insurance
4.5.4.	Outlook and trends in 2009	4.14.6.4.	Outlook and trends in 2008



## European Regulation of April 29, 2004: Table of Concordance between the 2008 Reference Document and the 2007 Reference Document

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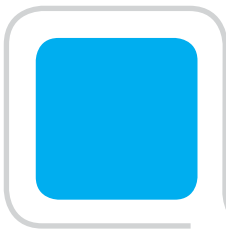
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# Glossary

## > ADNR ORDER

French administrative order of March 12, 1998, as amended, pertaining to the carriage of dangerous goods *via* inland navigation. The purpose of the order is to define rules specific to the carriage of dangerous goods in France by inland navigation, whether such carriage is national or international. It refers to the technical appendices of the Regulations for Carriage of Dangerous Goods on the Rhine (ADNR) adopted by a resolution of the Central Commission for Navigation on the Rhine (CCNR) of December 1, 1993.

## > ADR ORDER

French administrative order of June 1, 2001, as amended, pertaining to the carriage of dangerous goods by road. This order incorporates and supplements the provisions of the European Agreement on the International Carriage of Dangerous Goods by Road of September 30, 1957 (ADR), and its appendices, and defines rules specific to the carriage of dangerous goods by road in France, whether such carriage is national or international.

## > AIS (AIR INSULATED SWITCHGEAR)

The parts of the switchgear under high voltage potential are separated from each other and from earth potential by appropriate distances in the ambient air in order to prevent flashovers or sparkovers.

## > ANDRA (AGENCE NATIONALE POUR LA GESTION DES DÉCHETS RADIOACTIFS)

Public industrial and commercial agency with oversight by the Ministries of Industry, Research and the Environment. Andra operates independently of waste generators. Formed in 1991, the agency has three areas of responsibility:

- an industrial mission, by which the agency provides for the management, operation and monitoring of radioactive waste disposal centers, designs and builds new centers for waste that is not acceptable in existing facilities, and defines radioactive waste packaging, acceptance and disposal specifications in accordance with nuclear safety rules;

- a research mission, by which Andra participates in and contributes to research programs pertaining to the long-term management of radioactive waste, in particular in cooperation with the French Atomic Energy Commission (CEA); and
- an information mission, in particular through the development of a register of all radioactive waste on French territory.

## > ASSEMBLY, FUEL ASSEMBLY (SEE "FUEL ELEMENT")

## > ATOM

The basic component of the chemical elements that form matter. It consists of a nucleus containing positively charged or neutral particles (protons and neutrons), around which negatively charged particles (electrons) spin.

## > BARRIER, CONTAINMENT BARRIER

System capable of preventing or limiting the dispersion of radioactive materials.

## > BECQUEREL (BQ) (SEE ALSO "RADIOACTIVITY")

Unit of measure for nuclear activity (1Bq = 1 atomic particle disintegration per second). The Becquerel is a very small unit. Formerly, nuclear activity was measured in curies (1 curie = 37 billion Bq).

## > BURNUP

Fuel depletion is estimated by its specific burnup, expressed in gigawatts per day per metric ton of heavy metal (GWd/MTHM). This is the unit of measure for the energy supplied by the fuel during its residence in the reactor.

## > CENTRIFUGATION (SEE "ULTRACENTRIFUGATION").

## > CLADDING

Sealed metal tube surrounding nuclear fuel to protect it from corrosion by the coolant and prevent the dispersal of fission products. Cladding constitutes a "primary barrier".



### > CONTAINMENT AREA

During the construction of a facility designed to contain radioactive materials, a series of containment barriers is put up between the materials inside and the environment outside the facility as part of the engineering structures. This creates separate areas called “containment areas”.

### > CONTROL RODS

Control rods serve to control the chain reaction in the nuclear reactor core. Control consists of ensuring that the number of neutrons produced in the reactor core through fission is exactly equal to the number of neutrons that dissipate in the reactor core. The ratio between these two numbers (production divided by dissipation) is called the multiplication factor,  $K$ , which must be equal to 1. To maintain the  $K=1$  ratio at all times, elements made up of atomic nuclei that absorb the neutrons are inserted (or withdrawn) as required. The control rods inserted into the reactor core “absorb” the neutrons to a greater or lesser degree.

### > COOLANT

The heat-removing fluid circulating in a nuclear reactor core.

### > CORE, REACTOR CORE

Area in a nuclear fission reactor comprising the nuclear fuel and arranged to foster the fission chain reaction.

### > CRIMPING

Method for permanently attaching a connector to a conductor using pressure to squeeze or shape the crimp barrel (section of the splice or terminal that receives the conductor) around the conductor to establish a good electrical and mechanical connection.

### > CRITICALITY

(adj. CRITICAL, SUBCRITICAL, SUPERCRITICAL)

A medium containing a fissile nuclear material becomes critical when neutrons are produced by fission of the material at the same rate as they dissipate through absorption and escape to the outside.

### > DECAY POWER

In a reactor that has been shut down or in a used fuel assembly, the power released by the radioactivity of the nuclear fuel and other materials.

### > DECOMMISSIONING

Term covering all stages following the shutdown of a nuclear or mining facility at the end of its operating life, from final closure to the removal of radioactivity at the site, including physical dismantling and decontamination of all non-reusable facilities and equipment.

### > DECONTAMINATION

Decontamination is a physical, chemical or mechanical operation designed to eliminate or reduce the presence of radioactive or chemical materials deposited on or in a facility, open area, equipment or personnel.

### > DGSNR (DIRECTION GÉNÉRALE DE LA SÛRETÉ NUCLÉAIRE ET DE LA RADIOPROTECTION)

French government agency reporting to the Ministers of Industry, the Environment and Health. Its specific functions are to define and implement policy in the fields of nuclear safety (civilian applications) and radiation protection and, in particular, to verify safety-related measures taken, contemplated or implemented by operators in the nuclear sector, and to monitor liquid and gaseous effluent and waste from licensed nuclear facilities. The DGSNR, commonly referred to as the nuclear safety authority, or ASN (Autorité de Sûreté Nucléaire), is supported by the Nuclear Safety and Radiation Protection Divisions (DSNR) of the Regional Departments of Industry, Research and the Environment, or DRIRE.

### > DISPOSAL OF RADIOACTIVE WASTE (SEE ALSO STORAGE)

Radioactive waste management operation consisting of disposing of packaged waste in a specially designed area that will ensure safety (reversible or irreversible disposal).

### > DOSE

Unit of measure used to characterize human exposure to radiation. The term “dose” is often erroneously used in place of “dose equivalent”.

- Absorbed dose: amount of energy absorbed by living or inert matter exposed to radiation. It is expressed in grays (GY).
- Dose equivalent: the same absorbed dose may have different effects on a living organism, depending on the type of radiation involved (X-rays or alpha, beta or gamma radiation). A dose multiplier, or “quality factor”, is used to take these differences into account in calculating the dose, giving a “dose equivalent”.
- Effective dose: sum of weighted dose equivalents delivered to various tissues and organs by internal and external irradiation. The unit of measure for effective dose is the sievert (Sv).
- Lethal dose: mortal dose of nuclear or chemical origin.
- Maximum allowable dose: dose that should not be exceeded over a given period.

Gray (Gy): unit of measure for absorbed dose. Absorbed dose was formerly measured in rads (1 gray = 100 rad).

Sievert (Sv): unit of measure for dose equivalent, *i.e.* the fraction of energy from radiation received by 1 kilogram of living matter. Based on the measured dose of energy received (in gray), the dose equivalent is calculated by applying various factors, depending

on the type of radiation received and the organ concerned. The abbreviation for Sievert is Sv.

Commonly used submultiples are:

- the millisievert, or mSv, equal to 0.001 Sv (a thousandth of a Sv),
- the microsievert, or  $\mu$ Sv, equal to 0.000,001 Sv (a millionth of a Sv).

For example, the mean annual dose from exposure to natural background radiation (terrestrial, cosmic, etc.) is 2.4 mSv/person in France.

#### > ELECTRIC CONTACT

Conducting element of a component that connects with a matching element to transfer current.

#### > ELECTRICITY DISTRIBUTION SYSTEM

System that delivers electricity locally to end-users: industries, businesses, service providers, residences, etc. Electricity is distributed at medium voltage (12-24,000 V) and gradually reduced to low voltage at the point of end-use (230 V in Europe, 110 V in the United States).

#### > ELECTRICITY TRANSMISSION SYSTEM

System for electricity transmission from the power plant to the distribution system. It covers large geographical areas. The transmission system includes high voltage and very high voltage power lines, transformers and switchgear equipment.

#### > END-OF-LIFE-CYCLE OBLIGATIONS

In this document, end-of-life-cycle obligations include all obligations connected with the shutdown and decommissioning of nuclear facilities and nuclear waste management.

#### > ENERGY MARKET MANAGEMENT SYSTEM

Management software for energy markets that allows power generators and distributors to manage their commercial relations more effectively. The software provides strategic planning; deal conclusion, risk management and optimum processing; and customer account management.

#### > ENRICHED REPROCESSED URANIUM

Following analysis, used fuel treated at the La Hague plant can be re-enriched to its initial concentration in fissile isotopes (about 3-5%). This is commonly referred to as ERU.

#### > ENRICHED URANIUM, DEPLETED URANIUM

Before it is used to fabricate fuel elements, natural uranium is enriched in  $^{235}\text{U}$  to a concentration of 3-5%. Natural uranium is enriched in  $^{235}\text{U}$  using an isotopic separation process. The physical or chemical processes used to enrich uranium also produce uranium that has a lower concentration of  $^{235}\text{U}$  than natural uranium: this is known as depleted uranium.

#### > ENRICHMENT

Process used to increase the abundance of fissile isotopes in an element. Naturally occurring uranium consists of 0.7%  $^{235}\text{U}$  (fissile isotope) and 99.3%  $^{238}\text{U}$  (non-fissile isotope). The proportion of  $^{235}\text{U}$  is increased to 3-4% to make it usable in a pressurized water reactor.

#### > EPR™ REACTOR

The EPR™ reactor is a third-generation pressurized water reactor (PWR). It generates about 1,600 MWe of electric power and features enhanced safety and simplified operations and maintenance. It also has a projected service life of 60 years, compared with a 40-year service life for other power reactors.

AREVA offers three third-generation reactor models: the EPR™ reactor and the 1,100 MWe ATMEA 1 for the pressurized water reactor designs, and the SWR 1000 (which is renamed KERENA™ since March 2009), a boiling water reactor (BWR) that can generate 1,000-1,250 MWe.

#### > EVOLUTIONARY IT OUTSOURCING

Information technology outsourcing is when a specialized company manages the information technology resources of its customers. It is evolutionary when it is accompanied by performance improvement plans.

#### > EXPOSURE

Exposure of an organism to a source of radiation, characterized by the dose received.

- External exposure: exposure from a radiation source outside the organism.
- Internal exposure: exposure from a radiation source inside the organism.

#### > FACTS (FLEXIBLE ALTERNATIVE CURRENT TRANSMISSION SYSTEM)

Technology used to improve high voltage (up to 800 kV) AC transmission systems by providing them with a device ensuring increased system reliability and availability, increased grid stability and quality of supply. This technology permitted an upgrade of existing transmission systems while avoiding or delaying investments in new high voltage transmission lines or new power generation.

#### > FINAL WASTE

According to Article L. 541-1-III of the French Environmental Code, final waste, whether or not it is a product of waste treatment, is waste that cannot be further processed by recovering reusable material or by rendering it less polluting or hazardous under current technical and economic conditions.



### > FISSILE

Refers to a nuclide capable of undergoing fission when hit by neutrons, even when those neutrons have low energy. Some examples:  $^{233}\text{U}$ ,  $^{235}\text{U}$ ,  $^{239}\text{Pu}$  and  $^{241}\text{Pu}$ . High-energy neutrons can induce fission in nearly all heavy nuclei.

### > FISSION

The splitting of a heavy nucleus – usually upon impact with a neutron – into two smaller nuclei, or fission products, accompanied by the emission of neutrons and radiation and the release of a considerable amount of heat. The energy released as heat is the principle underlying nuclear power generation.

### > FISSION PRODUCTS

Fragments of heavy nuclei produced by nuclear fission (the splitting of  $^{235}\text{U}$  or  $^{239}\text{Pu}$  nuclei) or by the subsequent radioactive decay of nuclides formed during this process. These fission fragments and their decay products are collectively referred to as “fission products”. They are separated in used fuel treatment plants by solvent extraction, after the fuel has been dissolved in nitric acid, then concentrated by evaporation and stored pending immobilization in glass and packaging in a stainless steel canister.

### > FLEX CONNECTOR

Interconnection system for flexstrips.

### > FUEL CYCLE

The combination of industrial operations involving nuclear fuel. These operations include uranium ore mining and processing, uranium conversion and enrichment, fuel fabrication, used fuel treatment, recycling of recovered fissile materials, and waste management. The fuel cycle is said to be “closed” when it includes used fuel treatment and recycling of fissile materials recovered by such treatment. The fuel cycle is said to be “open” or “once-through” when fuel is disposed of after it has been used in the reactor.

### > FUEL ELEMENT (OR FUEL ASSEMBLY)

Bundle of fuel rods filled with uranium or MOX pellets. The core of a reactor contains from 100 to 200 fuel assemblies, depending on the reactor type.

### > FUEL ROD

Metal tube about 4 m long (about 13 feet) and 1 cm in diameter (2/5 of an inch) filled with about 300 pellets of nuclear fuel.

### > FUEL STORAGE POOL

Pool in which used fuel is stored after removal from the reactor to allow the assemblies to lose most of their radioactivity through radioactive decay. The water shields personnel from the radiation emitted by the spent fuel.

### > GASEOUS DIFFUSION

Process for separating molecular species in gaseous form that uses the difference in the velocity of these molecules, due to their different mass and dimensions, and thus the different rates at which they pass through a semi-permeable membrane. This is how the uranium hexafluorides  $^{235}\text{UF}_6$  and  $^{238}\text{UF}_6$  are separated, causing enrichment in  $^{235}\text{U}$  for nuclear fuel.

### > GIS (GAS INSULATED SWITCHGEAR)

Dry and clean gases are used to isolate conductors under voltage. Instead of using air as an insulating medium, sulphurhexafluoride as  $\text{SF}_6$  is employed, which drastically reduces the distances between parts at high voltage. Gas insulated equipment and substations are more compact than air insulated ones, but come at a higher cost.

### > GRID MANAGEMENT SYSTEM

Systems to optimize electricity flows, prevent equipment overloads, limit losses and analyze outage risks.

### > HIGHLY ENRICHED URANIUM (HEU)

Under the START Agreements, the United States has agreed to market separative work units (SWU) contained in the highly enriched uranium (HEU) from dismantled weapons, while a team of which AREVA is a member will acquire the natural uranium component ( $\text{UF}_6$ ) of the HEU. This second commitment remains in effect until 2013. For the Group, this resource is equivalent to a mine that produces 2,000 metric tons of uranium annually.

### > HVDC (HIGH VOLTAGE DIRECT CURRENT)

This method of power grid connection permits the flow of power between two different grids without synchronization.

### > IAEA (INTERNATIONAL ATOMIC ENERGY AGENCY)

International organization overseen by the United Nations whose role is to promote the peaceful use of nuclear power and to verify that nuclear materials in users' possession are not diverted to military uses.

### > INES (INTERNATIONAL NUCLEAR EVENT SCALE)

An international scale used to define the severity of an event occurring in a nuclear facility. It was designed by an international group of experts under the aegis of the International Atomic Energy Agency (IAEA) and the Nuclear Energy Agency (NEA) of the Organization for Economic Cooperation and Development (OECD). It was established at the international level in 1991. Like scales used for earthquakes or avalanches, the INES is a tool for providing information to the media and the public. Events are classified by increasing order of severity, from level 0 to level 7. The Chernobyl accident, for example, was a level 7 event. Following a favorable decision on June 24, 1999, by CSSIN, the French Nuclear Safety

and Information Board, and after a one-year trial period, the French nuclear safety authority ASN decided on April 11, 2001, to widen the scope of the INES scale to include incidents or accidents involving radioactive materials transportation.

#### > IN SITU RECOVERY

Mining method consisting of recovering a mineral by injecting an acidic or alkaline oxidizing solution directly into the geologic stratum containing the mineral to dissolve it.

#### > IRSN (INSTITUT DE RADIOPROTECTION ET DE SÛRETÉ NUCLÉAIRE) (SEE ALSO "DGSNR")

The French institute for radiation protection and nuclear safety, a public industrial and commercial agency whose mission, in particular, is to conduct research and assessments in the fields of nuclear safety, protection of people and the environment from ionizing radiation, and nuclear materials safeguards. IRSN provides technical support to the DGSNR.

#### > ISO STANDARD

From the International Standards Organization. The ISO 9000 standards set organizational and management system requirements to demonstrate the quality of a product or service in terms of customer requirements. The ISO 14000 standards set requirements for environmental management organizations and systems designed to prevent pollution and reduce the environmental effects of an activity.

#### > ISOTOPES

Elements whose atoms have the same number of electrons and protons, but a different number of neutrons. Uranium, for example, has three isotopes: 234U (92 protons, 92 electrons, 142 neutrons), 235U (92 protons, 92 electrons, 143 neutrons), and 238U (92 protons, 92 electrons, 146 neutrons). A given chemical element can therefore have several isotopes with a differing number of neutrons. All of the isotopes of a given element have the same chemical properties, but different physical properties (mass in particular).

#### > ISOTOPIC ASSAY

Ratio of the number of atoms of a given isotope of an element to the total number of atoms of that element contained in matter. Isotopic assay is expressed as a percentage.

#### > LEACHING

Extraction of certain compounds contained in a pulverulent, permeable or porous medium through the passage of an appropriate solvent, which flows naturally through the mass to be processed. It can be applied directly to highly fragmented ground (*in situ* leaching), or to leach a heap that has been extracted, crushed and placed in an appropriate area (heap leaching). It is used to extract metal elements, including uranium. It is also how rainwater run-off leaches certain components from a mass of waste.

#### > LONG-LIVED HIGH-LEVEL WASTE

Waste from used fuel representing a high level of radioactivity and a very long half-life. At this time, there is no final disposal solution for this waste in France, which is currently immobilized in solid matrices to ensure radionuclide containment. LLHL waste management is the subject of research conducted under the aegis of Andra pursuant to the "Bataille Law" of 1991 (French Waste Act), as codified in the Articles L. 542-1 of the French Environmental Code. Three avenues are being explored: transmutation of long-lived radioactive elements, disposal in deep geologic formations, and immobilization and long-term surface storage.

#### > MODAL SHIFT ORDERS

These are French administrative orders that set rules for various transport modes (mainly road, rail and river) concerning vehicles, packages, professional driver/conductor/pilot training, and documentation to be provided for the carriage of dangerous goods. The rules stem from international and European Community laws and apply in particular to the carriage of radioactive materials (class 7 carriage).

#### > MOX

"Mixed Oxides": a blend of uranium and plutonium oxides used to fabricate certain types of nuclear fuel.

#### > MTHM (METRIC TONS OF HEAVY METAL)

Heavy metal is the nuclear material in fuel: uranium oxide, or a mixture of uranium and plutonium oxides in the case of MOX fuel. The unit of measure for heavy metal is the metric ton.

#### > NATURAL URANIUM

Naturally occurring radioactive element in the form of a hard gray metal found in several ores, and in particular in pitchblende. Natural uranium is a mixture of 99.28% fertile 235U and 0.71% 234U.

#### > NUCLEAR FUEL

A nuclide that undergoes fission in a reactor, thereby releasing energy. By extension, a product containing fissile material which supplies energy in the reactor core by maintaining the chain reaction. A 1,300 MWe pressurized water reactor contains about a 100 metric tons of fuel, part of which is periodically replenished.

#### > NUCLEAR MATERIALS SAFEGUARDS

This function has two aspects:

- All of the measures taken by operators to ensure the safety of the materials in their possession: monitoring, accountability, containment, physical security of materials and facilities, and security during transport.
- Inspections performed by government or international agencies, such as the IAEA and Euratom, to verify the effectiveness and reliability of these measures.

In both cases, the purpose of safeguards is to prevent any unauthorized transfer or theft of material or malicious activity.



### > NUCLEAR SAFETY (SEE ALSO "SAFETY ANALYSIS REPORTS")

In the nuclear industry, nuclear safety encompasses all of the measures taken at each stage of the design, construction, operation and final shutdown of a facility to ensure operational safety, prevent incidents, and limit their impact.

- Fundamental safety requirements (RFS in French): technical requirements issued by the nuclear safety authority concerning licensed nuclear facilities, which define nuclear safety criteria and describe practices that the French nuclear safety authority deems adequate to ensure compliance with them.
- General operating requirements (RGE in French): document developed by the operator of a licensed nuclear facility defining the prescribed operating range of the facility and identifying functions important for safety. It describes measures to be taken if facility performance is outside the normal operating range.

### > PACKAGING

Fuel packaging: special packaging for used fuel to prepare it either for interim storage or for final disposal.

Waste packaging: operation consisting of converting waste into a form suitable for transport and/or storage and/or final disposal.

- Very low-level radioactive waste (vinyl, cleaning rags, etc.) is placed in steel drums.
- Low- and medium-level waste is first compacted to reduce its volume as much as possible, then encapsulated in a special material (concrete, bitumen or resin) to form solid blocks capable of withstanding environmental conditions.
- For high-level waste, a glass matrix is used (vitrification process). The vitrified waste is placed in stainless steel canisters.

### > PLUTONIUM

Chemical element with the atomic number 94 and conventional symbol Pu. Plutonium 239, a fissile isotope, is produced in nuclear reactors from uranium 238.

### > RADIATION, IONIZING RADIATION (SEE ALSO "RADIOACTIVITY")

Flux of electromagnetic waves (radio waves, light waves, ultraviolet or X rays, cosmic rays, etc.), of particles of matter (electrons, protons, neutrons), or of a group of such particles. The flux carries energy in proportion to the wave frequency or to the particle speed. Their effect on irradiated objects is often to strip electrons from their atoms, leaving ionized atoms in their wake, which carry electrical charges, hence the generic name of "ionizing" radiation.

### > RADIATION PROTECTION (SEE ALSO "RADIOACTIVITY")

Term commonly used to designate the branch of nuclear physics concerned with protecting people from ionizing radiation (also referred to as "health physics"). By extension, the term "radiation protection" covers all of the health measures taken to protect the health of members of the public and workers from such radiation and to comply with laws and regulations.

### > RADIOACTIVE WASTE (OR NUCLEAR WASTE)

Non-reusable by-products of the nuclear industry. The four classes of waste are based on radioactivity levels:

- very low-level waste (VLLW);
- low-level waste (LLW) from operations and maintenance, such as gloves, booties, face masks, etc., which make up 90% of the waste sent to licensed disposal facilities;
- medium-level waste (MLW), such as dismantled production equipment, measurement instrumentation, etc. (8%);
- high-level waste (HLW), mainly fission products that have been separated during used fuel treatment and recycling operations (2%).

### > RADIOACTIVITY

Emission by a chemical element of electromagnetic waves and/or particles caused by a change in its nucleus. Emission can be spontaneous (natural radioactivity of certain unstable atoms) or induced (artificial radioactivity). Radioactivity has several forms:

- Emission of alpha particles (combination of 2 protons and 2 neutrons), called "alpha radiation".
  - The particles making up alpha radiation are helium 4 nuclei that are highly ionizing but not very penetrating. A single sheet of paper stops them.
- Emission of electrons, known as "beta radiation".
  - The particles making up beta radiation are electrons with a negative or positive charge. They can be stopped by a few meters of air or a single sheet of aluminum foil.
- Emission of electromagnetic waves, known as "gamma radiation".
  - Electromagnetic radiation similar to light and X rays. Thick, compact materials (concrete, lead) are needed to stop it.

All of these different types of radiation are grouped together under the general heading of "ionizing radiation". The radioactivity of an isolated quantity of an element gradually decreases over time as the unstable nuclei dissipate. The half-life is the time required for the radioactivity of a radioactive substance to decrease by half.

### > RADIONUCLIDE (OR RADIOELEMENT)

Any radioactive material. Only a small number of radioelements are found in nature: a few heavy elements (thorium, uranium, radium, etc.) and a few light elements (carbon 14, potassium 40). The others – more than 1,500 in number – are created artificially in the laboratory for medical applications or in nuclear reactors as fission products.

### > REACTOR, NUCLEAR REACTOR

System in which controlled nuclear reactions are conducted, producing heat that is used to make steam. The steam activates a turbine, which drives an electric generator. Different reactor types use different fuel, moderators (to control the reaction) and coolants (to remove heat used to generate power). The pressurized water reactor (PWR) currently used by EDF uses slightly enriched uranium fuel and pressurized light water as the moderator and coolant.



- Boiling Water Reactor (BWR): nuclear reactor in which boiling pressurized water is used to remove the heat from the reactor.
- Pressurized Water Reactor (PWR): nuclear reactor moderated and cooled by light water maintained in the liquid state in the core through appropriate pressurization under normal operating conditions.

#### > REGULATED NUCLEAR FACILITIES (INB IN FRANCE)

Nuclear facilities subject to an administrative licensing process and oversight, pursuant to order 63-1228 of December 11, 1963, as amended. These regulations apply to nuclear reactors (except for those used as part of a propulsion system); particle accelerators; plants used in the preparation, fabrication or conversion of radioactive substances (in particular plants used to prepare nuclear fuel, to treat used fuel, or to process radioactive waste); and facilities for the disposal, interim storage, or utilization of radioactive materials, including waste. The regulations for regulated nuclear facilities apply to the above-mentioned facilities only when the quantity or total activity of the radioactive materials is above a threshold set by an administrative order, based on the type of facility and radioactive element involved. The DGSNR organizes INB inspection and oversight, which is exercised by inspectors of regulated nuclear facilities designated jointly by the Ministers of Industry and the Environment.

#### > RESERVES/RESOURCES

##### **Mineral reserves**

The tonnage of measured or indicated mineral resources that is economically recoverable and shown to be so by at least one feasibility study. The study must include adequate information about mining and processing operations, metallurgy, economic aspects and other relevant factors to demonstrate that mining is economically justified at the time the report is written. Mineral reserves include dilution materials and the allowance for mining losses incurred during mining operations. Once reserves have been demonstrated, they are subtracted from the resources category.

##### **Probable mineral reserves**

The tonnage of indicated and, in some cases, measured mineral resources that is economically recoverable and shown to be so by at least one preliminary feasibility study. The study must include adequate information about mining and processing operations, metallurgy, economic aspects and other relevant factors to demonstrate that mining is economically justified at the time the report is written.

##### **Proven mineral reserves**

The tonnage of measured mineral resources that is economically recoverable and shown to be so by at least one preliminary feasibility study. The study must include adequate information about mining and processing operations, metallurgy, economic aspects and other relevant factors to demonstrate that mining is economically justified at the time the report is written.

##### **Mineral resources**

Mineral-bearing concentrations or indicators of a natural, solid inorganic or fossilized organic material in or on the Earth's crust, and which is present in such form, quantity, concentration or quality to indicate that there are reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of the mineral resources are known, estimated, or interpreted based on specific geological evidence and data. They do not include reserves.

##### **Inferred mineral resources**

Mineral resources for which the quantity, concentration or grade can be estimated based on geological evidence and a limited sampling, and can be reasonably relied upon without verification of geological and grade continuity. The estimate is based on limited data and samples collected using appropriate techniques at locations such as outcroppings, surface cuts, shafts, workings and drill holes.

##### **Indicated mineral resources**

Mineral resources for which the quantity and grade or quality, density, shape and physical characteristics can be estimated with enough confidence to allow suitable application of technical and economic parameters for purposes of planning mining operations and assessing the deposit's economic viability.

The estimate is based on reliable and detailed exploration and testing information that is collected using appropriate techniques at locations such as outcroppings, surface cuts, shafts, workings and drill holes that are close enough together to allow a reasonable assumption about the geological and grade continuity.

##### **Measured mineral resources**

Mineral resources for which the quantity and grade or quality, density, shape and physical characteristics are so well established that they can be estimated with enough confidence to allow suitable application of technical and economic parameters for purposes of planning mining operations and assessing the deposit's economic viability.

The estimate is based on reliable and detailed exploration and testing data that is collected using appropriate techniques at locations such as outcroppings, surface cuts, shafts, workings and drill holes that are close enough together to allow confirmation of the geological continuity and grade.

"Other mineral resources" correspond to ore bodies that cannot be mined for administrative reasons or that cannot be mined profitably under current market conditions. The indicated tonnages reflect the quantity of metal in the earth without application of the mill's output rate. Additional development work or changes in mining criteria may result in the reclassification of these "other resources" as "resources".

"Global mineral resources" correspond to the sum of all categories of resources.





#### > RESIDUE

Non-reusable material remaining after physical or chemical processing. The term has a more specific meaning in used fuel treatment, where it refers to any waste that has been packaged.

#### > RID ORDER

French administrative order of June 5, 2001, as amended, pertaining to the carriage of dangerous goods by rail. The order incorporates and supplements the provisions of the Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) implementing the Berne Convention concerning International Carriage by Rail (COTIF), adopted May 9, 1980. It defines rules specific to the carriage of dangerous goods by rail in France, whether such carriage is national or international.

#### > SAFETY ANALYSIS REPORTS

Reports describing the design of licensed nuclear facilities and the measures taken to ensure safety. These reports identify the risks presented by the facility and analyze the measures taken to prevent those risks as well as measures conducive to reducing the probability of accidents and their effects.

- Preliminary safety analysis report: drafted during the preliminary design stage, this report contains a general description of the facility and of the operations to be performed therein. It endeavors to identify risks, to define safety-related design bases, to list safety criteria and to justify the choice of the site. In France, this report is submitted in support of the application for a construction permit under the provisions of a 1963 decree.
- Interim safety analysis report: submitted in support of the application for an operating license, this report describes the as-built facility and is used to verify that the facility has been built in accordance with the safety principles set out in the preliminary safety analysis report and with the technical requirements for construction stipulated in the construction permit.
- Final safety analysis report: presented after facility testing and before the operating license is granted.

#### > SAFETY SYSTEM

Combination of equipment used to detect and eliminate defects or other abnormal operating conditions in electrical networks.

#### > SMART GRID

Electrical transmission and distribution power grid of the future. It can be defined as the introduction of intelligence across all the power grid components so that the network is able to answer and adapt to demand for power.

#### > STORAGE (SEE ALSO DISPOSAL)

Temporary storage of radioactive waste.

#### > SWU (SEPARATIVE WORK UNITS)

An enrichment plant's production is expressed in separative work units (SWU). This unit is proportionate to the quantity of uranium processed and is a measure of the work required to separate the fissile isotope.

#### > TRADING

Commercial transactions in the natural uranium market in the form of the purchase, sale, exchange, lease or loan of uranium, which are not directly connected to the Group's mining operations.

#### > TRANSFORMER STATION (SUBSTATION)

Interface between sections of a power network that operate at different voltages. In the substation, voltage is transformed and electricity supply flows are controlled.

#### > TRANSPORT CASK

Specially designed cask that completely contains certain radioactive materials (used fuel, vitrified waste, etc.) during shipment and that retains its integrity in the event of an accident.

#### > TREATMENT

Treatment of used fuel to extract fissile and fertile materials (uranium and plutonium) for recycling purposes and to package the different types of waste into a form suitable for disposal. Fission products and transuranics are vitrified.

#### > ULTRACENTRIFUGATION

Enrichment process in which a gaseous mixture of isotopes is spun at very high speed, using the centrifugal force to modify the composition of the mixture.

#### > UO<sub>2</sub> POWDER

UO<sub>2</sub> is the symbol for uranium oxide. Uranium oxide comes in powder or pellet form. It is one of the components of nuclear material.

#### > URANIUM

Chemical element with atomic number 92 and atomic symbol U, which has three natural isotopes: 234U, 235U and 238U. The only naturally occurring fissile nuclide is 235U, a quality that makes it useful as a source of energy.



### > URANIUM HEXAFLUORIDE (UF<sub>6</sub>)

The uranium contained in nuclear fuel must be enriched in fissile 235U. Enrichment is achieved by gaseous diffusion or by ultracentrifugation. The uranium is first converted into a gas called uranium hexafluoride for this purpose.

### > URANIUM TAILS

Depleted uranium with a U-235 content of about 0.3%.

### > VITRIFICATION

Process used to solidify concentrated solutions of fission products and transuranic elements separated during used fuel treatment by mixing them with a glass matrix at high temperature.

### > YELLOWCAKE

“Cakes” of about 80% uranium concentrates.

### > ZIRCONIUM

Transition metal, like titanium, discovered in 1824 by Berzélius. Zirconium has the atomic number 40 in the periodic table of the elements. It is the alloy base in the cladding of light water reactor fuel elements, chosen for its mechanical strength and corrosion resistance in high-temperature water combined with its very low thermal neutron absorption.

A business corporation (société anonyme) with an Executive Board and a Supervisory Board  
capitalized at €1,346,822,638

Corporate office: 33, rue La Fayette - 75009 Paris - France

Tel.: +33 (0)1 34 96 00 00 - Fax: +33 (0)1 34 96 00 01

[www.areva.com](http://www.areva.com)

**AREVA**

Financial Communications department  
33, rue La Fayette - F-75442 Paris Cedex 9  
Tel.: 33 (0)1 34 96 00 00  
Fax: 33 (0)1 34 96 00 01  
[www.areva.com](http://www.areva.com)

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