2013

Reference document

AREVA

forward-looking energy

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forward-looking energy

2013 **Reference document**

AUTORITÉ DES MARCHÉS FINANCIERS
AMF

This Reference Document was filed with the Autorité des marchés financiers (AMF, the French financial market authority) on March 31, 2014, in accordance with article 212-13 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 document was prepared by the issuer and is binding on those signing it.

This is a free translation into English of the AREVA group's Reference Document for 2013, 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. This information should not be interpreted as a guarantee that events and data set forth herein are assured or that the planned objectives will be met. Forward-looking statements made in this Reference Document also address a certain number of risks, whether proven or unproven, known or unknown, which remain subject to unforeseen events. Were they to translate into fact, these risks could cause the AREVA group's future financial results, operating performance and production to differ significantly from the objectives presented or suggested herein. In particular, these risk factors include trends in the international economic and commercial situation.

This Reference Document contains estimates of the markets, market shares and competitive position of the AREVA group. They are provided solely for purposes of information and are likely to vary as a function of circumstances.

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 may be found at the end of this Reference Document.

Pursuant to article 28 of the European Community regulation no. 809/2004 of April 29, 2004, the directive 2004/100/CE and article 212-11 of the general regulations issued by the Autorité des marchés financiers, the following items have been included for reference:

- AREVA's consolidated financial statements for the year ended December 31, 2011 and the Statutory Auditors' report on the consolidated financial statements for the year ended December 31, 2011, discussed on pages 203 to 212 and pages 201 to 202 respectively of the Reference Document filed with the Autorité des marchés financiers on March 29, 2012 under number D.12-0239; and
- AREVA's consolidated financial statements for the year ended December 31, 2012 and the Statutory Auditors' report on the consolidated financial statements for the year ended December 31, 2012, discussed on pages 193 to 202 and pages 191 to 192 respectively of the Reference Document filed with the Autorité des marchés financiers on March 28, 2013 under number D.13-0237.

1 Person responsible

→ 1.1. PERSON RESPONSIBLE FOR THE REFERENCE DOCUMENT 8

→ 1.2. ATTESTATION BY THE PERSON RESPONSIBLE FOR THE REFERENCE DOCUMENT 8

→ 1.1. Person responsible for the Reference Document

Mr. Luc Oursel,

Chief Executive Officer of AREVA

→ 1.2. Attestation by the person responsible for the Reference Document

"I hereby attest, having taken 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, which contain observations. Without qualifying the Statutory Auditors' findings on the financial statements, their report on the consolidated financial statements for the year ended December 31, 2013 on page 188 of this Reference Document draws attention to:

- Note 24 describes the difficulties in the performance of the contract for the study and building of components for an experimental reactor prototype, and the additional costs amounting to between 120 and 200 million euros resulting from the time lag in the project schedule not taken into account in the loss at completion of this contract. This note also describes the discussions in progress with the client in order to continue the project without having to bear these additional costs. The failure of these negotiations could lead to a significant increase in the provisions recognized;
- Note 24 describes the reasons that led Areva to apply paragraph 32 of IAS 11 as from the second half of 2013 and the methods of recognition applicable to the OL3 contract. In addition, this note specifies the conditions of completion of this contract and the sensitivity of the income at completion to legal risks, as well as to the operational conditions for the end of construction and testing until the reactor is put into service;

- Notes 1.2.5 and 9 describe the treatment and impact on the consolidated financial statements of the discontinued operations (wind power and solar energy activities, as well as a subsidiary specialized in IT services);
- Notes 1.18 and 13 describe the procedures for measuring the provisions for end-of-lifecycle operations, and their sensitivity to the assumptions used in terms of technical processes, costs, disbursement schedules and inflation and discount rates.

The reports on the consolidated financial statements for the years ended December 31, 2011 and December 31, 2012 contain observations, are incorporated by reference and appear on page 201 of the 2011 Reference Document and on page 191 of the 2012 Reference Document."

Courbevoie, March 31, 2014

Luc Oursel

Chief Executive Officer of AREVA

2

Statutory Auditors

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2.2. DEPUTY AUDITORS 10

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

2.1. Statutory Auditors

Mazars

Tour Exaltis – 61, rue Henri-Regnault – 92400 Courbevoie – France

Represented by Juliette Decoux* and Jean-Louis Simon

- First term granted by the Annual General Meeting of Shareholders convened June 26, 1989. Term renewed in particular by the Annual General Meeting of Shareholders convened May 7, 2013, and to expire following the Annual General Meeting of Shareholders convened to approve the financial statements for the year ending December 31, 2018.

ERNST & YOUNG Audit

1-2 place des Saisons – 92400 Courbevoie – Paris-La Défense 1 – France

Represented by Aymeric de la Morandière and Jean Bouquot

- First term granted by the Annual General Meeting of Shareholders convened May 7, 2013, and to expire following the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2018.

2.2. Deputy Auditors

Monsieur Hervé Hélias

Tour Exaltis – 61, rue Henri-Regnault – 92400 Courbevoie – France

- First term granted by the Annual General Meeting of Shareholders convened May 7, 2013, and to expire following the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2018.

AUDITEX

1-2 place des Saisons – 92400 Courbevoie – Paris-La Défense 1 – France

Represented by Christian Scholer

- First term granted by the Annual General Meeting of Shareholders convened May 7, 2013, and to expire following the Annual General Meeting of Shareholders convened to approve the financial statements for the year ended December 31, 2018.

** Replaced by Cédric Haaser for fiscal years subsequent to 2013.*

Selected financial information

Summary data

(in millions of euros except workforce)	2013	2012	Change 2013/2012
Results			
Reported revenue	9,240	8,886	+353
Gross margin	1,299	994	+305
Percentage of reported revenue	*14.1%*	*11.2%*	*2.9 pts.*
Operating income	11	306	-295
Percentage of reported revenue	*0.1%*	*3.4%*	*-3.3 pts.*
Net financial income	(248)	(318)	+70
Share in net income of associates	0	11	-11
Net income from discontinued operations	(238)	(214)	-24
Net income attributable to owners of the parent	(494)	(99)	-395
Comprehensive income attributable to owners of the parent	(504)	(195)	-309
Cash flow			
Reported EBITDA	1,043	1,270	-227
Percentage of reported revenue	*11.3%*	*14.3%*	*-3 pts.*
Restated EBITDA (1)	1,043	1,052	-9
Percentage of reported revenue	*11.3%*	*11.8%*	*-0.5pt*
Restated EBITDA (1) excluding insurance payment received for OL3 in 2012	1,043	752	+291
Percentage of reported revenue	*11.3%*	*8.5%*	+2.8 pts
Change in operating WCR	543	312	+231
Net operating Capex	(1,374)	(1,741)	+367
Reported free operating cash flow before tax	204	(450)	+654
Restated free operating cash flow before tax	204	(723)	+927
Miscellaneous			
Backlog	41,521	44,602	-3,081
Net cash (debt)	4,415	4,307	+108
Equity attributable to owners of the parent	5,082	5,556	-474
Capital employed	7,790	8,315	-6.3%
Workforce at year end	45,340	45,542	-0.4%
Dividend per share	-	-	-

(1) Restated for the impacts of the 2012 asset disposal plan.

4

Description of major risks confronting the company

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The realization of one or more of the risks presented below or the occurrence of one or more of the events described in this section could have a significant impact on the group's operations and/or financial position. Unidentified risks or risks that the group currently considers to be insignificant could also affect the conduct of its operations.

All identified risks are monitored within the framework of the Business Risk Model (BRM) presented in Section 4.1, and, more specifically, in the ordinary course of the group's operating activities. The operating units (Business Groups and Business Units) are responsible for leading the risk management policy in close coordination with the specialized Departments. The policy involves procedures, analyses, monitoring and, whenever possible, risk transfer. The policy for each type of risk is presented in this section. However, the group cannot guarantee that the monitoring and follow-up implemented in connection with this policy will prove sufficient in all circumstances.

4.1. Risk management and coverage

4.1.1. RISK MANAGEMENT

OVERALL ORGANIZATION OF RISK MANAGEMENT AND CONTROL

The purpose of the risk management policy and insurance is to protect the group's operations, performance and strategic objectives.

Effective December 1, 2011, the group has a Risk Committee that is one of the six steering and coordination committees on which the Executive Board relies. With broad powers of delegation of authority, the Committee coordinates the analysis of the group's main risks for all nuclear and renewable operations worldwide and sets up the necessary action plans for better control of them.

The group's Chief Administrative Officer chairs the Risk Committee. Serving as standing members are:

- the Chief Financial Officer;
- the Senior Executive Vice President, Human Resources;
- the Senior Vice President, Safety, Health, Security and Sustainable Development; and
- the Senior Vice President, Audit.

The Director of Risk and Insurance is secretary of the Committee.

The Risk Committee's missions are:

- to review the map of the risks inherent in the group's activities and to issue an opinion or recommendations as necessary;
- to assess systems for managing each of these risks at the level of the group, the operating departments, the functions and the regions;
- to monitor the effective implementation of risk management action plans presented to or initiated by it;
- to coordinate the preparation of communications on the management of the group's risks to the Audit Committee, the Supervisory Board and in the Reference Document.

The Risk Committee may call on expertise from throughout the group to accomplish its mission.

The Risk Committee meets every six months.

The Risk Management and Insurance Department, working closely with the operating departments, is responsible for implementing the risk management policy laid out by the Executive Board on the recommendation of the Risk Committee. The department develops methodological tools to ensure consistent treatment of risk among the group's different entities, assists them in their use and promotes the exchange of best practices. The Risk Management and Insurance Department consolidates risk assessment at the group level. Financially, the Risk and Insurance Department arbitrates between retaining part of the risk and transferring it to the insurance and reinsurance markets through the group's comprehensive and global policies. This specific point is developed in Section 4.1.2. *Risk coverage and insurance*.

RISK MAPPING

Under the supervision of the Risk Committee, the risk mapping process initiated by the group when it was created in 2001 will be updated significantly in the coming years. However, its key principles will remain the same.

The principal objectives of this mapping exercise are to:

- formally identify operational risks;
- characterize these risks so as to be able to rank them; and
- define and implement an action plan aimed at managing them.

The Risk and Insurance Department steers this initiative by:

- establishing a common set of methodological tools and benchmarks;
- leading a network of risk coordinators trained by the AREVA group and assigned to the operating units; and
- following up the action plans.

The risk maps are presented every year to the Management Committees of the Business Groups and the Business Units, and then to the Risk Committee, which prepares the summary that will be validated by the group's Executive Management Board (EMB) for presentation to the Supervisory Board's Audit Committee. This initiative covers the consolidated AREVA group.

The group's multiyear audit plan builds among other things on risk mapping results, which are updated every year. The Audit Department subsequently implements this plan by conducting audits.

RISK ANALYSIS AND CONTROL

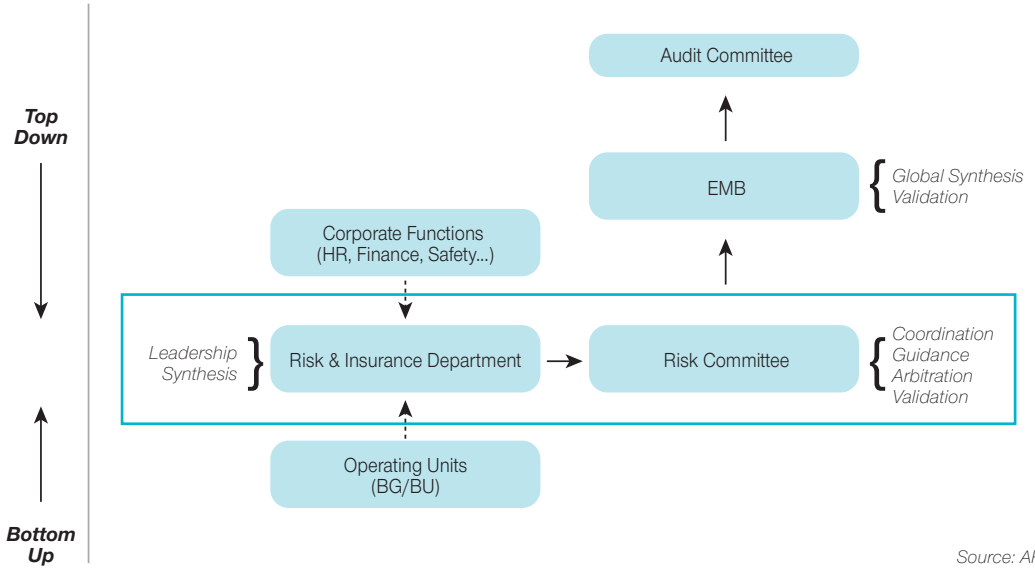
Managing risk entails:

- an ongoing and documented process of risk identification, analysis, ranking, optimization, financing and monitoring;
- a broad scope covering all of the group's activities, both operational (investment, 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.

The notion of risk applies to the activities of each of the group's entities, to its facilities and the operation of those facilities (management of normal risks affecting performance, based on prior decisions, and of risks affecting a specific situation), and to the company's strategic objectives and the implementation of those objectives.

In all cases, risk management arises from a shared methodological approach within the group. The Business Units establish "operational risk maps" which serve as a basis for recommending and implementing "action plans".

➔ AREVA RISK MAPPING PROCESS



Source: AREVA.

The first stage of the risk management process is to identify the risk using a Business Risk Model (BRM) drawn up for the use of the operating units. Working from a defined number of typical risks or families of risk (BRM risk), the model lists all of the foreseeable or fortuitous situations or events that may have an impact on employee safety, the financial performance of the Business Unit or even of the group, and its corporate image.

The BRM is destined to evolve by incorporating best practices and lessons learned.

The establishment of the risk map is the opportunity for collecting components of recommendations and decision-making concerning the implementation of action plans designed to optimize the management of each risk and render the residual risk acceptable to the group. The operating units are responsible for analyzing and ranking their risks, and for managing them by implementing action plans using appropriate means.

In each Business Group, the risk management coordinators provide their management with a cross-business picture of risks and of how the Business Units are managing them. The Risk Committee is then informed of the status of action plans and decides which risks affect the group's strategic objectives in preparation for a presentation to the group's Executive Management Board (EMB).

The group's commitment to transparency in risk management is shown in particular through the publication of environmental monitoring results for the principal sites and more generally through the implementation of its nuclear safety charter and its sustainable development policy.

The operating units, supported by AREVA's specialized Departments, manage risks related to nuclear safety, the environment, and the physical protection of AREVA's facilities under the oversight of national and international authorities. The Risk and Insurance Department draws technical expertise from these Departments in performing its duties.

RISK MANAGEMENT RELATED TO THE GROUP'S INDUSTRIAL OPERATIONS

By regulation, industrial facilities operated by AREVA are classified into various categories by level of risk and the quantity of nuclear material or chemical substances.

In addition to the means of preventing and countering acts of malfeasance and actions to ensure public safety in the event of an accident, the occupational safety of the facilities consists in particular of:

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

4.1.2. RISK COVERAGE AND INSURANCE

Some risk factors, were they 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 certain 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 for its industrial risks, civil liability and other risks related to its nuclear and non-nuclear operations, with coverage limits varying according to the nature of the risk and the group's exposure.

AREVA's Risk and Insurance Department leads the insurance program for the entire group. The Department:

- recommends 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 comprehensive and global insurance programs for the entire group and reports to the Executive Board on actions taken and costs incurred; and
- settles claims for the subsidiaries involved.

4.1.2.1. WORLDWIDE GROUP INSURANCE PROGRAMS

Directors and Officers liability insurance

The purpose of directors and officers liability insurance is threefold:

- firstly, it provides liability coverage for financial risk incurred by group directors and officers due to damages suffered by third parties as a result of professional errors or misconduct in the course of their duties;
- secondly, it reimburses group companies that are legally allowed to indemnify directors and officers for claims submitted against these individuals;
- lastly, it covers civil and/or criminal defense expenses incurred by officers and directors as a result of any 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. Liability insurance policies for directors and officers exclude claims based on the purchase of securities or assets of a company at an inadequate price.

AREVA's liability

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

- operator liability related to operating activities and services performed at customer sites;
- product liability covering the post-delivery period; and
- professional liability ("Errors and Omissions") covering the financial consequences of damages associated with intellectual services performed by a company of the group for its own account or on behalf of a third party.

It is also covered for liability for environmental damage, damage to property held on behalf of third parties, and for product recall expenses, among others.

The program covers the monetary consequences of civil liability likely to be incurred by the operating entities due to 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 capacities available on the insurance market and on a reasonable assessment of the risks to which the group is exposed, as identified by the operating units and the Risk and Insurance Department, in particular during the risk mapping process.

Insurance for facilities and construction sites

Except for the mines and the nuclear operations, facilities for which the group is responsible are covered by a worldwide Property and Business Interruption insurance policy.

The risks related to equipment and installation projects at customer sites are covered by All Risk Construction/All Risk Installation and Testing policies.

The policy limits for these two policies range from 50 million euros to 300 million euros, based on replacement values or on an estimate of the maximum possible loss (MPL).

Business interruption coverage ranges from 12 to 24 months.

The All Risks Construction/All Risks Installation and Testing policy includes automatic coverage of projects in an amount of 50 million euros or less, with coverage limited to 50 million euros per event.

Coverage relating to nuclear facility operations

For a description of insurance taken out related to nuclear facility operator activities, see Section 4.3.1.9.

4.1.2.2. OTHER INSURANCE

The group has recourse to Coface type coverage for some large export contracts from France, such as the construction of nuclear power plants. The insurance policies cover auto liability and work accidents in accordance with the legal obligations of each country in which AREVA and its subsidiaries are based.

4.1.2.3. OUTLOOK AND TRENDS IN 2014

The insurance programs will be renewed in April 2014.

4.2. Legal risk

4.2.1. REGULATORY RISK

The group conducts its operations in accordance with local laws under operating licenses and permits. In particular, these operations require licenses relating to production capacities and to environmental releases from the facilities. In conducting its operations, the group must comply with applicable legislation and regulations, in particular concerning environmental protection, employee protection, public health and nuclear safety, and with its operating licenses and permits. The operator may be subject to sanctions, including administrative sanctions, in the event of an incident or lack of compliance with applicable regulations or operating permits and licenses. Such sanctions may include, among other things, the temporary suspension of operations, or measures to enforce compliance or to restore normal conditions. In addition, damage to the environment, to public health or to occupational safety, or the non-compliance of the group's facilities could result in liabilities for some of the group's entities with regard to third parties and government agencies.

Moreover, a strengthening of or change in legislation or regulations, particularly in areas such as environmental protection, health and nuclear security, could require that the group's facilities and products be brought into compliance, which would likely have a significant impact on the group's operations or financial position. In France in particular, the French Nuclear Safety and Transparency Law of June 13, 2006 ("TSN Law") codified in the Environmental Code requires a periodic reassessment of nuclear safety likely to translate into considerable expense to bring the facilities into compliance, but this would bolster their nuclear safety and ensure their sustainability. Similarly, the administrative order of December 12, 2005 related to pressurized nuclear equipment (the "ESPN Order") strengthens requirements and controls to take into account nuclear safety and radiation protection requirements incumbent upon the manufacturer, which is responsible for the compliance of this equipment, designed for use in nuclear reactors, which is likely to prolong the time needed by the French nuclear safety authority ASN to pronounce the compliance of the most significant pressurized nuclear equipment.

The group may also not receive on a timely basis permits or licenses to modify or expand its industrial operations for which it has applied or may apply, whether in France or abroad, which could limit its growth capabilities.

Moreover, some operations, such as those of the Mining Business Group in certain countries, are subject to special tax rules whose modification could have a negative impact on the group's financial position.

In addition, the group pays particular attention to regulations with which non-compliance could expose the group to criminal or civil penalties and significantly impact its operations, image and reputation.

4.2.1.1. NUCLEAR AND ENVIRONMENTAL REGULATIONS

The group's operations are subject to constantly changing and increasingly stringent national and international regulations in the nuclear and environmental fields. The list of the AREVA group's regulated nuclear facilities (see *Glossary*) or similar facilities is presented in the table in below.

➔ NUCLEAR FACILITIES FOR WHICH ENTITIES OF THE AREVA GROUP HOLD THE OPERATING PERMIT OR LICENSE

The main nuclear facilities at December 31, 2013, whether classified as regulated nuclear facilities in France (INB) or their corollaries in other countries, are listed below.

Location	Business Unit	Legal entity holding the license	Description
Front End BG			
Malvési (France) (1)	Chemistry	AREVA NC	Packaging and storage of radioactive substances
Tricastin, France	Chemistry	AREVA NC	Preparation of UF_6
Tricastin, France	Chemistry	AREVA NC	Conversion of enriched uranium-bearing materials (U_3O_8)
Tricastin, France	Enrichment	Eurodif Production	Georges Besse gaseous diffusion enrichment plant
Tricastin, France	Enrichment	SET	Georges Besse II centrifuge enrichment plant
Tricastin, France	Enrichment	Socatri	Plant for uranium recovery and cleanup
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	ANF	Fuel fabrication
Richland, United States	Fuel	AREVA NP Inc.	Fuel fabrication
Lynchburg, United States	Fuel	AREVA NP Inc.	Fuel fabrication plant (undergoing decommissioning)
Reactors & Services BG			
Maubeuge, France	Equipment	Somanu	Nuclear maintenance workshop
Back End BG			
Veurey (France) (2)	D&D	SICN	Fuel fabrication plant (undergoing decommissioning)
La Hague (France) (3)	Recycling/D&D	AREVA NC	Used fuel treatment plants and liquid effluent/solid waste treatment facilities
Marcoule, France	Recycling	AREVA NC	MELOX MOX fuel fabrication plant

(1) INB pending a construction license.
(2) Two INBs at this site in final shutdown/dismantling status.
(3) Seven INBs at this site, including four in final shutdown/dismantling status.

Internationally, the International Atomic Energy Agency (IAEA) and the European Commission have each established a system of nuclear materials safeguards.

Other international agreements adopted under the umbrella of the IAEA govern nuclear safety in the facilities, including 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 and its implementing provisions reinforced the aspects related to nuclear materials safeguards and established a common set of rules, in particular concerning public health protection, radiation protection of workers and radioactive waste transportation. In France, regulated nuclear facilities (INB, *installations nucléaires de base*) operated by the group fall under a strict legal framework. For example, specific licenses and permits are delivered for the construction, startup, modification, safety review, final shutdown, dismantling and decommissioning of the facilities, and govern in particular rules for nuclear safety, protection of public health and of the environment, and the monitoring of radioactive and non-radioactive releases. The license decrees required for certain operations are granted following a public inquiry and an administrative process requiring the opinion of several organizations. Procedures related to the creation, modification or final shutdown of regulated nuclear facilities are set by the order no. 2007-1557 of November 2, 2007 pertaining to regulated nuclear facilities and, in matters of nuclear safety, to the control of the transportation of radioactive materials. In application of this order, the general technical rules applicable to regulated nuclear facilities were strengthened by the order of February 7, 2012 setting the

general rules pertaining to regulated nuclear facilities, most of whose provisions became effective on July 1, 2013. In addition, the TSN Law establishes administrative and criminal penalties (articles L. 596-14 *et seq.* and articles L. 596-27 *et seq.* of the French Environmental Code). Every year, each regulated nuclear facility operator must also submit a report on measures taken in respect of nuclear safety and radiation protection, which is made public.

Regulated nuclear facilities are monitored closely by the French nuclear safety authority ASN, an independent administrative authority. Operations abroad are subject to the same type of rigorous control, the United States Nuclear Regulatory Commission (NRC) being one example.

In France, some facilities operated by the group are subject to regulations pertaining to environmentally regulated facilities (ICPE), depending on the operations performed or the substances used. Group facilities that may represent hazards or drawbacks, in particular for public health, safety and security, or for the protection of nature and the environment, are subject to prior reporting to the Prefecture, to a registration process, or to a licensing process. In the last case, the operating license or permit granted upon completion of a public inquiry after consultation with various organizations takes the form of a prefectorial order accompanied by specific operating requirements.

The group is also subject to regulations pertaining to the protection of its employees, its subcontractors and the public from the hazards of ionizing radiation (radiation protection), in particular by the establishment of exposure limits.

Other national and international provisions govern:

- the protection and safeguarding of nuclear materials, of their facilities and of their transportation, such as the Convention on the Physical Protection of Nuclear Materials of October 28, 1979, the French Defense Code (articles L. 1333-1 *et seq.* and R. 1333-1 *et seq.*), the Euratom Treaty of March 25, 1957 (Chapter VII) and the Euratom Regulation no. 302/2005 of February 8, 2005, the IAEA/France/Euratom Safeguards Agreement (INFCIRC/290 of July 27, 1978), and many international agreements. Compliance with these requirements is regularly verified by inspectors from the IAEA, Euratom and the office of the Senior Defense and Security Official at the French Ministry of Ecology, Sustainable Development and Energy (MEDDE);
- the safety of facilities of vital importance, as provided in the French Defense Code (articles L. 1332-1 *et seq.* and R. 1332-1 *et seq.*) and the national safety directives, under the supervision of the Senior Defense and Security Official at the MEDDE and the prefectorial authorities;
- nuclear facilities contributing to deterrence, as provided in the French Defense Code (article R. 1411-1 *et seq.*) under the supervision of the French deterrence authority;
- the transportation of radioactive materials with the Transport of Dangerous Goods Order of May 29, 2009 (TDG Order - see *Glossary*);
- the control of cross-border movements of radioactive waste with the Council Directive 2016/117/Euratom of November 20, 2006 on the supervision and control of transfers of radioactive waste and used nuclear fuel; see also *Regulations governing radioactive waste,* below.

Similar regulations provide for rigorous control of facilities and their operating conditions by the competent bodies in the foreign countries in which the group operates nuclear facilities (Belgium, Germany and the United States).

Regulations governing end-of-lifecycle operations

In this Reference Document, end-of-lifecycle operations include all operations for the final shutdown and dismantling of nuclear facilities and the management of radioactive waste (see *Glossary*).

The accounting treatment of end-of-lifecycle operations is explained in Section 20.2. *Notes to the consolidated financial statements*, Note 13. *End-of-lifecycle operations*.

Regulations governing dismantling

The legal framework governing dismantling operations performed in France primarily derives from the TSN Law as codified. In addition, 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 related to the nuclear facility decommissioning process.

As the holder of licenses and permits for operations and dismantling, the nuclear operator is the legal entity responsible for the operation and dismantling of the facilities. The operator remains responsible for the timing and methods selected to dismantle the facilities it operates, subject to the technical supervision of the French nuclear safety authority ASN, which validates each major stage of dismantling.

The decision authorizing dismantling and specifying its procedures is made by decree following a public inquiry and a process requiring the opinion of several organizations. The decree authorizing final 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 for which the operator is responsible upon completion of dismantling.

Depending on the particular features of each facility, dismantling operations may take several decades, encompassing work execution phases and facility monitoring phases involving practically no operation. Dismantling involves a series of operations, from the shutdown of the nuclear facility to the decision of the competent authorities to decommission the facility, at which time it can generally be put to new industrial use. In France, the group is currently the licensee of eighteen regulated nuclear facilities, six of which are officially in final shutdown/dismantling status, and one nuclear defense facility. An authorization decree is also expected for one new regulated nuclear facility at the Malvési site.

The level of dismantling selected depends in particular on the expected use of the site that hosts the regulated nuclear facility. In the United States, Germany and Belgium, where the group operates four nuclear facilities, the rules pertaining to dismantling are based on principles that are largely similar to those that apply in France.

The non-regulatory aspects of dismantling are addressed in Section 4.3.1.8.

Regulations governing radioactive waste

In France, the waste generated by nuclear operations or by the dismantling of regulated nuclear facilities is governed by articles L. 542-1 to L. 542-14 of the Environmental Code in particular. At the international level, radioactive waste management falls under the purview of the IAEA's Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management of September 5, 1997. At the European level, the Council directive no. 2011/70/Euratom of July 19, 2011 establishes a strict European Community framework for the safe and responsible management of used fuel and radioactive waste.

The producer or, as applicable, the holder of waste from nuclear operations or dismantling operations is obligated to process and dispose of such waste.

Article L. 542-2-1 of the French Environmental Code authorizes the treatment of foreign used fuel and radioactive waste in French facilities under certain conditions, including in particular the signature of intergovernmental agreements indicating an estimated schedule for the receipt and treatment of these substances and, as applicable, the prospects for the later use of the radioactive materials separated during the treatment. Every year, the operator submits a report inventorying these substances to the minister of Energy. Article 20 of French program law no. 2006-739 of June 28, 2006 on the sustainable management of radioactive materials and waste (codified in article L. 594-1 of the French Environmental Code) stipulates that the operator of the regulated nuclear facility must constitute provisions to cover the costs of dismantling its 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 the amount of the provisions. The portfolio of assets thus earmarked is protected from all creditors, except for the State when it enforces compliance with rules pertaining to nuclear operations. All of these items are verified by a number of different administrative authorities, including the French National Commission to assess the funding of dismantling expenses. Moreover, this same law provides for financial penalties in the event of a failure to comply with all of the obligations related to dismantling expenses.

4.2.1.2. RULES OF BUSINESS ETHICS

The group attaches special importance to adherence to strict ethical values in connection with its operations. In particular, it adopted a Values Charter in 2003 that calls for all employees to comply with applicable legislation and regulations and with the specific values, action principles and rules of conduct set forth in that charter. Occasional deviations from these standards by employees, officers or representatives of the group are nonetheless possible, with inevitable repercussions on AREVA's reputation as a function of their severity.

4.2.2. CONTRACTUAL AND COMMERCIAL RISKS

4.2.2.1. BREACH OF CONTRACTUAL COMMITMENTS

The group is exposed to the risk of default by its customers for the payment of its products and services and/or by its suppliers for the performance of certain services or the delivery of certain products.

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 20.8. *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 its exposure to contractual risk, it is not possible to guarantee that all risks of non-payment risk or non-execution can be 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 AREVA's control. These may include unforeseen technical problems related to the equipment supplied, postponements or delays in contract execution, financial difficulties of the group's customers, payments withheld by the group's customers, default by or the financial difficulties of AREVA's suppliers, subcontractors and partners in a consortium in which AREVA shares responsibility, and unforeseen additional costs resulting from project modifications. The profit margins on some of AREVA's contracts may be different from those initially anticipated insofar as costs and productivity may vary during contract execution.

4.2.2.2. NON-RENEWAL OR TERMINATION OF CONCESSIONS RELATED TO THE GROUP'S MINING OPERATIONS

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.

4.2.2.3. LONG-TERM CONTRACTS

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 is sometimes led, at its customers' requests, to sign long-term contracts in which prices are restated based on general indices rather than on 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, restated 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.

4.2.2.4. WARRANTIES

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.

4.2.2.5. EARLY TERMINATION CLAUSES

The group enters into contracts that sometimes include clauses allowing the customer to terminate the contract or reject the equipment if contract clauses concerning schedule or performance have not been met. Difficulties concerning products and services provided under this type of contract could thus result in unexpected costs.

Contract performance difficulties, besides the aforesaid negative financial consequences, could also harm the group's reputation with existing or potential customers, particularly in the nuclear sector.

4.2.2.6. REQUIREMENTS CONTRACTS

Some contracts concluded by entities of the group, in particular in the Front End Business Group, are contracts for variable quantities, depending on our customers' reactor requirements; these are called "requirements contracts".

Therefore, the estimates provided by AREVA's customers in connection with these contracts may be revised downwards in certain circumstances, with a corresponding reduction in the revenue anticipated by AREVA for the contracts in question.

4.2.3. RISKS AND DISPUTES INVOLVING AREVA

By virtue of its operations and market position, AREVA is exposed to the risk of disputes that could lead to civil and/or criminal penalties. AREVA cannot guarantee that it is not potentially exposed to claims or investigations that could have a significant unfavorable impact on the group's image and financial performance.

Except for the following cases, and to AREVA's knowledge, there is no other administrative, legal or arbitration proceeding pending or threatened that had or could have a significant impact on the financial position, profitability or reputation of AREVA and/or of the group in the past twelve months.

4.2.3.1. OLKILUOTO 3 EPR™ REACTOR (OL3) (DISPUTE CONCERNING 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 ("D&D Claim"). In June 2011, the AREVA-Siemens consortium submitted a brief to the Court of Arbitration putting its loss at 1.9 billion euros for the part of the project running up to December 31, 2007.

On July 5, 2012, the Court of Arbitration rendered a final partial verdict enjoining TVO to release 100 million euros (plus interest) due to the AREVA-Siemens consortium and retained in contravention of the contractual provisions. TVO made the payment that same month, in July 2012.

TVO filed its claim on September 28, 2012 along with the statement of defense to the consortium's statement of claims, and assessed its current loss at about 1.8 billion euros. The consortium considers TVO's responses and claim to be without grounds and is preparing its own response as well as its claim for remedy of its loss for the period running from January 1, 2008 to December 31, 2011.

On October 29, 2013, the consortium responded to TVO's counterclaim and filed a claim with the arbitral tribunal for the second project period (January 1, 2008 to June 30, 2011), bringing its total claim for the first and second project periods to 2.7 billion euros.

4.2.3.2. SOCATRI

During the night of July 7 to July 8, 2008, uranium-bearing effluents from the Socatri plant at the Tricastin site spilled into the Gaffière stream. On the criminal counts, on November 26, 2013, the Court of Cassation confirmed the provisions of the ruling of the Court of Appeals of Nimes, which had ordered Socatri to pay a fine in the amount of 300.000 euros on the counts of water pollution and late reporting of the incident, while holding that there had been no impact on health and the environment, and granting damages and interest to certain associations and individuals. On the civil counts, in August 2012, the City of Bollène filed a claim before the Court of First Instance of Carpentras against Socatri, Eurodif Production, Comurhex and AREVA NC, asking the Court: to hold the four companies jointly and severally liable for a payment in the amount of 100.000 euros by each of the companies for their history of polluting the water table; to hold Socatri liable for specific pollution and consequences caused by its facilities, based on the report of the court-appointed expert, who assessed the damage to the city at 11 million euros, without however providing justification for this amount; and to hold Comurhex liable for specific pollution caused by its facilities and the management of the waste mound present on its site, for 100.000 euros This case should be heard in 2014.

4.2.3.3. DISPUTES INVOLVING AREVA RELATED TO THE T&D BUSINESS, SOLD ON JUNE 7, 2010

Following AREVA's purchase of Alstom's T&D operations, AREVA appealed the January 24, 2007 decision of the European Commission to fine the company for price fixing. The fine had already been reduced by the Court of First Instance in Luxembourg on March 3, 2011. Proceedings continue before the Court of Justice of the European Union (CJUE), which is expected to issue a final ruling in 2014.

In addition to these proceedings, and without waiting for their outcome, other claims for damages were filed jointly with this body against AREVA SA and all of the defendant companies.

- In the case filed by National Grid before the High Court of Justice of London on November 17, 2008, AREVA SA obtained a stay until hearings are held in 2014.
- On June 8, 2010, a second claim for damages on the same grounds was filed in England by EDF Energy Networks (LPN) PLC, EDF Energy Networks (EPN) PLC and EDF Energy Networks (SPN) PLC.
- On April 19, 2013, a third claim for damages was filed by ESB Networks with the High Court of Dublin in Ireland. AREVA filed for dismissal.

All of these proceedings are still covered by the vendor warranties agreement signed by Alstom and AREVA in April 2007, which provides in particular for the assumption by Alstom of the majority of the financial consequences of proceedings for anti-competitive practices initiated by national or European Community competition authorities and/or third parties. In any event, the group's T&D operations were sold back to Alstom in 2010.

4.3. Industrial and environmental risk

The group's operations expose it to substantial liability risk and to potentially significant operating cost overruns.

The group's nuclear operations cover every stage of the nuclear cycle, including uranium supply and conversion; uranium enrichment; fuel fabrication; reactor design, construction, maintenance and performance improvement; treatment and recycling of used fuel and reusable materials; waste packaging and storage; and logistics and transportation associated with these operations.

By nature, these operations carry risk. To prevent these risks and limit their consequences, the group has adopted risk management strategies and procedures in line with best practices. If incidents and accidents were nonetheless to occur, in particular due to security breaches, acts of malfeasance or terrorism, the group could face substantial liability. In fact, such events could have serious consequences, particularly due to radioactive contamination and irradiation of the environment, of individuals working for the group and of the general public, as well as a significant negative impact on the group's operations and financial position.

The group's operations involve processes that use various toxic chemical compounds and radioactive materials. The transportation of nuclear materials by sea, by rail, by road or by air, handled by the group's Logistics Business Unit, also induces specific risks, such as transportation accidents that may cause environmental contamination. Moreover, some of the Front End Business Group's plants are located in areas subject to flooding, particularly the Rhone Valley.

If an accident should affect one of the group's plants or the transportation of hazardous and/or radioactive materials, the severity of the accident could be aggravated by various factors that are not under the group's control, such as meteorological conditions, the type of terrain, or the intervention of outside entities.

4.3.1. NUCLEAR RISK

4.3.1.1. RISK OF NUCLEAR ORIGIN

Risks of nuclear origin are linked to the characteristics of radioactive substances. These risks thus concern all of the group's industrial facilities in which these substances are found, whether regulated nuclear facility, regulated defense nuclear facility, environmentally regulated facility or mining operations.

Dissemination of radioactive materials that can lead to contamination

Uncontained radioactive materials (solid, liquid or gaseous) may disperse and lead to human and environmental contamination if they are insufficiently contained.

Controlling this risk consists above all of limiting the dispersion of those substances from the facilities under all operating conditions (normal or accidental), as well as after shutdown.

Prevention of the risk of dissemination of radioactive materials is factored into the design of the facilities, in particular by the elaboration of "containment systems", as well as throughout the operating period, up to and including cleanup and dismantling after operations have ceased; when the level of risk requires, such containment systems are redundant. The radioactive materials are thus surrounded by a series of static barriers (enclosures) and dynamic barriers (ventilation), associated with specific practices, which taken together ensure their containment.

Radiation

Whenever a person works in the presence of radioactive materials, there is a risk of exposure to radiation.

The estimated biological impacts of radiation on the human body are generally expressed in millisieverts (mSv). The regulatory annual dose limits are as follows:

- in the European Union, 1 mSv per year for the general public above naturally occurring radioactivity, and 100 mSv over five consecutive years for employees, not to exceed 50 mSv in any one year;
- in the United States, 1 mSv per year for the general public and 50 mSv per year for employees;
- in France, the maximum regulatory limit for employees is 20 mSv per year. AREVA applies this maximum limit to all of its employees and subcontractors in all of its facilities and operations, regardless of the country in which they are located.

The principal protection measures for fixed sources involve the design of workstations suited to the nature of the radiation, to the modes of exposure and to the type of the work to be performed. Exposure limits are assigned to each job. Collective protection and monitoring systems are installed to limit radiation at the source and optimize the doses received to levels that are as low as reasonably achievable. In addition and if necessary, the time at work of operators is limited. In the particular case of waste packages that may be transported over public roadways, shielding is defined by transportation regulations.

In the uranium mines, in addition to optimizing the time of presence to limit the external dose, ventilation plays a fundamental role in radiation protection in limiting the risk of internal contamination linked to the presence of radon or dust.

The group applies the ALARA principle ("as low as reasonably achievable"), which holds that any action will be taken to reduce exposure to radiation, as long as it is reasonable from the technical, economic, social and organizational points of view. The radiation protection departments continually verify compliance with this principle of optimization.

After a job study and approval by the occupational health physician, all operators and workers qualified for work in a radioactive environment receive thorough medical and radiological follow-up. In accordance with French regulations, regular training sessions are held to maintain their knowledge at the appropriate level. This same principle applies in facilities outside France.

The results recorded (see Section 17. *Human resources*) testify to the effectiveness of these practices and the good level of radiation protection control in the group.

Criticality

The risk of a criticality accident corresponds to 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.

The prevention of this risk is based on limiting the factors leading to uncontrolled chain reactions. This limitation is factored into the design (e.g. equipment geometry) or in operating requirements, e.g. mass limitations.

In the facility's most radioactive areas, shielding is installed for normal operations to drastically reduce 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 verified under both normal and accidental operating conditions. Transportation regulations set forth rules for storage during transit, particularly in terms of the criticality risk.

Radiolysis

Radiolysis corresponds to the decomposition of a hydrogenated compound (especially water) when exposed to radiation, leading to the release of 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 backup 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.

4.3.1.2. INTERNAL RISKS THAT COULD LEAD TO NUCLEAR RISK

As in any industrial activity, facility operations and the presence of personnel also give rise to risk.

Since such incidents could affect equipment important for managing nuclear safety, strong prevention measures are taken in the nuclear industry. Prevention is based on factoring the potential causes of malfunctions into the design or into operating instructions and on limiting their possible consequences.

Handling

Handling equipment consists of lifting, transportation and positioning equipment.

The leading potential failures are load drop, collision with an obstacle, or derailing of a transfer component.

The consequences may be direct, such as the loss of load integrity, or indirect, and cause the deterioration or destruction of equipment providing containment of radioactive substances.

Starting from an analysis of potential failure modes for equipment used to transfer loads containing radioactive materials and for handling and maintenance equipment, risk management is ensured by installing safety systems (load limiters, secure drive trains, etc.) and by applying stringent prevention rules (preventive maintenance, inspections, operator certification, limitations on load heights).

Fire can cause the loss of certain process functions or of their protection, leading to radiological consequences.

Risk prevention consists of preventing flammable materials, fuel and a source of ignition from being present in the same location. Automatic fire detection systems are used for early alerts to employees trained to respond to and extinguish a fire start. Moreover, in the event of a fire, safety functions are protected by, for example, making rooms fire-resistant, limiting fire propagation to a limited number of areas through compartmentalization, using fire-retardant materials, insulating ventilation systems, and installing a remotely-operable fire extinction system. Moreover, emergency response resources, such as the local fire brigade, are available in the event of a fire start.

Internal explosion

The risk of explosion is linked to the nature of the combustible/explosive substance involved. Such an explosion could result in the deterioration of the primary containment system, causing a breach in the system and the dispersion of radioactive products outside of it. The secondary containment system is provided to collect any products that may have been released outside the first system.

Prevention relies on measures designed to eliminate conditions that may lead to an explosive reaction. These consist of limiting the temperature of flammable products, venting products that may explode, eliminating undesirable traces of reagent at each step of a process, managing the risk of substance interactions, and controlling the quantities of reagents present in each unit.

Use of chemical reagents

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.

The use, storage or transportation of reagents can create additional risk by bringing incompatible products into contact with each other.

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.

Characteristics of UF_6

During enrichment operations, uranium is handled in the chemical form of UF_6 (uranium hexafluoride), which is a solid at normal temperatures and pressures, and becomes gaseous when heated (sublimation at about 56°C). This gas can react when it comes into contact with water vapor in the air, forming uranium oxide and hydrofluoric acid, a highly toxic compound for man, plants and animals.

In view of the large quantities of UF_6 handled at the production sites, the inherent risks 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

Prevention of the risk of overpressure is based on compliance with industry regulations and with additional requirements for equipment containing radioactive substances in quantities above certain thresholds, in accordance with applicable regulations.

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.

Other risks, such as those related to parallel activities and to human and organizational factors, are also taken into account. Prior coordination of activities and the parties involved and the establishment of a suitable organization combined with personnel training in particular contribute to the limitation of these risks.

4.3.1.3. EXTERNAL RISKS THAT COULD LEAD TO NUCLEAR RISK

Unlike risks of internal origin, it is not always possible to act on risks of external origin related to the facility's environment. However, their origin must be taken into account to reduce and manage their consequences, particularly in terms of radiation.

Earthquake

Earthquakes and their possible repercussions, such as a tsunami, can cause damage that could disable nuclear safety systems.

For facilities in which nuclear materials are handled, the risk of an earthquake is factored into the design of equipment, systems and buildings based on the "design basis earthquake". The analysis consists of demonstrating that damage affecting the nuclear safety of the facility is unlikely to occur. 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. Its probability of occurrence depends on the number of aircraft that could reach the site without being detected, and its potential severity depends on the type of aircraft and the surface of sensitive areas in each facility.

Each site is located:

- away from controlled airspace;
- away from airspace used by military aircraft; and
- far from any airport.

Safety studies are carried out to assess the risk of an airplane crash and determine the means for limiting its consequences (factoring in the organization of airspace use, type of flights, known crash statistics, etc.), including the risk of deliberate attack.

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 factored into the design based on potential local weather conditions.

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 (rain, river flooding, breach of levies, tsunami) are factored into the design of the facilities and in operating measures. The risk of a thousand-year flood is taken into account, in particular by locating facilities above the thousand-year flood plain.

Other risks, such as the loss of power supply or utilities (water, steam, compressed air, etc.) are also addressed through redundant or independent backup systems.

Following the accident at the Fukushima Daiichi nuclear power plant in Japan, in addition to measures taken in the design of the facilities or during operations, supplementary safety assessments (SSA) were carried out to evaluate the facilities' strength after a malfunction. Based on these assessments, specific programs are being deployed to improve the protection of operations (see Appendix 3, Section 2. *Environmental information*).

4.3.1.4. TRANSPORTATION OF RADIOACTIVE MATERIALS

To protect members of the public, property and the environment from the effects of radiation during the transportation of radioactive materials on public lands, the "defense in depth" concept applies to these operations, as it does to other nuclear operations. This concept consists of setting up a series of barriers – safety systems, procedures, technical or administrative controls, etc. – to prevent accidents and limit their consequences. The design of the shipping cask is the main component of this system. As with any nuclear activity, these operations are governed by stringent international regulations.

If the materials transported exceed a certain level of activity set by regulation, the cask must, under normal and accidental operating conditions, provide:

- the containment of the materials;
- continued sub-critical conditions when fissile materials are transported;
- control of radiation intensity; and
- protection from the heat of the materials transported to prevent damage.

The related requirements cover cask design, fabrication, operation and maintenance.

AREVA's objective is to ensure an optimum level of safety and security during transportation. To discharge its mission in supervising transportation activities in the AREVA group, the Logistics Business Unit has established an organization to analyze risks, develop and implement action plans and manage emergencies around the globe. Its monitoring center is able to access in real time all necessary information on shipments under its supervision at all times.

In addition, insurance is taken out for shipments in accordance with the conditions described in Section 4.3.1.9, *Special coverage relating to nuclear facility operations*.

4.3.1.5. NUCLEAR SAFETY IN THE AREVA GROUP

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.

It is founded on the defense in depth concept, which consists of systematically analyzing potential technical, human or organizational failures, and of defining and implementing a series of independent lines of defense to protect against the consequences of those failures.

The three lines of defense are designed to:

- prevent accidents and incidents, in particular by means of the facility design basis;
- monitor facilities so as to detect and correct any malfunctions; and
- design and implement means of limiting the consequences of incidents or accidents that might occur despite all precautions.

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.

Nuclear safety is an absolute priority for AREVA. The group formalized its commitments in the fields of nuclear safety and radiation protection in a nuclear safety charter (available on the group's website under "Media Center"), which aims to ensure a very high level of nuclear safety throughout the operation of its facilities and its services activities.

The Charter is based on:

Organizational principles

The executive management teams of AREVA and each of its subsidiaries set up an organization reflecting the legal provisions of the country in question based on the overriding liability of the operator. Each site director 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.

Action principles

Nuclear safety applies to every stage in the facility lifecycle, from design to dismantling, and to the services operations. It builds on a nuclear safety culture shared by all personnel and maintained by regular training. In the area of radiation protection, the group is committed to maintaining the exposure of workers and the public to a level as low as reasonably achievable (see Section 4.3.1.1.). The same continuous improvement initiative applies to the reduction of impacts from liquid and gaseous effluents (see Appendix 3, Section 2. *Environmental information*).

An organization

In the fields of nuclear safety and radiation protection, the Safety, Health, Security and Sustainable Development Department (SHSSD) defines, leads and coordinates the group's nuclear safety and radiation protection policy; coordinates regulatory intelligence in the fields of safety and radiation protection; and provides leadership for the network of related experts. It provides the necessary support to the operating entities and steers relations with the regulators.

General Inspectorate for Nuclear Safety

The General Inspectorate for Nuclear Safety is part of the SHSSD Department. It is headed by the Inspector General, who reports directly to the Executive Board. It proposes and implements an annual nuclear facility inspection program to prevent any risk that would potentially alter nuclear safety. To perform its duties, the General Inspectorate has:

- a corps of inspectors, which performs independent verifications of the operating organization of the facilities; and
- ongoing support from the SHSSD's safety specialists.

The inspector general proposes an annual inspection program, which is approved at the highest level. This program ensures that the nuclear safety charter is correctly applied, detects any warning signs of a potential deterioration in nuclear safety performance, and points to necessary improvements to ensure the best level of control.

Subcontracting

Ensuring nuclear safety, health, occupational safety and environmental protection in subcontracted activities is a major and constant concern for the nuclear industry. AREVA is dedicated to improving the formal conditions for subcontracting and monitoring subcontracted work. This includes applying internal guidelines for compliance with nuclear safety, radiation protection and environmental protection requirements as part of the procurement process. It also includes the definition of a social certification for service providers based on the criteria of nuclear safety, occupational safety, training, professionalization and employee satisfaction.

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 and Radiological Event Scale (INES), including in countries where no such requirement exists (see Appendix 3, Section 2. *Environmental information*). The INES ranks the severity of events on a scale from 1 to 7. Level 1 or higher events are of public record.

As per its commitments, the group publishes, both in hard copy and on its website (under "Media Center"), the annual report of the General Inspectorate of Nuclear Safety. This report presents the status of nuclear safety and radiation protection at the AREVA group's nuclear facilities in France and abroad, as observed through the program of inspections, and draws on analyses of events and on various elements identified by nuclear safety specialists with a view to identifying areas for improvement.

Also, in application of article L. 125-15 of the French Environmental Code (formerly article 21 of the TSN Law), each of the sites operating the group's nuclear facilities in France publishes an annual nuclear safety and radiation protection report and makes it publicly available.

4.3.1.6. PROTECTION AND SAFEGUARD OF NUCLEAR MATERIALS AND FACILITIES

In addition to the measures adopted to prevent the risks of an incident or accident and limit the consequences, sites in possession of nuclear materials must take measures to prevent the loss, theft or diversion of the materials held in the facilities, or any act that might result in their dispersal in the environment. As is done for nuclear safety, the measures taken are based on the concept of defense in depth and rest on three interrelated pillars forming a strong and interconnected whole, which are:

- physical protection to avert, detect, prevent or delay any unauthorized access to the nuclear materials or any act of sabotage that might endanger the public;
- physical monitoring, in which movements of nuclear materials require authorization and are monitored;
- a materials accounting system distinct from physical monitoring, which provides independent control based on the daily accounting of quantities of materials held in each area of the site and of all movements of nuclear materials from one area to another.

The competent authorities including, in France, inspectors reporting to the Senior Defense Official at the Ministry of Ecology, Sustainable Development and Energy (MEDDE), regularly verify compliance with and proper application of these measures.

4.3.1.7. NON-PROLIFERATION

Proliferation is the diversion of nuclear materials by a State for non-peaceful purposes.

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.

To meet national regulatory requirements for the nuclear materials safeguards and facility protection, AREVA takes every measure necessary in this field to know, at all times, the amount, type, use and location of the materials held by the group's entities.

4.3.1.8. RISKS RELATED TO END-OF-LIFECYCLE OPERATIONS

THE GROUP MEETS ITS END-OF-LIFECYCLE OBLIGATIONS FOR ITS NUCLEAR FACILITIES, FOR RECLAMATION OF ITS MINING SITES AND FOR REMEDIATION OF ITS PLANT SITES AT THE END OF OPERATIONS.

As an operator of regulated nuclear facilities 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. As a mine operator, it must also provide for closure, securing and reclamation after operations.

The AREVA group plans for the dismantling of its facilities from the beginning of the design phase. Operating experience from facility maintenance, from dismantling activities carried out for its own account or for other nuclear operators, and from pilot projects conducted beforehand contribute to the safety of similar dismantling operations. Operations carried out by subcontractors are supervised closely. Computer programs were developed to facilitate the adoption of new standards for data historization and traceability, thus reducing the research necessary for characterization at the end of operations (radiological, physico-chemical, etc.) and the impacts of dismantling work.

In France, the law provides for a mechanism to ensure that the operators of regulated nuclear facilities have sufficient assets to fund long-term expenses associated with the dismantling of these facilities of the management of used fuel and radioactive waste. In the United States, the Decommissioning Funding Plan (DFP) is updated every three years.

Future expenses relating to end-of-lifecycle operations for its nuclear facilities and for reclamation of regulated industrial facilities have been identified and special provisions have been recorded. Rules regarding provisions for end-of-lifecycle operations, in the amount of 6.331 billion euros on a discounted basis, including a third party share of 217 million euros, are described in Section 20.2. *Notes to the consolidated financial statements*, Note 13. *End-of-lifecycle operations*.

The provisions set up to cover these expenses 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-lifecycle operations*). However, it may be stated with certainty that the provisions currently set up will be in line with the actual costs ultimately borne by the group, which could be higher than initially estimated, due in particular to changing legislation and regulations applicable to nuclear operations and environmental protection, to their interpretation by the courts, and to 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-lifecycle operations*). It is therefore possible that these future obligations and potential expenses or potential additional future liability of a nuclear or environmental nature that the group may later have to bear could have a significant negative impact on the group's financial position. For example, as provided in the French law of June 28, 2006, the Direction Générale de l'Energie et du Climat (DGEC, the French government's office of climate and energy) tasked a working group with performing a new cost assessment for deep geologic disposal. This working group was appointed by the Committee for Industrial Coordination in Radioactive Waste Management (COCIDRA) on June 23, 2011. The working group, led by the DGEC, includes representatives from Andra, AREVA, the Commissariat à l'énergie atomique, the EDF group and the French nuclear safety authority ASN. The minister in charge of Energy could establish and publish the cost of deep retrievable disposal when the working group's report is available. This disposal cost estimate could be substantially higher than the estimate published previously by the relevant authorities.

In addition, any reduction of the discount rate, or any acceleration of the dismantling schedule, would require the group to record an increase in the value of the provisions (for more details, see Section 20.2. *Notes to the consolidated financial statements,* Note 13. *End-of-lifecycle operations*).

The group holds a portfolio of financial assets (equities, bonds, regulated mutual funds and receivables from third parties) to fund its future end-of-lifecycle obligations. The group is exposed to a risk of insufficient value of assets held to fund its end-of-lifecycle operations. The group would have to use its own financial resources to fund these operations, which would result in a significant negative impact on its net income and financial position.

In particular, considering the intrinsic volatility of equity markets, the value of the portfolio of financial instruments could decrease and/or provide a return insufficient to fund the group's end-of-lifecycle operations. The sensitivity of the value of the portfolio to variations in the markets is described in Section 20.2. *Notes to the consolidated financial statements,* Note 13. *End-of-lifecycle operations*.

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.

4.3.1.9. SPECIAL COVERAGE RELATING TO NUCLEAR FACILITY OPERATIONS

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 ("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, to cover its liability at a capped amount.

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. In the United States, the Price Anderson Act establishes a similar system, but is not founded on an international convention.

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 Conventions

For purposes of information, France has set a maximum nuclear civil liability amount of 91.5 million euros per nuclear accident in a nuclear facility and 22.9 million euros per accident during transport. Funds must be available to indemnify the victims. The operator must maintain an insurance policy or other financial guarantee approved by the State of the country having jurisdiction over the facility, in the maximum amount of the liability. Insurance is the most commonly used form of financial guarantee. However, 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.

The Brussels supplementary agreement

This agreement, which supplements the Paris Convention, determines the contribution of the signatory states when damages exceed the nuclear 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 amending the Paris Convention and the Brussels Supplementary Convention were signed on February 12, 2004 by representatives of the signatory states. Yet these amended conventions are not yet in force, as the protocols must first be ratified by two thirds of the contracting parties and transposed into national law by each signatory state. 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. Beyond this amount, the other Signatory States would intervene up to a limit of 1.5 billion euros. A mechanism to increase these limits would apply as new States ratify the Conventions.

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. Negotiations are in progress with the key players of the insurance market to find solutions for coverage within the limits set by applicable law.

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. Claims for indemnification concerning any nuclear operator not regulated by the NRC or not part of the DOE are adjudicated under common 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 13.6 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 375 million US dollars in coverage;
   - the second tier corresponds to a guarantee fund managed by the NRC, which provides that, in the event of a nuclear accident, each nuclear operator must pay a share equal to 127.317 million US dollars per reactor if the first tier of 375 million US dollars is exceeded. Currently, based on 104 reactors licensed by the NRC, the guarantee fund would total about 13.2 billion U.S. dollars.

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 without calling on the private insurance market.

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 described above, 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 be up to 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; rather, they are covered by specific programs set up locally in agreement with AREVA's Risk and Insurance Department.

4.3.2. CHEMICAL RISK MANAGEMENT

4.3.2.1. SEVESO REGULATIONS

The group operates eleven 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. The directive was abrogated by directive 2012/18/EU of July 4, 2012 (the "Seveso III Directive"), which will enter into effect on June 1, 2015. The sites subject to these regulations are located in France and Germany (Duisburg and Lingen ANF). Five of them are subject to "high threshold" Seveso regulations, four of which are in France: AREVA NC (Tricastin and Malvési sites) and CEZUS (Jarrie site). The ANF Lingen site is regulated as a nuclear and a high-threshold Seveso site due to its storage of hydrofluoric acid (HF).

Legal entity/Location	Detail of regulated operation	Threshold
AREVA NC/Tricastin (W plant, part of INB 155)	Storage of 320 MT of HF	20 MT
AREVA NC/Malvési	Storage of 180 MT of HF	20 MT
AREVA NC/Tricastin (part of INB 105)	Storage of 310 MT of potassium bifluoride	20 MT
AREVA NC/Tricastin (part of INB 105)	Storage of 70 MT of HF	20 MT
CEZUS/Jarrie	Storage 2.950 MT of substances hazardous to the environment	500 MT
ANF/Lingen	Storage of 35 MT of HF in solution	20 MT

In accordance with the regulatory requirements, these five sites have set up a plan to prevent major accidents and limit their impacts on individuals and the environment. A safety management system incorporating the organization, functions, products and other resources was set up to strengthen risk management.

Similarly, hazards studies are updated on a regular basis. They are the foundation of the process designed to minimize risk from the outset, control urban development, establish emergency management plans and inform the public. Hazards studies must include an analysis of the hazards that the facility could generate in the event of a deviation and must demonstrate measures capable of reducing the probability and impacts of an accident to the lowest achievable level in view of 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. Reputable independent experts may occasionally be asked to give their opinion on all or part of a study.

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. Moreover, a dedicated working group was set up in 2004 to harmonize and share best practices from Seveso sites. In 2013 for instance, the working group focused on improving the management of HF-related risks by taking into account operating experience from the September 27, 2012 accident in Gumi, South Korea.

With respect to insurance, the above-mentioned facilities of AREVA NC, CEZUS and ANF are covered by the civil liability program taken out by the group. The level of coverage is based on quantification of reasonably expected risk and guarantees available in the insurance market.

4.3.2.2. 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 mixtures 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 helps improve knowledge on the properties of chemical substances and the risks associated with their use.

It includes a detailed schedule for procedure implementation, including pre-registration, registration, authorization, etc.

It requires that all chemical substances produced or imported in quantities of more than one metric ton per year be registered. The data collected in this way are being used to ensure appropriate management of the risks associated with the use of each substance. In addition, each user of a substance must ensure that its use is covered by the manufacturer's and importer's registration file and that recommended risk management measures are applied.

For the substances of most concern for health and the environment, listed in Appendix XIV of the regulation, an authorization request must be submitted to the European Chemicals Agency. More than 150 substances were introduced in the process: a list of substances was

published in October 2008 and updated in January 2009, June 2010, January, June and December 2011, June and December 2012, and June 2013. It was expanded in 2012 and 2013. Today, 22 substances are listed in Appendix XIV. AREVA is directly concerned by only a few of these substances; a Research and Development program is in progress to find substitutes for them.

Several steps were taken to manage the legal, financial and technical consequences of the REACH regulation and to ensure that all of the group's entities are in compliance. In October 2006, an awareness program targeting the affected functions was deployed throughout the group and has continued since then. An internal organization was set up consisting of a REACH steering committee at the corporate level (Safety Health Security Sustainable Development Department, Purchasing Department, Legal Department, and Research and Development Department), representatives of the Business Groups, technical advisors for the various issues related to REACH, and a network of REACH coordinators in the Business Units and at the sites. This organization, described in a group procedure, will deploy and monitor the initiative 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 and registered all substances produced or imported in quantities of more than one metric ton. Eleven applications for registration, including three as lead registrant, were filed before the first deadline of November 30, 2010, and six applications were filed before the second deadline in 2013.

4.3.3. OTHER ENVIRONMENTAL RISK

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. Following the Fukushima accident in March 2011, stress tests were carried out or are being completed on nuclear facilities in most of the countries that have them; the conditions required for their continued operation will be set upon the completion of these tests.

OCCUPATIONAL DISEASES RELATED, IN PARTICULAR TO 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 the measures needed to ensure the health and safety of its own personnel and of subcontractor personnel (see Section 17. *Human Resources*). However, the risk of occupational disease cannot be excluded in principle. 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.

The group received a limited number of claims in France for occupational diseases concerning various disorders in 2013, mostly for musculoskeletal ailments (joint disorders).

4.4. Operational risk

4.4.1. RISK OF INTERRUPTION IN THE SUPPLY CHAIN FOR PRODUCTS OR SERVICES

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.

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 deadlines and 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 cause an interruption of supplies or 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 financial 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.

4.4.2. RISK OF DEFAULT BY SUPPLIERS, SUBCONTRACTORS, PARTNERS AND CUSTOMERS

AREVA'S SUPPLIERS, SUBCONTRACTORS AND PARTNERS COULD ENCOUNTER FINANCIAL DIFFICULTIES RELATED TO ECONOMIC CONDITIONS AND NO LONGER BE IN A POSITION TO PERFORM CONTRACTS ENTERED INTO WITH THE GROUP.

Depending on the geographical area, the economic situation could have a negative impact on the group's suppliers, subcontractors, partners and customers, whether for their access to sources of funds or for their ability to meet their obligations in the group's regard.

4.4.3. RISK ASSOCIATED WITH DEPENDENCY ON THE GROUP'S CUSTOMERS

THE GROUP'S LOSS OF ONE OF 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.

The group has very substantial commercial relations with the EDF group. At December 31, 2013, EDF France represented about 30% of the group's revenue. AREVA is the leading supplier to the EDF group in the nuclear field, providing products and services at every stage in the nuclear fuel cycle as well as for the construction, equipping and maintenance of the EDF group's nuclear power generating resources. In the fuel cycle, the relationship between the EDF group and AREVA is governed by multiyear contracts.

In its operating segments, these contracts give AREVA operating visibility beyond 2020, with the regular signature of contracts covering multiple years.

The group's 10 biggest customers, including the EDF group, represented about 60% of its revenue at December 31, 2013.

4.4.4. RISK RELATED TO THE INFORMATION SYSTEM

All industrial and commercial activities in the group rely on a mission-critical information system, which must be updated regularly to adapt to a constantly changing environment.

While it deploys the resources necessary to ensure the security of its information systems and the fluidity of its management processes, the group cannot guarantee that these systems will not experience technical difficulties or flaws that could have a significant negative impact on its operations.

4.4.5. UNSCHEDULED WORK IN THE PRODUCTION OF PRODUCTS AND SERVICES SOLD

The group provides services and designs, manufactures and sells several products with a high unit value used in major projects, in particular the design and construction of nuclear reactors and heavy equipment, work to extend the plant operating period, and reactor maintenance. 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.

4.4.6. SUPPLIER CONCENTRATION IN THE PROCUREMENT CHAIN

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.

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.

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.

4.5. Risk related to major projects

4.5.1. NEW REACTOR CONSTRUCTION CONTRACTS

AS FOR ANY NEW PROJECT, THE CONSTRUCTION OF A NEW REACTOR MODEL INVOLVES RISKS RELATING TO ITS TECHNICAL IMPLEMENTATION, THE MANUFACTURE OF NEW COMPONENTS, AND STARTUP SCHEDULE COMPLIANCE.

Such risk could have a short-term negative impact on the group's operations and financial position.

Events related to the construction of the Olkiluoto 3 EPR™ power plant (OL3) illustrate this risk. A Project Management Department is in charge of managing the risk related to the OL3 project and is in regular contact with the Finance Department. Several specialized teams manage the various aspects of the project, whether in terms of delays, disruptions, disputes or risk. In addition to operational meetings, the teams hold joint progress meetings once a month to ensure coherence in project management. Work is being carried out within the group to harvest operating experience and thus improve project management in the future. For additional information on the OL3 project, see Section 6.4.3. *Reactors & Services Business Group*, Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2013*, Note 24, and Section 20.8. *Legal and arbitration proceedings.*

4.5.2. AREVA'S INDUSTRIAL PROJECTS

THE GROUP CANNOT ENSURE THAT INDUSTRIAL PROJECTS OR MINING PROJECTS CAN BE IMPLEMENTED WITHIN THE PLANNED BUDGETS AND SCHEDULES AND CONSISTENT WITH THE OPERATING REQUIREMENTS OF THE SITES INVOLVED.

As for any new project, the development of new mining or industrial capacities involves risks relating to its technical implementation and to start-up schedule compliance.

The group cannot guarantee that the product of mining or industrial projects will enable it to cover its operating, depreciation and amortization expenses or give the expected return on investment, particular if the competitive situation in the target market changes.

Similarly, in the case of transitions between two industrial plants, the group cannot guarantee that facility shut-down and start-up schedules will be optimized to minimize the financial and social impacts.

In addition, the group cannot guarantee that suppliers associated with the different projects will provide their products or services on time and as required in the contracts.

Such risk could have a negative impact on the group's operations and financial position.

4.6. Liquidity and market risk

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

In the Finance Department, the Financial Operations and Treasury Management Department (DOFT) makes transactions on financial markets and acts as a central desk that provides services and manages the group's financial exposure. The organization of this department ensures the separation of functions and the necessary human, technical, and information system resources. Transactions handled by DOFT 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, DOFT prepares a monthly report presenting the group's positions and the performance of its financial transactions. The report is sent to the senior management of the AREVA group and to the Finance, Legal and Strategy Departments. The reporting system also includes weekly reports to group's Chief Financial Officer, including a valuation of all positions and their market value. Together, these reports and reviews are used to monitor the group's counterparty risk. For more information, please refer to Section 20.2, *Notes to the consolidated financial statements for the year ended December 31, 2013*, Note 31.

4.6.1. LIQUIDITY RISK

The liquidity risk is the risk that the group may be unable to meet its immediate or short-term financial commitments.

Management of the liquidity risk is provided by the Financial Operations and Treasury Management Department (DOFT), which ensures that it has sufficient financial resources available at all times to fund current operations and the investments needed for its future growth, and to cope with any exceptional event. The goal of liquidity management is to seek resources at the best cost and to ensure that they may be secured at any time. These aspects are discussed in more detail in Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2013*, Note 31. *Management of market risks*.

In addition, the group's liquidity risk, including stress scenarios, is regularly monitored.

In accordance with the asset sales program defined in the Action 2016 plan, the group:

- had reached its minimum target of 1.2 billion euros in asset disposals for the 2012-2013 period by August 2012;
- continued this program in 2013 with the sale of Technoplus Industries to AVA Conseil in August and the start of exclusive negotiations to sell Euriware to Capgemini.

As regards the capital markets, AREVA:

- raised 500 million euros in early September through a seven-year bond issue maturing on September 4, 2020, at a rate of 3.25%;
- bought back debt on its 2016 and 2017 bond issues in the cumulative amount of approximately 350 million euros;
- raised 8 billion Japanese yen through a fixed-rate, five-year private placement maturing in September 2018.

As of the date this Reference Document was filed, AREVA's Standard & Poor's rating is [BBB]- for long-term borrowings and A3 for short-term borrowings, with a stable outlook.

For 2014, the liquidity risk is covered by:

- an available cash position of more than 1.250 billion euros, net of current borrowings at December 31, 2013;
- an unused balance of confirmed bilateral lines of credit maturing in 2015, 2016 and 2017 in the amounts of approximately 590 million euros, 50 million euros and 175 million euros respectively, in addition to a 1.25-billion-euro available syndicated line of credit maturing in 2018.

AREVA has no financial debt maturing before December 2015.

4.6.2. FOREIGN EXCHANGE RISK MANAGEMENT

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.

The principal factors that may influence the group's exposure to currency risk, by Business Group, are:

- Mining and Front End Business Groups: The facilities of these Business Groups 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, these Business Groups have 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 multiyear 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 five years;
- Reactors & Services Business Group: 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 Business Group: This division's exposure to foreign exchange risk is minimal. Most sales outside the euro zone are denominated in euros;
- Renewable Energies Business Group: the main contracts relate to the offshore wind business with customers in the euro zone. Accordingly, the Business Group has little exposure to foreign exchange. However, certain contracts in the Solar and Bioenergy businesses may be exposed to limited foreign exchange fluctuations, including the US dollar, the Australian dollar, the Brazilian real and the Indian rupee.

The value of the euro compared with the US dollar increased by an average of 3.3% in 2013 compared with 2012.

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 Treasury Management Department, except as otherwise required by specific circumstances or regulations. The Financial Operations and Treasury Management Department (DOFT) centralizes the currency risk for the entities and hedges its position directly with banking counterparties. A system of strict limits, particularly concerning results, marked to market, and foreign exchange positions that may be taken, is monitored daily by specialized teams that are also charged with valuation of the transactions. In addition, analyses of sensitivity to changes in exchange rates are periodically performed.

For more information, please refer to Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2013*, Note 31. *Management of market risks*.

4.6.3. INTEREST RATE RISK MANAGEMENT

The group's exposure to fluctuating interest rates encompasses two types of risk:

- a risk of change in the value of fixed-rate financial assets and liabilities; and
- a risk of change in cash flows related to floating-rate financial assets and liabilities.

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. The group's rate management policy, approved by the Executive Management Board, is supplemented by a system of specific limits for asset management and the management of rate risk on borrowings. In particular, the system sets authorized limits for portfolio sensitivity, derivatives authorized to manage financial risk, and subsequent positions that may be taken.

For more information, please refer to Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2013*, Note 31. *Market risk management*.

4.6.4. RISK ASSOCIATED WITH EQUITY SECURITIES AND OTHER FINANCIAL INSTRUMENTS

THE GROUP HOLDS PUBLICLY TRADED SHARES IN A SIGNIFICANT AMOUNT AND IS THUS EXPOSED TO CHANGES IN THE FINANCIAL MARKETS.

Publicly traded shares held by the AREVA group are exposed to the volatility inherent in equity markets.

Of particular note at December 31, 2013 are the following:

- equities held in the portfolio of financial assets earmarked for future end-of-lifecycle operations (see Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2013*, Note 13. *End-of-lifecycle operations*);

- other long-term investments: these are minority interests, most notably Summit and Japan Steel Works (see Section 20.2, *Notes to the consolidated financial statements for the year ended December 31, 2013*, Note 15, *Other non-current financial assets*).

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

The risk on shares held in the portfolio of assets earmarked to fund end-of-lifecycle 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, 2013*, Notes 13, 14 and 15).

In addition, the group is exposed to changes in the value of other financial instruments in its portfolio, in particular bonds and mutual fund shares held in the portfolio earmarked for end-of-lifecycle obligations.

4.6.5. 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 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. Most of the group's exposure is concentrated in the Reactors & Services Business Group.

Each Business Group 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 with graduated coverage as a function of the highly probable nature of the exposure, or based on long-term contracts after a specific analysis of the commodities risk (Reactors & Services Business Group).

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

For additional information, including a sensitivity analysis, see Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2013*, Note 31. *Management of market risk*.

4.6.6. COUNTERPARTY RISK RELATED TO THE USE OF DERIVATIVES

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. 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 Treasury Management Department deals with diversified, top quality counterparties based on their ratings in the Standard & Poor's and Moody's rating systems, with a rating of Investment Grade. An umbrella 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 group's Chief Financial Officer. The limits are verified in a specific report produced by the internal control team of the Treasury Management Department. During periods of significant financial instability that may involve an increased risk of bank default, which may be underestimated by ratings agencies, the group tries to monitor advanced indicators such as the value of the credit default swaps (CDS) of the eligible counterparties to determine if limits should be adjusted.

When conditions warrant (rising counterparty risk, longer term transactions, etc.), market transactions are managed by margin calls that reduce the group's counterparty risk to a predetermined threshold: the Credit Support Annex for trades documented under an ISDA master agreement, or the Collateral Annex for trades documented under a French Banking Federation (FBF) master agreement.

4.6.7. RISKS ASSOCIATED WITH URANIUM, ENRICHMENT AND CONVERSION

4.6.7.1. URANIUM RESERVES

The group's uranium reserves and resources are only estimates drawn up by the group based on geological assumptions (developed based on core drillings, among other things) and economic assumptions, and there is no guarantee that mining operations will produce the same results.

The group could be led to modify these estimates if there is a change in valuation methods or geological assumptions, and/or a change in economic conditions (see Section 6.4.1. *Mining Business Group*).

Estimates of uranium resources and reserves are updated annually to produce data for the Reference Document for the year ended. The group established a Resources and Reserves Committee further described in Section 6.4.1. *Mining Business Group.*

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 ores, which is indexed to market performance, 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.

4.6.7.2. PRICE MOVEMENTS OF URANIUM, ENRICHMENT AND CONVERSION

The volatility of uranium, uranium conversion and uranium enrichment prices could have a significant negative or positive impact on the financial position of the group's mining, enrichment and conversion 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, and depend on factors that are beyond AREVA's control. These factors include demand for nuclear power; economic and political conditions in countries that produce or consume uranium, including Canada, the United States, Russia, other CIS republics, Australia, and some African countries; nuclear materials and used fuel treatment; and sales of surplus civilian and defense inventories.

If the prices for natural uranium, conversion and enrichment were to remain below production costs over a prolonged period, this could have a negative impact on the group's mining operations and uranium conversion and enrichment operations., futures or options to cover these types of risk. These transactions involve exposure to counterparty risk when the contracts are concluded over the counter.

4.7. Other risk

4.7.1. POLITICAL AND ECONOMIC CONDITIONS

SOME OF THE GROUP'S OPERATIONS ARE SENSITIVE TO POLICY DECISIONS IN CERTAIN COUNTRIES, ESPECIALLY AS REGARDS ENERGY.

The risk of a change in energy policy by certain States cannot be excluded and could have a significant negative impact on the group's financial position. The debates that have begun or will come in various countries on the future of nuclear power could evolve in a manner that is unfavorable to the group's operations, particularly as influenced by pressure groups or following events that give the public a negative image of nuclear power (e.g. accidents or incidents, violations of non-proliferation rules, diplomatic crises).

As a result of events in Japan in March 2011, the German government decided to phase out nuclear power while other European Union countries, including France, decided to perform stress tests on their facilities (see the ASN report of January 3, 2012 on the supplementary safety assessments of nuclear facilities).

More generally, events of this nature are likely to affect the positions of certain States vis-à-vis nuclear energy and could for example lead to:

- new reviews of the share of nuclear power and renewable energies in the energy mix;
- the early shutdown of certain nuclear power plants;
- the slowdown or freezing of investment in new nuclear construction projects;
- the reconsideration of programs to extend the operation of existing power plants;
- changes in policies for the end of the cycle, particularly as concerns used fuel recycling; and/or
- lesser acceptance of nuclear energy by the public.

In addition, a change in economic policy, at a time of financial and budgetary pressures, may lead to lower support for the development of renewable energies in some countries.

POLITICAL RISK SPECIFIC TO CERTAIN COUNTRIES IN WHICH THE GROUP DOES BUSINESS COULD AFFECT ITS OPERATIONS AND THEIR FINANCIAL EQUILIBRIUM (E.G. POLITICAL INSTABILITY, ACTS OF TERRORISM).

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. Acts of terrorism can also generate socio-political turmoil or impair the physical safety of the group's personnel and/or facilities.

For example, the mining agreements between the government of Niger on the one hand and Somaïr and Cominak on the other, which were signed on November 9, 2001 and came into effect on January 1, 2004, expired on December 31, 2013. They had governed the terms for operation of the uranium deposits, including legal, tax and customs considerations. By year-end closing 2013, the discussions held in 2012 between the two mining companies and the government of Niger had failed to produce an agreement on the tax provisions in the mining agreements to be applicable starting in 2014. Nonetheless, to allow the parties to reach an agreement on new provisions applicable to the companies in these areas starting in 2014, the mining companies and the government of Niger had agreed in principle to maintain the status quo on the tax and customs provisions until March 31, 2014.

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.

Nuclear power and renewable energies developed by the group are also competing with other sources of energy, in particular oil, natural gas, shale gas, coal or hydroelectricity. These other energy sources could become more attractive than the energy sources developed by the group.

Certain risks have been identified as being inherent to the Renewable Energies Business Group:

- the risks associated with the order intake process and the confirmation of key sales opportunities;
- the risks associated with the ramp-up of the supply chain and assembly lines, of internal/supplier quality control, and of the execution of projects that technology leaders and in many countries;
- the risks related to the ability of the technologies sold to achieve the level of performance required and the impact this may have on existing contracts and on the market, in particular with the lack of a representative installed base to support planning and the establishment of the necessary provisions for defects and malfunctions over the medium and long term;
- the risks related to the safety of operations in new environments and with rising volumes; and
- the risks associated with the loss of key technical skills.

Since 2010, the group has set up a certain number of risk mitigation action plans with the objective of securing project completion and the full operational cycle of the group's products, ensuring the strength and quality of the group's value chain, and implementing all of the group's operational performance optimization processes.

4.7.2. RISKS RELATED TO THE GROUP'S STRUCTURE

THE GROUP CANNOT ENSURE THAT ITS STRATEGIC ALLIANCES, RESTRUCTURING OR REORGANIZATION, 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 conclusion of certain asset disposal transactions may depend on conditions precedent over which in some cases AREVA has no control, such as approval by competition authorities in the relevant countries or opinions issued by certain bodies representing the group's employees. A lack of approval, or a delay in this regard, could result in the termination of these transactions and thus have a material impact on the group's anticipated financial position and performance.

The group is involved in a variety of acquisitions, strategic alliances and joint ventures with partner companies. 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 CEA holds the majority of the share capital and voting rights of AREVA: it has the power to control strategy and to make most of the decisions at General Meetings of Shareholders, including those related to the nomination of members of the Supervisory Board and those related to dividend distributions (see Section 16.2. *Functioning of the Supervisory Board*). The group's strategy and financial position, in particular as regards access to the capital markets and acquisitions for external growth are also subject to decisions by the French State. In addition, the legal requirement that the French State retain a majority interest in AREVA's share capital could limit AREVA's ability to implement transactions with a dilutive impact on equity.

4.7.3. HUMAN RESOURCES RISK

THE GROUP MIGHT NOT BE ABLE TO FIND THE NECESSARY EXPERTISE TO CARRY OUT ITS OPERATIONS.

In some fields, the group has to turn to outside experts when it does not have expertise internally for the successful conclusion of its projects. The group cannot guarantee that it will find the necessary skills for the successful performance of some operations, which could have a significant negative impact on those operations and on the group's financial position.

The group has undertaken a program to reorganize its skills base featuring among other things a mobility initiative supported by an important training initiative.

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

The group's development, reorganization or restructuring could potentially be accompanied by labor protests that could disrupt its operations and impact its financial position.

5

Information about the issuer

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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 of the company is AREVA.

5.1.2. PLACE OF REGISTRATION OF THE ISSUER AND REGISTRATION NUMBER

AREVA is registered under number 712 054 923 with the Business Registry of Nanterre.

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

Business registration number (Siret): 712 054 923 000 57.

5.1.3. DATE OF INCORPORATION AND LENGTH OF LIFE OF THE ISSUER

The French decree no. 83-1116 of December 21, 1983 establishes the Société des participations du Commissariat à l'énergie atomique, the former name of AREVA.

AREVA was registered on November 12, 1971. The statutory term of the company is 99 years from its date of registration, unless extended or the company is dissolved beforehand.

5.1.4. ADDITIONAL INFORMATION

CORPORATE STRUCTURE OF AREVA 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 French decree no. 67-236 of March 23, 1967 on business corporations, amended, and by French decree no. 83-1116 of December 21, 1983, amended.

This appeared to be the most effective method of governance to run the company.

REGISTERED OFFICE

The registered office is located at AREVA Tower, 1 place Jean Millier, 92400 Courbevoie, France.

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 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; and
- 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 operations. In 2001, Framatome established Framatome ANP as a joint company of AREVA (66% interest until March 2011) and Siemens (34% interest until March 2011), thus merging the nuclear operations of those two groups.

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 was carried out through mergers and contributions to the company CEA-Industrie, which adopted the business name "AREVA".

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.

IMPORTANT EVENTS IN THE DEVELOPMENT OF THE ISSUER'S BUSINESS

For earlier main events, please refer to previous AREVA Reference Documents.

2010-2012

In June 2010, AREVA finalized the disposal of its Transportation & Distribution business to Alstom and Schneider Electric. AREVA's Supervisory Board had decided to sell the Transmission & Distribution business on June 30, 2009, as part of the group's development plan.

In December 2010, AREVA's Supervisory Board approved the launch of a reserved capital increase subscribed by the Kuwait Investment Authority (KIA) in the amount of 600 million euros and by the French State in the amount of 300 million euros.

In January 2011, AREVA announced the success of the capital increase reserved for investment certificate holders in the amount of 35 million euros.

With these two transactions, the group raised a combined total of 935 million euros.

In March 2011, AREVA acquired the 34% interest in AREVA NP held by Siemens. AREVA NP became a wholly owned subsidiary of AREVA following this transaction.

On May 30, 2011, the AREVA common share was listed for trading on compartment A of the regulated NYSE Euronext market in Paris.

In June 2011, AREVA's Supervisory Board, meeting under the chairmanship of Jean-Cyril Spinetta, appoints Luc Oursel President and Chief Executive Officer and Chairman of the Executive Board. The other members of the current Executive Board – Philippe Knoche, Pierre Aubouin and Olivier Wantz – were appointed at the same time.

In December 2011, AREVA presented its "Action 2016" strategic action plan for the 2012-2016 period.

2013

For the main events of 2013, please refer to Sections 6.4. *Operations* and 9.1.3. *Highlights of the period.*

5.2. Investments

The group invested more than 12 billion euros over the 2007 to 2011 period.

2012

In 2012, the Capex program for the Action 2016 plan reached its peak in terms of annual spending. Gross Capex came to 2.025 billion euros and 1.741 billion euros net of disposals. In 2012, the bulk of capital expenditures related mainly to the continuation of strategic and priority investments begun in previous years: Georges Besse II to a large extent, along with mining development and Comurhex II, which represent a combined total of 60% of gross Capex.

2013

Gross Capex decreased in 2013, mainly in the Mining and Front End Business Groups, due to:

- the mothballing of the Trekkopje mining project in Namibia;
- the decrease in capital spending related to the Georges Besse II enrichment plant, which was close to completion at year-end 2013 (74% of nominal production in service at the end 2013).

As a result, total gross Capex amounted to 1.428 billion euros in 2013, compared with 2.025 billion euros in 2012.

Net of disposals, Capex amounted to 1.374 billion euros in 2013, compared with 1.741 billion euros in 2012.

This Capex program covers all Business Groups. However, projects were selected and graded according to their percentage of completion and their necessity, in line with the forecasts of the Action 2016 strategic action plan.

In 2013, the bulk of capital expenditures relates to the continuation of strategic and priority programs begun in previous years: Georges Besse II to a large extent, along with mining development and Comurhex II.

OUTLOOK

In the framework of its Action 2016 plan, AREVA committed to greater selectivity in capital spending in order to achieve a reduction in cumulated Capex over the 2012-2016 period compared with the 2007-2011 period, when it exceeded ten billion euros. Planned investments focus in particular on maintenance, nuclear safety and occupational safety at the group's production sites, and implementation of the directives issued by the French nuclear safety authority in the framework of supplementary safety assessments performed after the Fukushima accident.

The balance of the Capex program for 2012-2016 is focused on projects already launched and deemed strategic priorities (several capital projects were suspended due to uncertainties). The program aims to secure access to uranium, strengthen the chemistry business for the long term, and complete the replacement of the group's enrichment production capability.

For 2014, the group plans to make gross capital investments of about 1.3 billion euros. Average annual Capex of approximately 1.1 billion euros is anticipated in 2015 and 2016.

In Mining, Capex will focus on the most effective assets in order to maximize profitability.

In the Chemistry and Enrichment businesses, most of the investment will be devoted to the completion of the Comurhex II and Georges Besse II projects.

In the Reactors & Services Business Group, capital spending connected with international certification programs for the EPR™ reactor and with finalization of the design of the medium-power ATMEA1 reactor will continue, as will spending to improve the competitiveness of the EPR™ reactor and to prepare the technologies of the future, i.e. small modular reactors (SMR) and generation IV sodium fast reactors (SFR).

In the Back End Business Group, the group will continue to invest in facility upgrades and site maintenance, particularly at the La Hague and MELOX plants.

6

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A FEW FUNDAMENTAL CONCEPTS FOR AN UNDERSTANDING OF NUCLEAR POWER

Since the beginning of this century, energy has been a centerpiece of many of our society's challenges, which may be summed up as the need to continue to produce and consume energy without threatening the climate. If the share of fossil fuels in the global energy mix is to be reduced from its current level of more than 80%, low-carbon energy sources that do not affect the climate must be developed, including nuclear power, capable of producing massive quantities of electricity on demand, and renewable energies.

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 notably of a steam supply system that converts water into steam. The steam drives a turbine, which in turn drives a generator, producing electricity.

A "nuclear reactor" is an industrial facility that produces heat from the energy released by the fission of combustible atoms during a controlled chain reaction. A "nuclear steam supply system" is the combination of equipment used to produce steam 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 plant thus consists primarily of a nuclear island and a conventional island. 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 operation.

A heat source and a cooling source

Like all other thermal power plants, a nuclear power plant has a heat source (the nuclear steam supply system with its fuel core and heat exchangers) and a cooling source designed to condense steam after it has passed through the turbine. That is why power plants are usually built near the sea or a river – the water is used to cool the steam. Some power plants are also equipped with cooling towers in which cooling water is dispersed like rain so that it will evaporate, improving the efficiency of cooling and reducing the environmental impacts (reduced withdrawal of water, elimination of thermal releases to rivers).

A moderator and a coolant

During the fission process, neutrons are released at very high speed. As they strike light atoms (hydrogen contained in water) and slow down, they react much more with the uranium-235 atoms. Reactors called "thermal neutron" or "slow" reactors take advantage of this property, reducing the level of uranium-235 enrichment required to sustain the chain reaction. In water reactors, the water is used as a moderator, i.e. to slow the neutrons released by nuclear fission, but it also serves as a coolant, i.e. the fluid that circulates in the reactor core to extract heat.

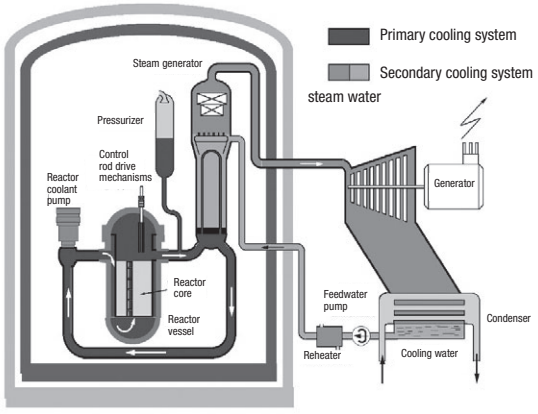
The world's most prevalent reactor: the Pressurized Water Reactor

In light water reactors, the fuel is low-enriched uranium. The water in the primary cooling system bathes the reactor core, consisting of tubes containing the fuel, which heats up as a result of the fission reactions.

In Pressurized Water Reactors (PWR), the water is heated by the tubes containing the fuel and transfers its heat via heat exchangers in which the water of a secondary cooling system is converted into steam. The nuclear steam supply system consists of the reactor core and the steam generators, together with the pressurizer, the reactor coolant pumps and legs. The primary cooling system is separate from the secondary cooling system, which produces steam to drive the turbo-generator, thereby strengthening the containment of radioactivity.

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. All of the reactors in the French nuclear power program are PWRs, which represent the majority of reactors in service around the world.

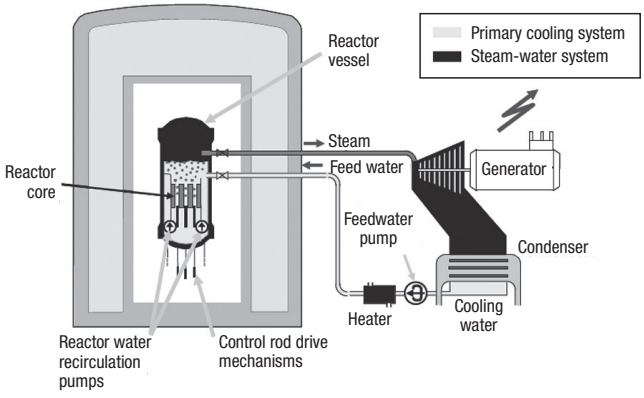
➜ PRESSURIZED WATER REACTOR



Source: AREVA.

Boiling Water Reactors (BWR) are generally comparable to PWRs. The main difference is that the water boils when it comes into contact with the fuel and the primary and secondary cooling systems are not separate. This causes the water to vaporize at the top of the vessel containing the core. The heat from the core is released to the water flowing through it. The resulting steam drives the turbine and then cools when it comes into contact with the cold source and returns to liquid form in the condenser before it is recirculated to the reactor vessel. Thus, in a BWR, the water is in a closed cycle in which the steam produced in the reactor core expands directly into the turbine.

➜ BOILING WATER REACTOR



Source: AREVA.

The AREVA group is active in both of these reactor systems.

Difference between generation II and generation III reactor systems

Nuclear reactor systems are classified by generation. The timeline for the different generations corresponds to the date at which the related technologies become mature. Generation II designates most of the reactors currently in service around the world (most are PWRs, some are BWRs), whereas AREVA's generation III reactors benefit from evolutionary technology offering enhancements and factoring in operating experience from previous generations, particularly in terms of safety and security.

Renewable energies

Renewable energies – hydropower, biomass, wind, solar, geothermal and ocean energies – do not consume natural resources for their operations. Their efficiency is contingent on their location (dam site, wind, sunshine, etc.). Some of these energy sources are spread out and intermittent, which makes them less suitable for baseload power generation. Others are more flexible and allow relatively high power densities to be achieved. AREVA has specifically chosen to invest in and develop four alternative energies described in Section 6.4.5. *Renewable Energies BG*.

In conclusion

Nuclear and renewable energies meet the need to reduce CO_2 emissions and are capable of supplying baseload or peak power. In this respect, the technologies and services offered by AREVA in nuclear power and renewable energies complement each other.

6.1. Markets for nuclear power and renewable energies

6.1.1. NUCLEAR POWER AND RENEWABLE ENERGIES IN THE GLOBAL ENERGY LANDSCAPE

6.1.1.1. THE CHALLENGES OF THE ENERGY SECTOR

Strong growth in demand for electricity

Despite slower global economic growth in 2013, world demand for energy continued to rise, even in industrialized countries. Several macro-economic indicators suggest that economic growth in industrial countries will remain weak in the short term. Emerging markets will continue to expand and offer the most promising growth opportunities for the energy sector.

In fact, under the combined pressures of world population growth, more widespread access to energy and long-term economic growth, world demand for energy is set to increase over the long term.

According to the "New Policies Scenario" (1) of the *World Energy Outlook* (WEO) published by the International Energy Agency (IEA) in November 2013, global primary energy consumption is expected to grow from 13.1 Gtoe in 2011 to 17.4 Gtoe in 2035, giving average annual growth of 1.2%. According to the report, China and India, emerging and developing countries will account for the majority of the added demand.

Electricity consumption climbed faster than global primary energy consumption from 1990 to 2011, at 2.7% average annual growth for the former and 1.9% for the latter, and that trend will continue. According to the IEA's New Policies Scenario, world power generation in 2035 is estimated at 37,087 TWh, compared with 22,113 TWh in 2011, for average annual growth of 2.2%. Almost all of this growth originates in non-member countries of the Organization for Economic Cooperation and Development (OECD). In China, for instance, electricity consumption is expected to more than double by 2035.

On the supply side, oil, gas and coal continue to be the preferred energy sources. In the United States, technologies deployed on a large scale by the oil and gas industry are facilitating the development of oil and shale gas production. However, the hydraulic fracturing technique used in non-conventional gas production is a cause for environmental concern. The new energy policies being implemented by several countries are looking to reverse this trend. The fight against greenhouse gas emissions (GHG) and the issue of security of fossil fuel supply have become major concerns for the public, businesses and governments alike. The latter are devising measures to conserve energy, promote renewable energies, develop new energy technologies and diversify energy sources geographically.

A number of countries are currently considering the possibility of using nuclear power and renewable energies or increasing their contributions to bolster their security of energy supply, enhance competitiveness and cost predictability, and reduce CO_2 emissions for sustainable economic growth.

Energy and global warming

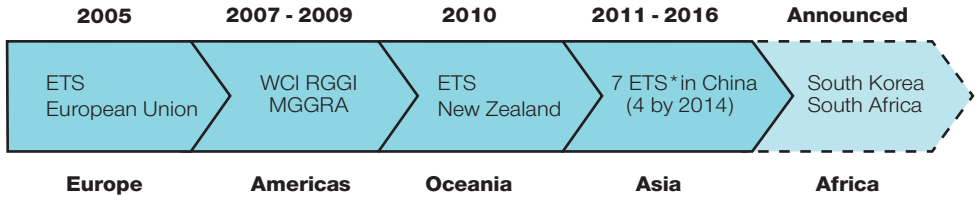
The continuation of current energy policies together with the sharp increase in energy demand would have serious consequences for the climate. Today, the energy sector accounts for about 40% of all greenhouse gas emissions, with a CO_2 component that could reach 37.2 billion tons in 2035 in the IEA's New Policies Scenario, compared with 43.1 billion tons at the current pace (*Source: WEO 2013*).

Thus, as part of its Climate and Energy Package, Europe has targeted a 20% reduction in emissions by 2020 in relation to 1990. In January 2005, it also set up a system to cap CO_2 emissions by establishing the European Trading System (ETS), which recognizes the economic value of emissions reductions. The ETS is the most extensive system in the world, with 28 Member States belonging to the European Union in addition to Norway, Iceland and Liechtenstein.

Similar plans are being set up in most regions of the world. Federal laws in the United States, such as the Energy Independence and Security Act, the Energy Improvement and Extension Act, and the American Recovery and Reinvestment Act, provide financial support to companies that invest in the carbon-free energy sector or local sources of energy with high added value. Three voluntary carbon emissions permit trading exchanges – the Regional Greenhouse Gas Initiative, the Midwestern Greenhouse Gas Accord and the Western Climate Initiative – were established in 38 states and provinces of the United States, Mexico and Canada. In China, several pilot plans are being put in place with the goal of constituting a national plan after 2015. For instance, in June 2013, the city of Shenzhen established an emissions trading plan to reduce its emissions by 21% before 2015. In Japan, a new energy program is under discussion to curtail the growth of CO_2 emitting sources of energy. Similar programs have also been set up in New Zealand and Australia. A plan is expected in South Korea. In South Africa, a carbon tax is planned for an initial period of ten years starting in January 2015.

(1) The IEA considers that additional efforts will be required beyond those identifi ed in the New Policies Scenario in order to limit the temperature increase from climate change to 2°C. The 450 scenario in the report confirms that new nuclear and renewable energy facilities would be required to meet this goal.

GLOBAL STATUS OF THE MAIN EMISSIONS TRADING SYSTEMS (ETS)



* *Shenzhen, Shanghai, Beijing, Chongqing by 2014, Tianjin, Hubei, Guangdong then, before the start of a national exchange system.*

Source: AREVA.

In 2012, the Doha Climate Change Conference in Qatar set up a working group tasked with establishing by 2015 a global compact on the reduction of greenhouse gas emissions. The agreement would come into force by 2020. All countries are involved in the fight against global warming, including China, India and the United States, which are the largest polluters. During the summit, the signing of Act II of the Kyoto Protocol extending its validity from 2012 to 2020, commits the European Union, Australia and a dozen other industrial countries to reducing their greenhouse gas emissions (GHG) by 2020. These initiatives were confirmed by the Warsaw Conference in Poland in 2013. The logical conclusion of these debates is that no source of energy should be ignored in the mix, in particular nuclear power, recognized as one of the means to fight climate change (see La documentation française: *Climate Change*). The next UN Conference of the Parties on Climate Change (COP21) will be held in France in December 2015.

It is necessary to plan for the depletion of fossil energy resources

The global availability of energy resources will not dampen the growth in energy demand by 2035 and beyond. However, a large amount of capital funding is required to exploit these resources and many factors will determine the rate at which this occurs, such as the uncertainty of the economic outlook, the investment climate and the availability of financing, geopolitical factors, climate change policies, technology advances, and changes in legal, tax and regulatory frameworks.

The gradual depletion of hydrocarbon resources is a major threat to global energy supply. According to the IEA New Policies scenario, oil production peaked in 2006 and the average price per barrel is expected to reach 128 dollars in 2035 (in 2012 US dollars). Forecasting the medium to long term availability of fossil fuel resources (oil and natural gas) thus remains very difficult. The reserves, production costs and environmental standards that might impact production (in particular for shale gas, bituminous sands, deep offshore oil and arctic resources) are all subject to big uncertainties today.

In addition, oil and gas resources are unevenly distributed on earth. To take an example, three countries – Iran, Russia and Qatar – possess more than half of the world's natural gas reserves.

Consequently, relying on the massive use of fossil resources to satisfy demand for energy would be the source of serious problems in terms of security of supply, with uncertainties ranging from the volumes available to prices to geopolitical risks.

The need for investment and a change in the global power generation mix

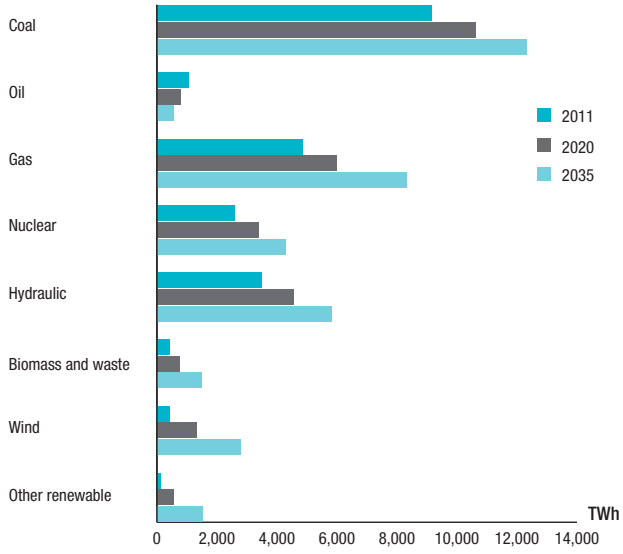
Massive capital spending in the electricity sector and a radical change in the power generation mix are required for the reasons outlined above: rising demand for electricity, urgent efforts to prevent climate change, and declining fossil resources.

The New Policies Scenario in *World Energy Outlook 2013* aims to take into consideration firm or planned policy commitments in countries around the globe. This scenario measures the impacts of these decisions on the energy sector, compared with the two other scenarios: the "Current Policies Scenario", which assumes no major change in energy policy compared with the situation at mid-2013, and the "450 Scenario", which aims to limit concentrations of greenhouse gases in the atmosphere to 450 ppm [(1)] (in CO_2 equivalent), thereby limiting the temperature increase on the planet to 2°C.

Nuclear generating capacity would climb by more than 66% to 4,300 terawatt-hours (TWh) by 2035 in the New Policies Scenario, when a significant share of the existing reactor fleet would have to be replaced. Wind energy would increase more than six fold by 2035.

(1) *ppm: parts per million.*

GLOBAL ELECTRICITY MIX IN THE IEA'S NEW POLICIES SCENARIO



Source: IEA, WEO 2013.

6.1.1.2. NUCLEAR POWER SOLUTIONS FOR GLOBAL ENERGY CHALLENGES

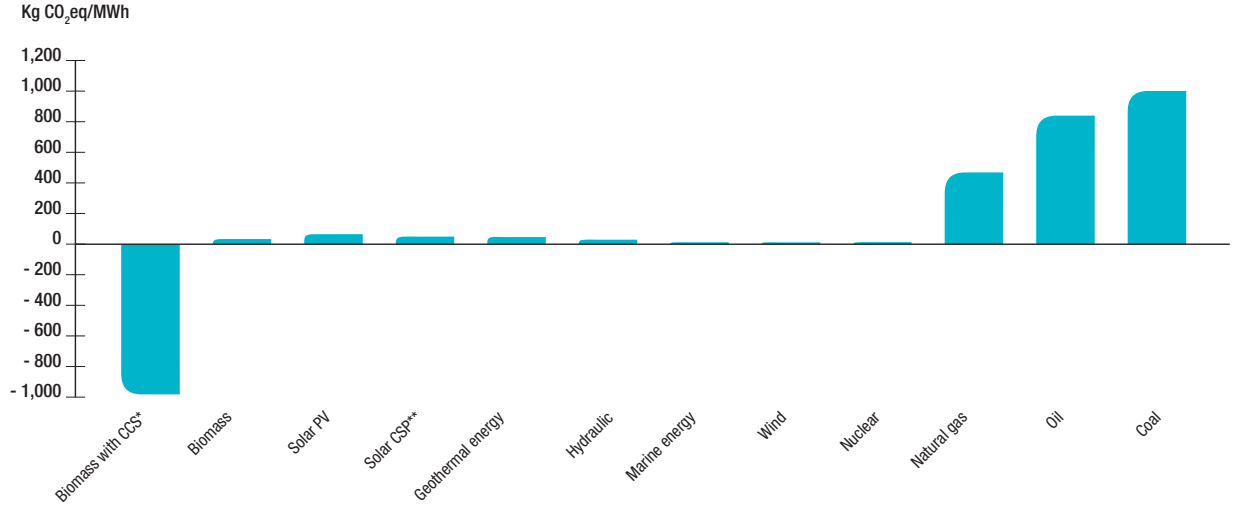
Nuclear power offers many advantages on the environmental, economic, strategic and operational levels:

- it helps combat climate change;
- it creates significant value locally and creates a large number of highly qualified jobs that cannot be delocalized;
- it is cost-competitive compared with other sources of baseload electricity;
- it provides excellent return on investment and limits electric rate hikes for the consumer in times of sharply rising oil and gas prices;
- it offers stable production costs with less uncertainty concerning electric rates;
- it ensures security of supply: nuclear fuel is easy to store and uranium resources are well distributed around the globe, unlike oil and gas reserves, which are concentrated in Russia and the Middle East;
- it is a solution for limiting trade deficits for countries that import fossil energies and for preserving the reserves of the exporting countries by limiting their domestic use;
- it offers heightened operational and safety performance, particularly with the new generation III reactors developed by AREVA: the EPR™ reactor, the KERENA reactor and the ATMEA1 reactor [1].

Nuclear power helps combat climate change

Nuclear power is already making a strong contribution to the fight against climate change. The chart below shows that GHG emissions from nuclear power are as low as those from renewable energies.

GREENHOUSE GAS EMISSIONS (GHG) BY POWER GENERATION SOURCE ACROSS THE ENTIRE OPERATING CYCLE



** CCS = Carbon Capture and Storage.*

*** CSP = Concentrated Solar Power.*

Source : Litterature review of IPCC, 2011.

(1) The ATMEA1 reactor is being developed in collaboration with Mitsubishi Heavy Industries.

In Europe, nuclear power already avoids more than 400 million metric tons per year of carbon dioxide (CO_2) emissions, an amount equivalent to the reduction required by 2012 in the European Union (EU-15) to meet the Kyoto Protocol objective of an 8% reduction in emissions compared with 1990 *(source: Foratom)*.

Faced with the climate issue, nuclear power is increasingly proving to be an essential component of the energy mix, producing baseload electricity that supports sustainable economic and social development.

Nuclear power is competitive

The correlation between nuclear generating costs and the price of uranium is very low. The contribution of raw materials to the total cost of nuclear power (at net present value) is in fact very low, and the impact of a doubling of uranium prices on the full cost of power generation in new power plants is about 5%.

Conversely, the cost of fossil energies has a very strong impact on the cost of the electricity generated in thermal power plants fueled with coal, and the situation is even worse for gas. The price of carbon is also an important component in the cost structure of gas-fired power plants, and even more so for coal-fired plants, but it has zero impact on the cost of nuclear power.

There is a consensus that the trend will rise in the medium term due to increasing demand, the shift from coal to natural gas and the depletion of conventional resources. Independently of the uncertainties concerning the long-term demand trend, prices are in fact subject to very strong short-term constraints that are impossible to anticipate: geopolitical risks, very high level of uncertainty about production costs (deep offshore, shale gas, etc.), economic environment (financial crisis followed by an economic crisis), and financial speculation in the commodity markets. In addition, transportation difficulties, in particular for gas, create a market imbalance between regions. Fluctuations in demand and supply therefore remain the key determining factors in fossil fuel price trends.

While gas prices spike in Europe and Asia, this source of energy has become very cost effective in the United States thanks to the shale gas made available by new technologies such as hydraulic fracturing and horizontal drilling. Still, there are substantial uncertainties when it comes to the volatility of gas prices (from $2/Mbtu in April 2012 to $4.20/Mbtu in April 2013 and $3.60/Mbtu in September 2013), its competitiveness in other regions, its potential reserves, and the acceptability of the potential environmental consequences of its extraction, such as ground pollution and the heavy use of fresh water resources.

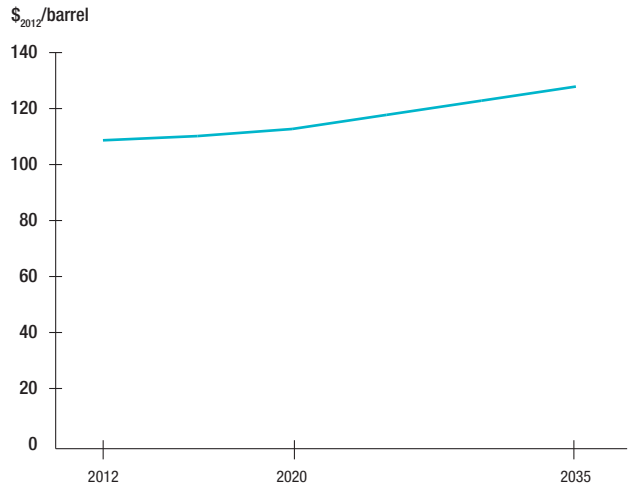
In Europe, shale gas production may appear very attractive considering the region's growing dependency on imported gas. There are, however, several obstacles to developing shale gas on a large scale: the lack of industrial and technical maturity, the difficulty of accessing the deposits in some cases, the lack of harmonization in the regulatory systems of European countries, and much higher development costs than in North America.

In Europe, carbon prices continued to drop in 2013, as EU-ETS [(1)] reforms will take several years to be put into practice. However, increasingly stringent commitments in terms of emissions reduction are expected to push carbon prices up in countries where a regulated carbon market has already been established, while in other countries, carbon restrictions appear to be unavoidable in the medium to long term. Also, the allocation of free quotas has been discontinued in the European Emissions Trading System (ETS) since 2013.

Thus, the cost of gas- or coal-based electricity is difficult to predict, considering the historical volatility of commodity prices and the uncertainty surrounding the price of carbon.

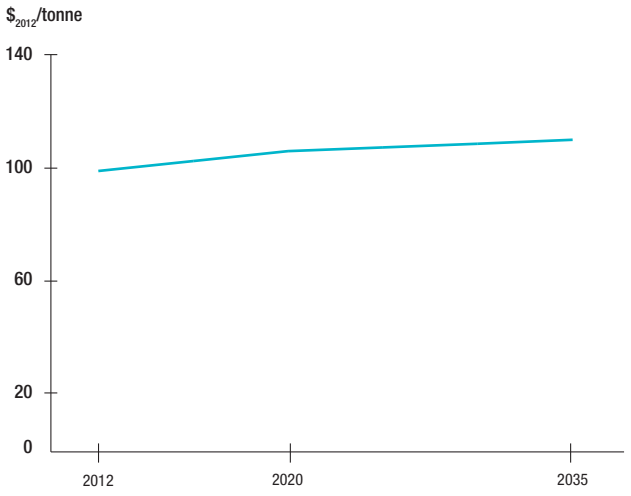
(1) European Union Emission Trading System: the European system to trade emission quotas.

OIL PRICE SCENARIO



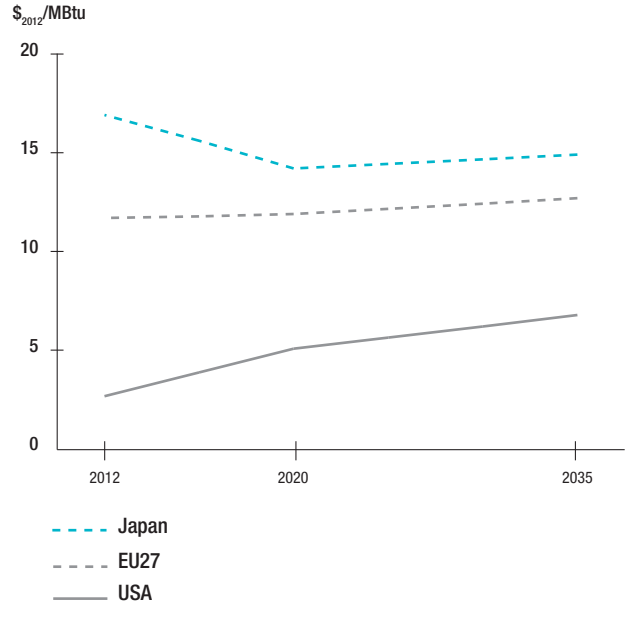
Source: WEO 2013

COAL PRICE SCENARIO



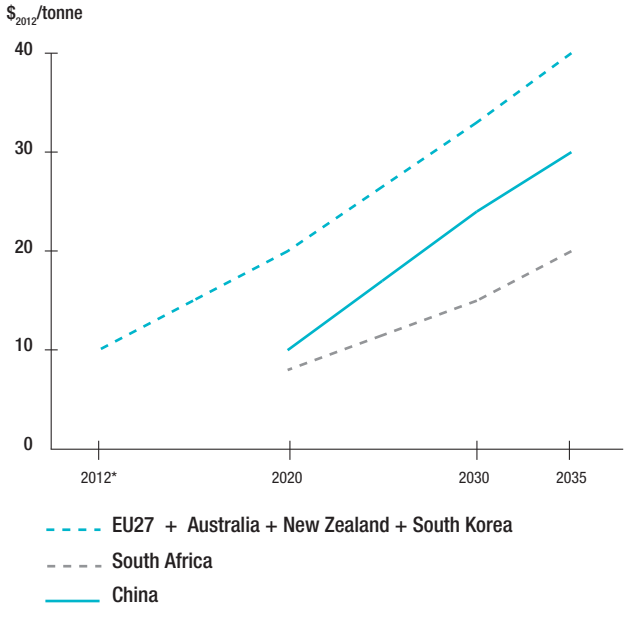
Source: WEO 2013

GAS PRICE SCENARIOS



Source: WEO 2013

CARBON PRICE SCENARIOS

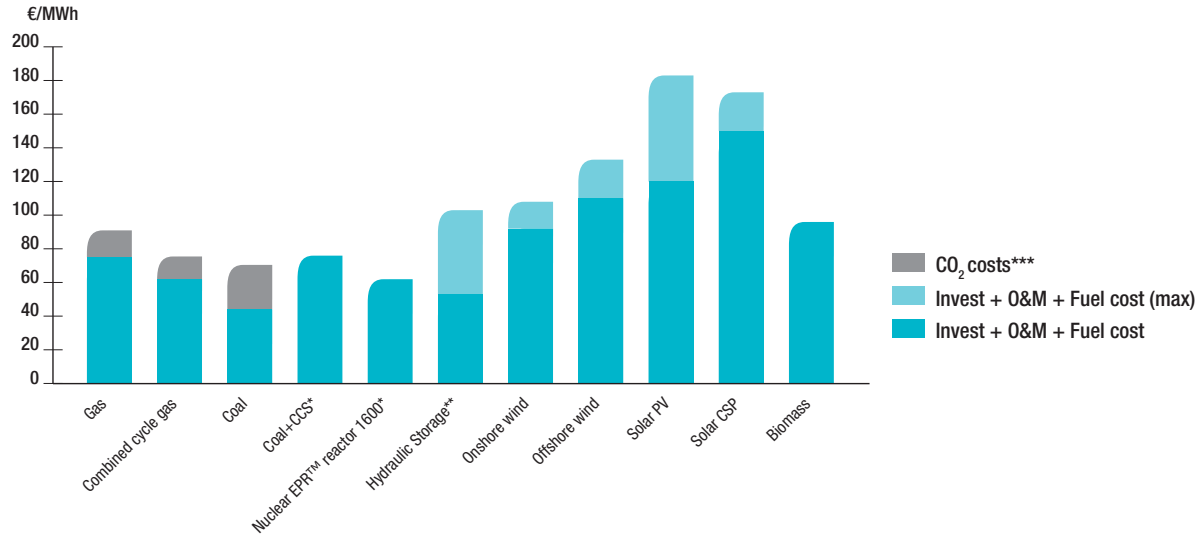


** For EU27.*

Source: WEO 2013

A long-term view of the energy sector shows that nuclear power is a very competitive source of electricity, offering stable and predictable costs. The chart below shows that nuclear power is competitive with gas and coal even if the cost of carbon is minimal (less than 15 euros per metric ton).

➔ POWER GENERATION COSTS BY TECHNOLOGY IN EUROPE



** beyond 2015.*
*** without pumping costs.*
**** with CO_2 cost at 30 EUR/t.*
Source: Levelised Costs of Electricity EURELECTRIC / VGB Powertech 2012.

Nuclear power improves national security of electricity supply

Another major advantage of nuclear power is the security of supply it provides. Unlike hydrocarbon reserves, which are concentrated in certain regions, uranium resources are well distributed around the world. For example, proven uranium resources are found in OECD countries (39%), major emerging countries such as Brazil, Russia, India, China and South Africa (26%) and in other parts of the world (35%) *(source:* Uranium 2011: Resources, Production and Demand, IAEA © OECD 2012).

Nuclear power offers enhanced safety and operating performance with the latest generations of reactors

AREVA's range of reactors offers a combination of capacities, from 1,100 MWe to 1,650 MWe, and of technologies. These reactors meet the most recent requirements in terms of:

- nuclear safety: designs that drastically reduce the possibility of a serious accident and ensure that there would be no offsite consequences (core catcher to confine the molten core, double reactor containment building, ability to withstand a large commercial aircraft crash), as demonstrated by the safety authorities' decision to certify the reactors;
- competitiveness: reduction in fuel consumption and operating costs, high availability (92%) over a 60-year period of operation, thus maximizing power generation; and
- environmental protection: reduction in the quantity of used fuel and final waste.

6.1.1.3. INCREASINGLY COMPETITIVE RENEWABLE ENERGIES

Renewable energies also contribute to energy self-sufficiency as regards fossil resources while limiting greenhouse gas emissions.

Many countries are providing support to renewable energies, whether through subsidized electric rates, production quotas, green certificates, or other means. The commitment of many countries to expand the share of renewable energies in their production mix leads one to assume that such policies will be pursued.

In some regions, renewable energies are already competitive with more conventional sources of energy, thanks to technology enhancements, economies of scale, the learning curve and the growing size of facilities. In Brazil, for instance, after a series of reverse auctions held by the government since 2011, several contracts were awarded to onshore wind projects at prices below those of gas-fired power plants *(source: Bloomberg)*. The accelerated market consolidation observed recently in many segments of this market should also contribute to an increase in their competitiveness in the short term.

Renewable energies thus offer several advantages on the environmental, economic, strategic and operational levels:

- they contribute to the fight against climate change by avoiding carbon accumulation in the atmosphere, in addition to reducing local pollution associated with certain gases (SOx, NOx) (1) and particles emitted by plants using fossil fuels;

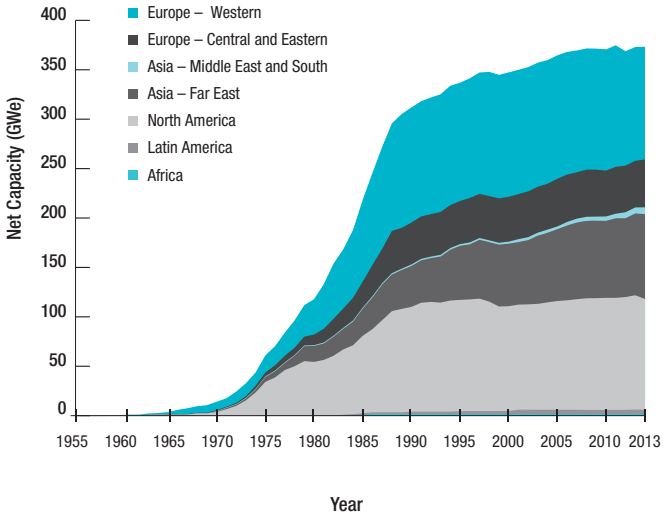
(1) SOx: sulfur oxides emitted by coal and diesel fuel combustion – NOx: nitrous oxides emitted by the combustion of all types of fossil energies.

- they bring significant value to the local communities and create many highly qualified jobs that cannot be outsourced abroad;
- they are becoming competitive with fossil fuels, especially with fuel and carbon prices rising and uncertainties about CO_2;
- they are available locally and well distributed geographically, thus offering security of supply, unlike oil and gas reserves, which are concentrated in Russia and the Middle East;
- they are a solution for limiting trade deficits for countries that import fossil energies and for preserving the reserves of the exporting countries by limiting their domestic use;
- they offer enhanced operating performances thanks to operating experience from the many facilities commissioned in the last ten years.

6.1.2. NUCLEAR ENERGY MARKETS

The first commercial nuclear power programs were launched in the mid-1960s in the United States and in the early 1970s 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 INSTALLED NUCLEAR GENERATING CAPACITY (IN GWE)



Source: IAEA PRIS Database, AREVA Estimations.

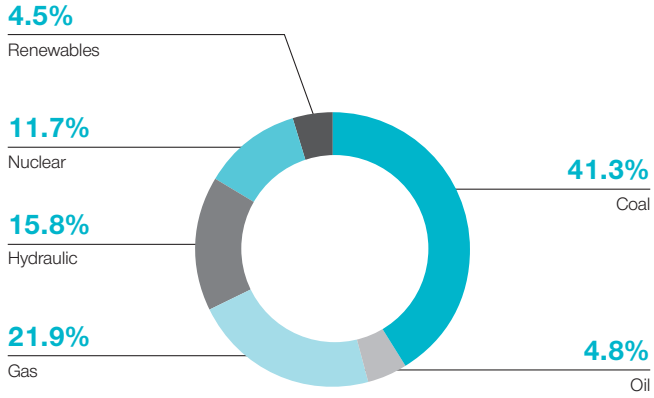
Strong initial growth slowed when the public became concerned after the accidents at Three Mile Island in 1979 and Chernobyl in 1986.

As a result, whereas 399 reactors had been built over the 1970 to 1990 period, installed capacity rose by only 17.3% over the 1990 to 2013 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. This trend continues despite delays associated with impact the assessment of the 2011 Fukushima accident For example, Russia, China, South Korea and India have reaffirmed the planned development of their nuclear power programs.

Global installed nuclear generating capacity is estimated at 373 GWe in 2013, the same level as in 2012.

The chart below shows the breakdown of electric power generation.

➔ WORLD ELECTRICITY GENERATION BY SOURCE

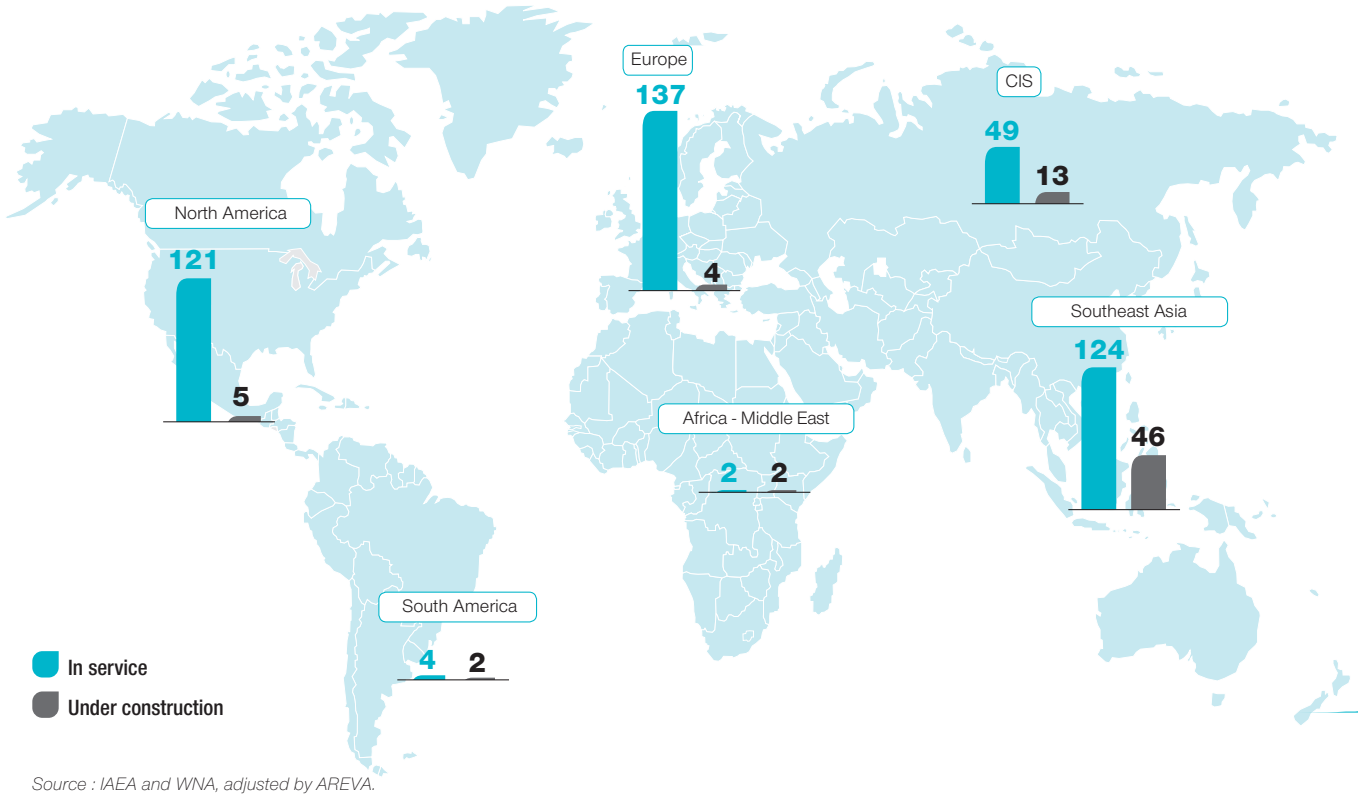


Sources: IEA, WEO 2013.

At December 31, 2013, a total of 437 reactors representing 394 GWe (373 GWe net) were connected to the grid in 30 countries in the world's largest power consuming regions.

With about 44% of the world's installed base, Europe and the Commonwealth of Independent States (CIS) are the leading regions for nuclear power generation, ahead of North America, which represents about 30% of global capacity. Through 2015-2016, most of the medium-term growth potential for nuclear power is located in Asia (China, South Korea and India) and to a lesser extent in the countries of the CIS, as indicated below.

REACTORS IN OPERATION OR UNDER CONSTRUCTION WORLDWIDE AT YEAR END 2013



Source : IAEA and WNA, adjusted by AREVA.

Nuclear development continues globally, first and foremost in China, Russia, South Korea and India. According to the IAEA and the World Nuclear Association (WNA), 72 reactors were under construction worldwide at year-end 2013, compared with 67 at year-end 2012; 170 reactors were planned or on order, compared with 165 at year-end 2012, 152 at year-end 2011 and 154 at year-end 2010; and more than 300 others are planned in the coming years.

The reactors are based on three main technologies:

- Most of the world's operating reactors are light water reactors, including Pressurized Water Reactors (PWR), which are in the majority and represent practically all of the new builds, and Boiling Water Reactors (BWR). A total of 357 of these units were connected to the grid in 2013, including 55 VVER reactors (PWR) based on Russian technology.
- There were 48 Canadian-designed heavy water Candu reactors connected to the grid at the end of 2013.
- Fifteen gas-cooled Magnox and AGR units are in operation in the United Kingdom.

Other types of reactors in service include Russian-designed light water graphite reactors (RMBK) and breeder reactors, but their number and power rating are marginal on an international level.

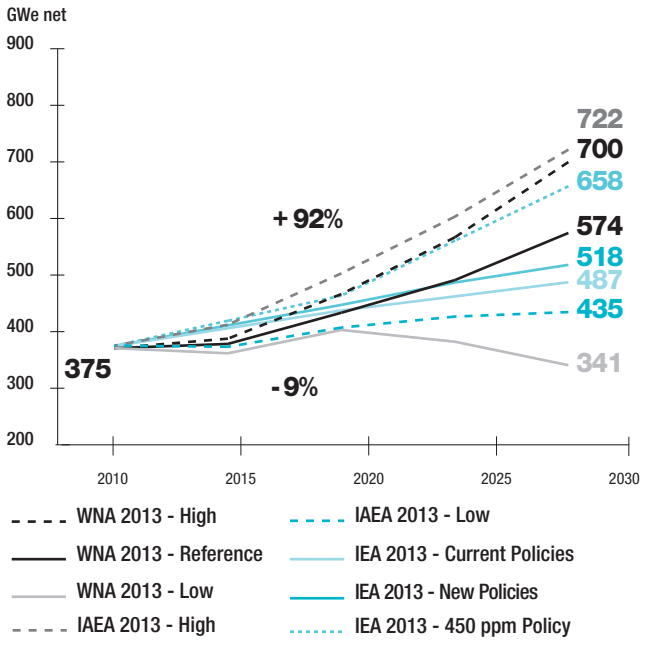
OUTLOOK FOR INSTALLED NUCLEAR GENERATING CAPACITY

Nuclear power's recognized benefits include its competitiveness and cost predictability, security of supply, and the reduction of greenhouse gas emissions. In view of these benefits, existing reactors should be modernized and optimized to further increase their safety and possibly available capacity. This should also contribute to new reactor construction to replace or expand installed generating capacity worldwide, and it will be a potential source of long-term growth for all of AREVA's nuclear fuel cycle operations.

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. At the same time, the IAEA is working to establish mechanisms to guarantee fuel supply and related services so that sensitive nuclear facilities, in proliferation terms, do not come into being. Finally, after the Fukushima accident, the IAEA adopted a multi-disciplinary Nuclear Safety Action Plan to further improve nuclear safety in global nuclear power production.

SCENARIOS FOR WORLD NUCLEAR POWER PROGRAMS (IN NET GWE)



Sources: IAEA, WNA, International Energy Agency.

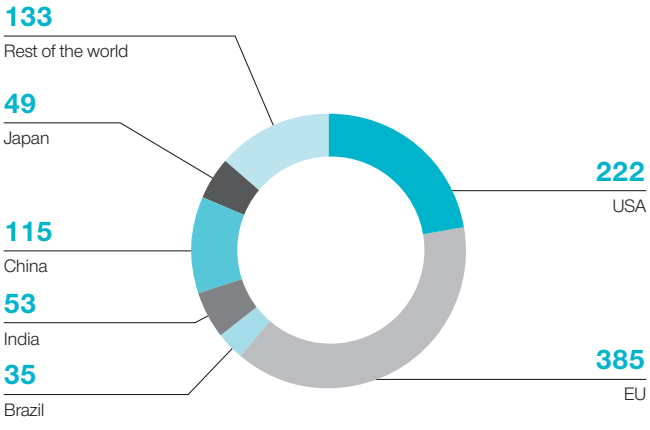
6.1.3. RENEWABLE ENERGIES MARKETS

Each year since 2008, renewable energies have represented a greater share of new generating capacity coming on line in the United States and Europe than that of fossil energies. Whereas renewable energies, excluding hydropower, accounted for less than 5% of the electric power mix in 2011, national governments have often set a target of 15% to 20% of the mix by 2020.

The Gulf region is also experiencing strong growth, particularly in the solar segment. Saudi Arabia, for instance, announced in 2012 that it would deploy a 25-GW program based on concentrated solar power by 2032 to reduce self-consumption of petroleum products.

As shown on the chart below, more than 60% of the electricity from renewable sources was produced in Europe or in the United States in 2011.

ELECTRIC POWER GENERATION FROM RENEWABLE SOURCES* BY REGION IN 2013 (TWH)



** Excluding hydropower*
Source: IEA, WEO 2013.

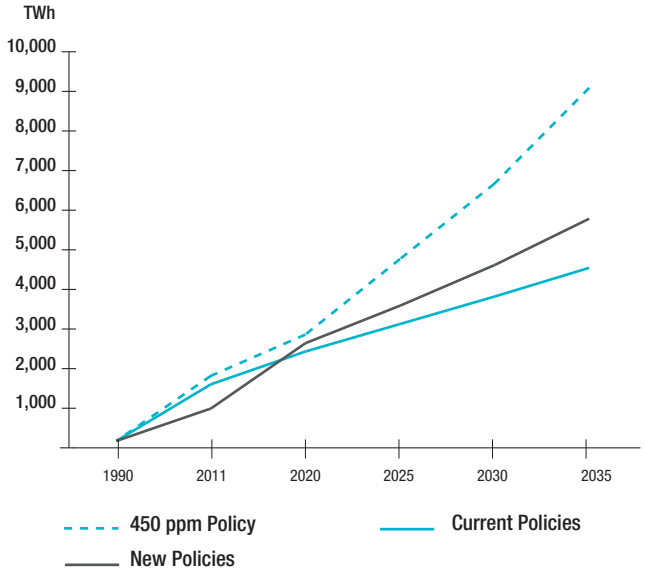
Europe is particularly dynamic when it comes to developing renewable energies. For example, the European Union has set a goal of a 20% share of the energy mix for renewable energies by 2020.

North America is also in a growth mode in this area. 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. Three markets are being established in the US to trade carbon emission permits under a voluntary system.

China, India and other emerging countries, which are setting goals for energy efficiency and reduced carbon intensity, are new potential markets for renewable energies. China has set up seven pilot exchanges to trade carbon credits. Both China and India have ambitious objectives for building renewable energy capacities in their respective five-year plans. In addition to low construction costs, these countries often have good access to renewable energy resources, such as biomass in Brazil and India.

The New Policies Scenario of the IEA's *World Energy Outlook 2013* foresees very strong worldwide growth in power generation from renewable sources, for a combined total excluding hydroelectric power of 4,463 TWh per year by 2030.

RENEWABLE POWER GENERATION* (TWH)



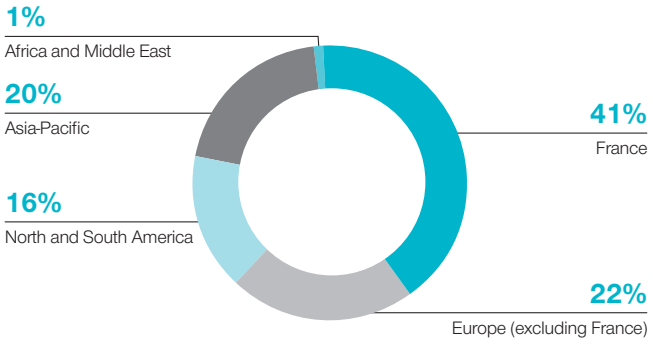
* *Excluding hydroelectric power.*

Source: IEA, WEO 2013.

6.2. AREVA's Customers and Suppliers

6.2.1. CUSTOMERS

REGIONAL DISTRIBUTION OF CUSTOMERS BY REVENUE



Source: AREVA

AREVA's customers are chiefly electric utilities, energy services companies, developers of renewable energies projects, public entities (agencies in charge of the back end of the nuclear cycle, research centers, etc.) and local public sector or economic players.

Geographically, the majority of the group's customers are located in Europe, the United States, Latin America and Asia.

The EDF group is the group's key customer, representing about 30% of its revenue. The group's ten biggest customers represented about 60% of its revenue in 2013. A discussion of backlog may be found in Section 9.

NUCLEAR

The nuclear businesses have a limited number of customers. The contracts are generally large, amounting to as much as several billion euros. In addition to the EDF group, the principal customers are utilities such as Tennessee Valley Authority (TVA) and Duke in the United States, GDF SUEZ, RWE and E.ON in Europe, and CGN, CNNC, KHNP and TEPCO in Asia. Customers are diversified geographically, with a strong historical presence in Europe and strong growth in Asia.

In the different segments of the nuclear fuel cycle, AREVA's customers enter into long-term contractual commitments. This is the case in several businesses, for example in Chemistry, Enrichment or Recycling or in the Mining Business Group, which have service agreements with most of the world's nuclear utilities. The Reactors & Services Business Group signs contracts for services and equipment replacement operations for the installed reactor base.

Because AREVA has the ability to position itself across all of the nuclear businesses in integrated manner, it is able to sign large-scale contracts and make integrated offers in the fuel cycle and in combination with reactor supply. AREVA is competing for several other large new build projects, particularly in Europe, China and India.

In addition to contracts with nuclear utilities, more than 90% of which are AREVA customers, the group has significant contracts with governmental and para-governmental entities such as the Commissariat à l'énergie atomique et aux energies alternatives in France (CEA, the French atomic energy commission), the United States Department of Energy (DOE), the Nuclear Decommissioning Authority of Great Britain (NDA), the French naval shipyards DCNS and the Direction générale de l'armement (French defense procurement agency, DGA), among others.

In line with market practices, a certain number of warranties are given to customers in areas such as performance, delivery schedules, liability for non-performance, etc. The warranties and the risks associated with these warranties are described in Sections 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2013* and 4. *Risk factors* respectively.

RENEWABLES

Customers are public or private utilities, independent energy infrastructure project developers, local or regional groups of economic developers, or industry. These customers are based in a large variety of geographic areas covering five continents.

The diversity of these different types of customers from very distinct regions give the benefit of uncorrelated market dynamics. This robustness is strengthened by the diversity of the tree complementary resources targeted by AREVA's renewables offering: coastal winds, direct solar radiation and biomass.

6.2.2. SUPPLIERS

Outsourced procurement represented a volume of approximately 3.9 billion euros in 2013, including 1.1 billion euros for non-production purchases (information technology, telecommunications, intellectual and engineering services, corporate services and energies). Production purchases are divided among the following categories:

- civil engineering and finishings;
- raw materials and semi-finished products;
- forgings, boilers, piping and welding;
- mechanical accessories, components and equipment;
- electricity, electronics and instrumentation;
- logistics, handling and storage; and
- production services.

In 2013, the AREVA group set up a Supply Chain organization to manage all the flows linked with the products and services purchased outside of the group.

It is based on the existing purchasing function and integrated the following additional activities:

- management of supplier claims;
- expediting (1) covers the life cycle of purchasing orders in project mode;
- order processing;
- inventory management; and
- upstream transportation and major industrial projects logistics.

(1) Expediting covers the life cycle of purchasing orders in project mode, from signing to final execution, in relation with all internal stakeholders (purchasing, project, design, inspection, quality, etc.). The main objective is to ensure deadlines are met.

6.3. Overview and strategy of the group

6.3.1. OVERVIEW

The AREVA group is a global leader in power generation solutions with less carbon. In 2013, it reported consolidated revenue of 9.240 billion euros. The group's backlog reached 41.521 billion euros at December 31, 2013, representing 4.5 years of revenue, providing good visibility for the AREVA group. It employs 45,340 people. AREVA's strategy is built on developing low-carbon energies by expanding its core nuclear business and its second pillar, renewable energies.

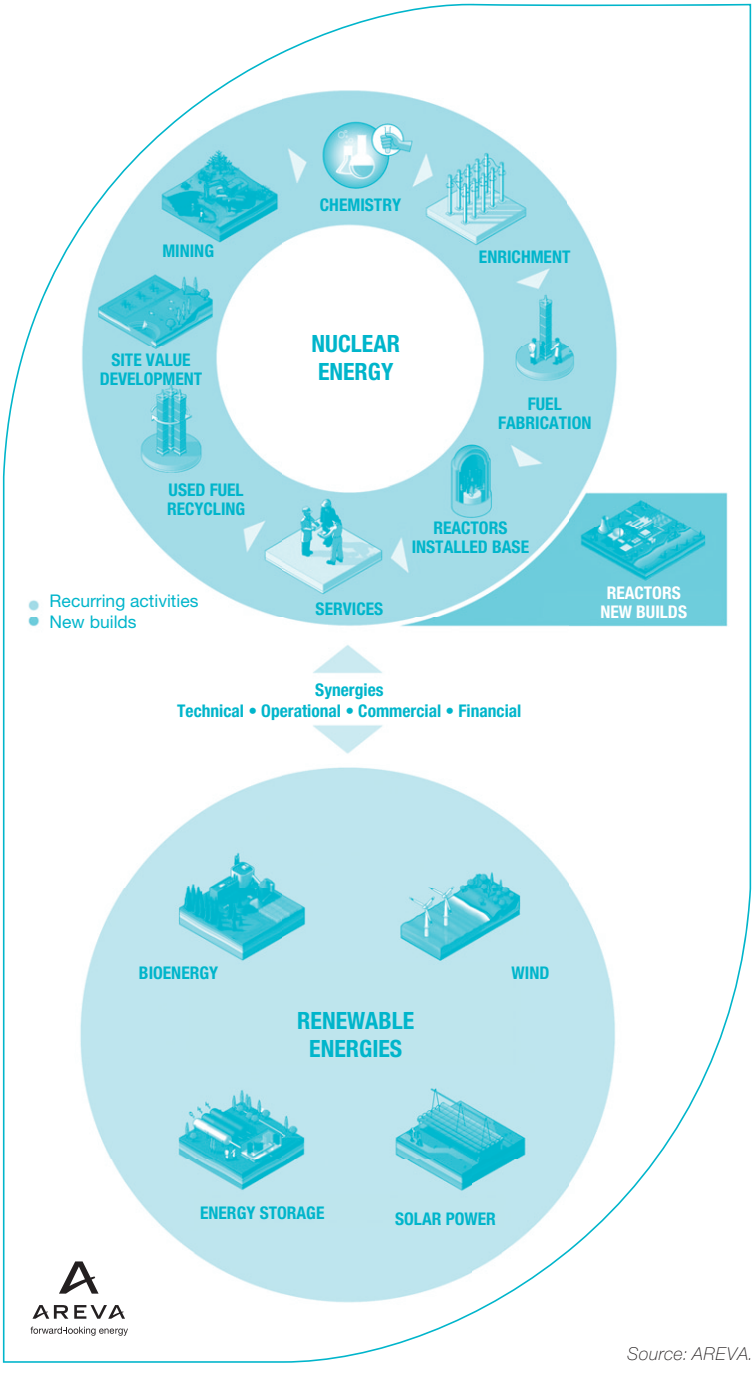
AREVA conducts its operations in the booming energy market propelled by the combined effects of demographic dynamism, particularly in emerging countries, access to energy by the majority, and long-term economic growth. Moreover, the volatility of oil and gas prices, their rising production costs and, 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 for that matter invested very large amounts of capital in recent years to meet rising demand and to replace some of the existing infrastructure.

The group's biggest advantage is that it is active in a broad spectrum of businesses in low-carbon power generation. The group is one of very few suppliers capable of meeting customer requirements at every stage of the nuclear value chain, offering global solutions that protect the environment while complying with stringent safety criteria. Its integrated model and policy of partnerships put AREVA in an ideal position to anticipate market requirements. For example, the group was one of the first to anticipate the wave of low-emission energies, both nuclear and renewable, and to develop a strategy in that field. This market vision prompted AREVA to roll out, before its competitors, a comprehensive strategy for meeting market demand.

The group is recognized for its technological expertise in every aspect of the nuclear business, backed by 50 years of research and operating experience with proprietary processes and a range of new generation reactors to meet the energy challenges of the 21st century. This gives the group a favorable market position.

AREVA has all the resources needed to take full advantage of energy market growth. With its international presence and recognized expertise in technology, the group is ready to respond to its customers' leading challenges: to generate power safely, at a competitive cost and while limiting emissions of greenhouse gases.

THE GROUP'S BUSINESSES



Source: AREVA.

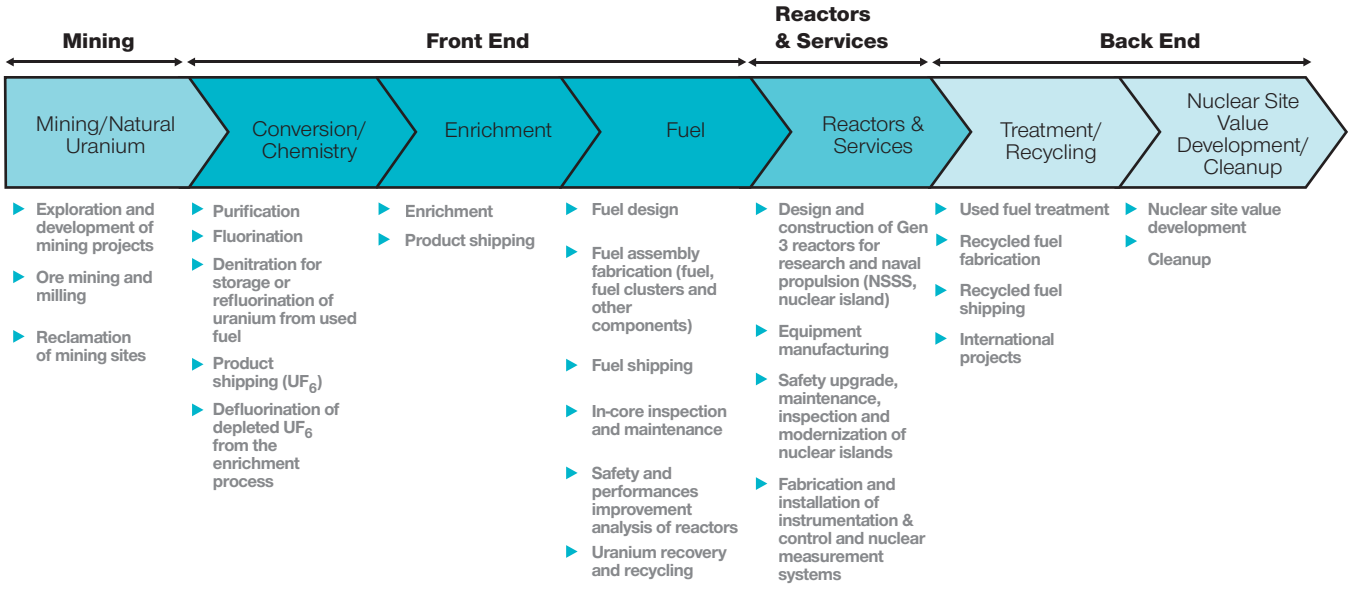
Nuclear businesses

The group is a global leader in solutions for nuclear power generation and is integrated across the entire nuclear power cycle. This integrated model is the catalyst for major synergies, not only in technologies and sales, but also in costs and portfolios. A significant share of AREVA's business is based on multiyear contracts. The recurring activities of the fuel cycle and installed base service operations are stable and offer visibility to back the less regular new builds business.

Renewable energies businesses

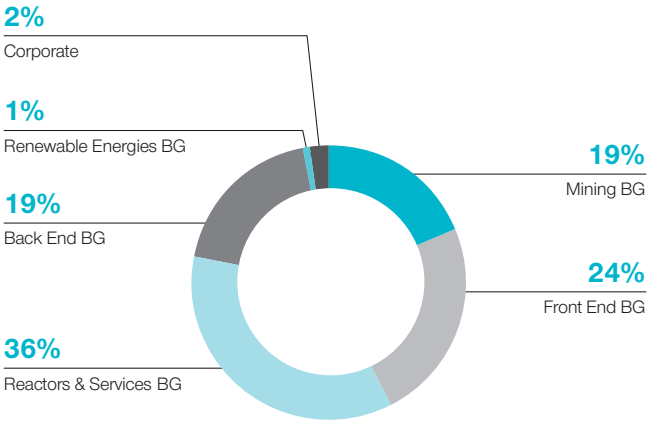
The group conducts operations in four fields – offshore wind, solar power, bioenergy and energy storage – with the objective of becoming a European leader in this segment through strategic partnerships.

The group's nuclear power operations consist of four main business segments:



Source: AREVA.

AREVA REVENUE IN 2013 BY BUSINESS GROUP



Source: AREVA.

The **Mining Business Group** represents 19% of AREVA's consolidated revenue in 2013, or 1.756 billion euros. With its presence on five continents, its operations include exploration for new deposits, mining and milling of the uranium ore, and site rehabilitation following mining operations. Today, AREVA is **a global leader in uranium production** with a diversified portfolio of mines in operation (Canada, Kazakhstan and Niger) and projects under development or in the exploration phase (Africa, Canada and Mongolia).

The **Front End Business Group** represents 24% of consolidated revenue in 2013, or 2.188 billion euros; it combines the operations of uranium conversion and enrichment as well as fuel design and fabrication for two types of nuclear light water reactors. AREVA is **a major player in the front end of the nuclear cycle**.

The **Reactors & Services Business Group** represents 36% of consolidated revenue in 2013, or 3.324 billion euros. Its operations combine nuclear reactor design and construction and the manufacture of related equipment. It also offers products and services for the operation, maintenance, modernization and performance Improvement of nuclear power plants. AREVA is one of the world's leading nuclear reactor constructors in terms of installed capacity, and a leader in heavy equipment replacement for nuclear reactors. In addition to its installed base business, AREVA is a leading player in the design and construction of next-generation reactors. The operations of the Reactors & Services Business Group also include the design and construction of nuclear reactors for research and naval propulsion, and related services.

The **Back End Business Group** represents 19% of AREVA's consolidated revenue in 2013, or 1.736 billion euros. It offers efficient management solutions for the back end of the nuclear cycle. AREVA offers solutions consisting primarily of the recycling of used power reactor fuel and nuclear site cleanup and value development. In particular, AREVA is **number one worldwide in the treatment and recycling of used fuel**. 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 solutions for used fuel management. The Business Group is also active in site and facility value development after production is discontinued.

The **Renewable Energies Business Group** represents 1% of AREVA's consolidated revenue in 2013, or 69 million euros, generated by two businesses: Bioenergy and Energy Storage. As provided in IFRS 5 and in view of exclusive negotiations with Gamesa for the creation of a joint venture in the offshore wind field as well as active initiatives begun in the second half of 2013 with potential partners to set up a strategic partnership in solar energy or to sell an interest in AREVA Solar, revenue from the Wind and Solar businesses is no longer included in consolidated revenue or in other consolidated data. Accordingly, 2012 data was restated to present pro forma information using the 2013 consolidation scope and income from these operations is presented on a separate line.

6.3.2. STRATEGY

"Enable everyone to have access to ever cleaner, safer and more economical energy": that is the goal the group has set for itself. To that end, it offers customers solutions for generating power with less carbon.

Demand for energy is destined to grow in the coming years, despite the Fukushima accident and the financial crisis. And meeting the demand will become increasingly complex because of multiple and conflicting expectations in terms of economics, strategy and environmental impacts.

The current energy model, which is based on the predominance of fossil energies, will change. The AREVA group intends to be one of the key players in this energy transition.

Nuclear safety will always be the group's first priority and AREVA's name must be synonymous with safety and trust. Today, the group serves 346 out of a total of 437 reactors connected to the grid worldwide at December 31, 2013. Our ambition is to expand this presence even further, both on the new builds market, with its third generation EPR™ and ATMEA1 reactors, and on the market for products and services to reactors in operation or reaching the end of their operating period.

Convinced that nuclear power and renewable energies will complement each other in the energy model of tomorrow, AREVA supports the development of renewable solutions with a strong technology component in order to bring them to the level of maturity required to ensure their competitiveness.

To reach its goals, AREVA launched the Action 2016 strategic action plan in December 2011, which is founded on our commitment to safety, security and transparency: It is based on decisive strategic choices:

- **marketing priority given to value creation**, which includes solutions for the installed base (integrated offers in the front end of the cycle, safety upgrades necessary in the post-Fukushima environment, upgrades and operational extension of existing reactors worldwide, and used fuel management solutions) and the construction of new reactors meeting the most demanding criteria for nuclear and occupational safety;
- **selectivity in capital spending**, which means focusing operating Capex through 2016 on ongoing nuclear safety, occupational safety and maintenance programs and projects already launched; several capital projects having been suspended due market uncertainties;
- **debt control** by improving performance, maintaining an appropriate level of liquidity and implementing an asset sales program amounting to more than 1.2 billion euros.

From now to 2015, **performance improvement** is underpinned by five pillars: nuclear and occupational safety, economic competitiveness (with the goal of reducing the annual basis of operating costs by 1 billion euros from 2011 to 2015 and improving the working capital requirement by 500 million euros over that same period), operations and customers, technology and innovation, and Human Resources.

This plan covers all of the group's operations. Strategic objectives were thus defined for each Business Group:

- **Mining Business Group:**
  - reach the best level of profitability,
  - focus capital spending on the most profitable assets,
  - maintain resources and reserves equal to 20 years of production;
- **Front End Business Group:**
  - achieve full production at the Georges Besse II and Comurhex II plants,
  - streamline the industrial organization to improve competitiveness,
  - safely terminate operations at Eurodif,
  - increase the commercial presence of the Fuel business in Asia;
- **Reactors & Services Business Group:**
  - continue to enhance the EPR™ reactor's competitiveness and pursue certification of the ATMEA1 reactor,
  - contribute to safety improvements and operating period extensions for existing reactors,
  - participate in growth in Asia, particularly in China,
  - prepare the technologies of the future (generation IV and small modular reactors);
- **Back End Business Group:**
  - ensure the use of full production capacity at La Hague and MELOX,
  - participate in the development of new recycling platforms (China, Japan and the United Kingdom),
  - capitalize on unique experience in the dismantling of fuel cycle facilities and reactors,
  - reinforce the group's position in storage, logistics services and waste management;

- **Renewable Energies Business Group:**
  - transform our initial projects into success stories,
  - become a leading player in the global offshore wind market by creating a joint venture between AREVA and Gamesa,
  - become an industry leader in concentrated solar power in Asia and the Middle East through strategic partnerships,
  - refocus our portfolio of operations,
  - pursue efforts to innovate and develop existing technologies.

6.3.3. OPERATING ORGANIZATION

The company AREVA ("AREVA" or the "company"), together with its consolidated subsidiaries and affiliates (the "group"), supplies customers with high technology solutions for generating electricity with less carbon. Ranked first in the global nuclear power industry, AREVA's integrated offering to utilities covers every stage of the fuel cycle, nuclear reactor design and construction, and services for their operation. The group is considerably expanding its operations in renewable energies – wind, bioenergy, solar and energy storage – to become a European leader in this sector. AREVA's operating organization reflects this positioning.

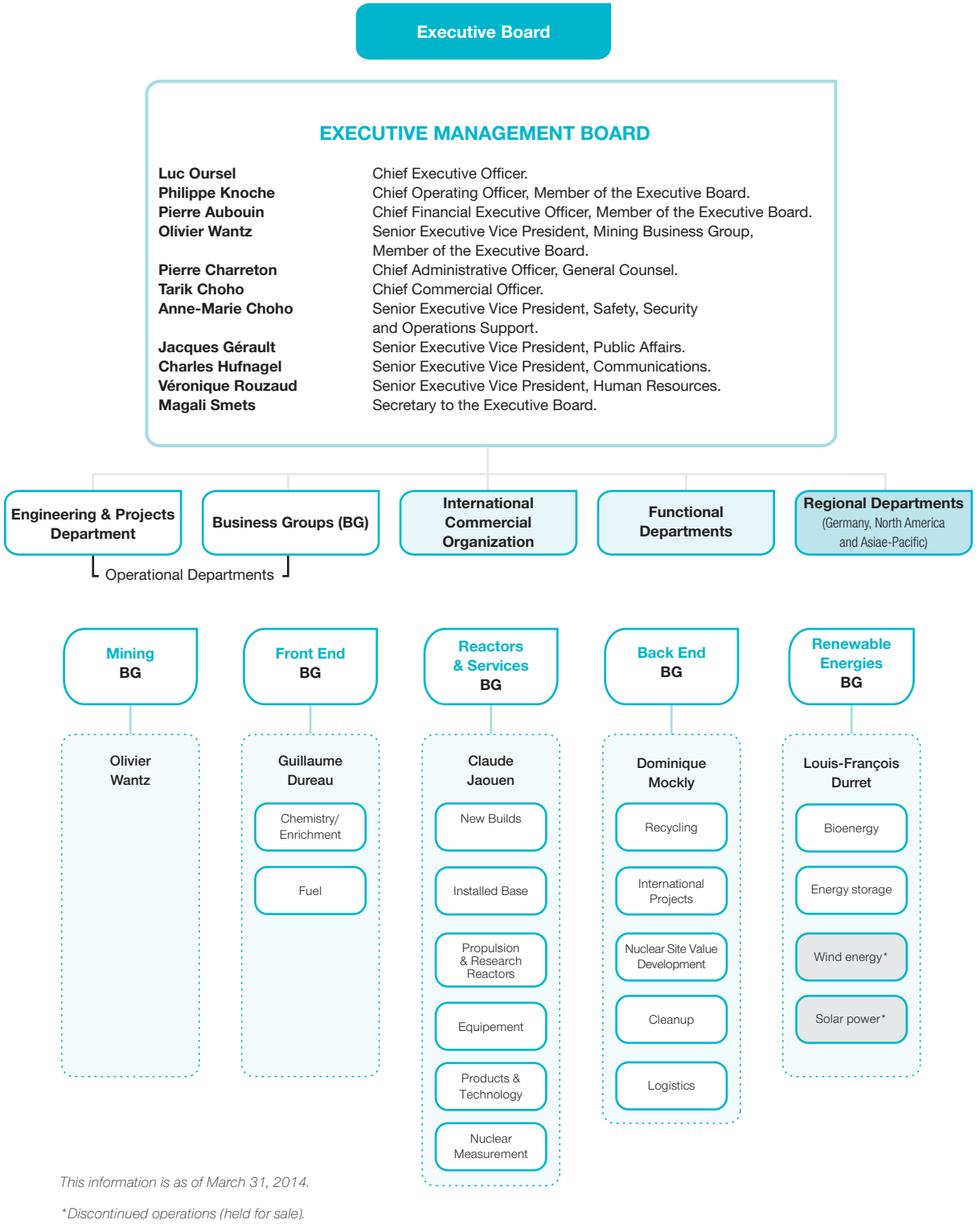
It is based on:

- five Business Groups (BG): Mining, Front End, Reactors & Services, Back End and Renewable Energies;
- an Engineering & Projects organization (E&P);
- an International Commercial Organization;
- Functional Departments; and
- Regions (Germany, North America and Asia).

The Business Group's management committees lead and oversee the operations of the group entrusted to them, which are themselves organized into Business Units (business or profit centers). The functional departments assist the management committees. The Senior Executive Vice Presidents of the Business Groups are the group's key operating leaders. They report directly to the Executive Board and to its Executive Management Board (EMB).

The Business Groups provide operational leadership for the group's operations, while the Marketing & Sales Department provides commercial leadership, in particular for the international network of sales teams.

For more information, see Appendix 1, Section 4.2.1. *Organization of the AREVA group*.



This information is as of March 31, 2014.

**Discontinued operations (held for sale).*

6.4. Operations

6.4.1. MINING BUSINESS GROUP

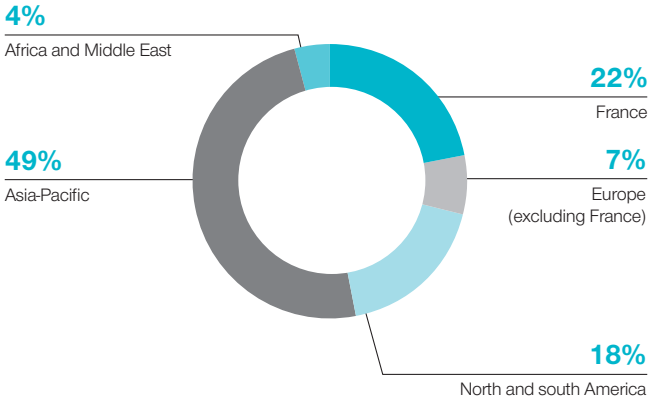
KEY FIGURES

	2013	2012
Revenue (in millions of euros)*	1,756	1,360
Operating income *(in millions of euros)*	509	134**
Workforce at year end	4,463	4,601

* *Contribution to consolidated revenue*
** *Restated for 2012 asset disposals.*

For information, 1 metric ton of natural uranium is the equivalent of about 2,599 pounds of U_3O_8.

2013 REVENUE BY GEOGRAPHICAL AREA



Source: AREVA.

BUSINESSES

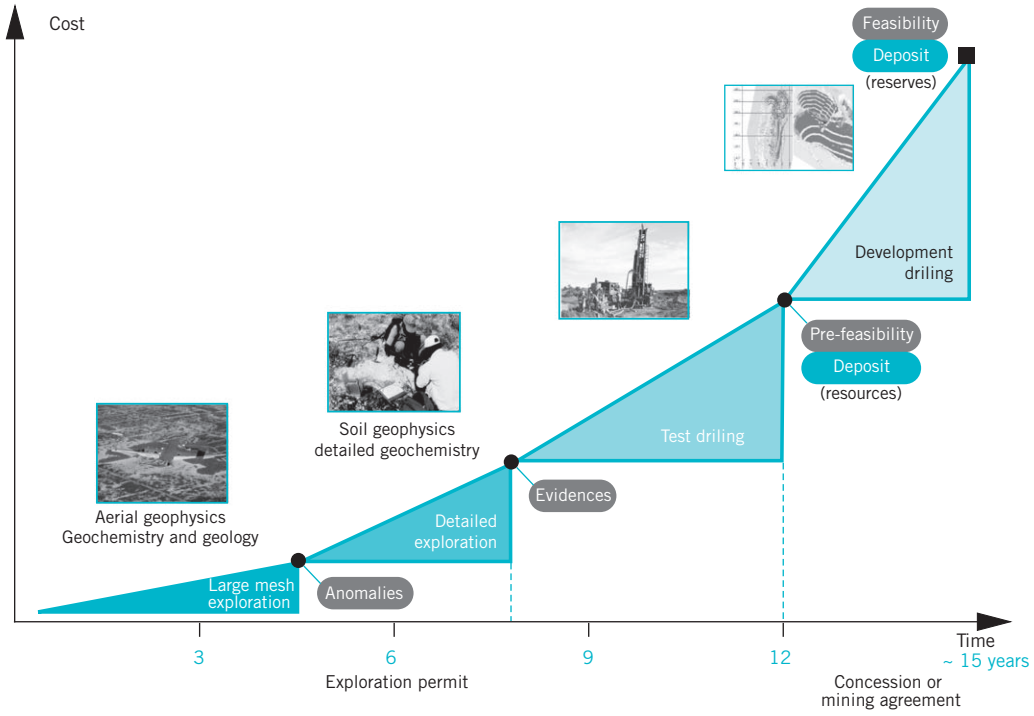
The four main activities of the Mining Business Group are:

- mineral exploration: seeking new deposits for the future;
- mining projects: mine development and construction;
- operations: extraction of uranium ore using various mining techniques and ore processing (chemical concentration of natural uranium); and
- site rehabilitation after mining: rehabilitation of mining sites in compliance with applicable environmental standards.

The group's mining operations are related to uranium, a relatively abundant metal in the earth's crust which in its natural state contains two main isotopes: more than 99% is non-fissile uranium-238 (^{238}U), while 0.7% is fissile uranium-235 (^{235}U).

Mining operations cover long cycles requiring substantial capital expenditure over several years before the mining operations themselves begin, when the first deliveries of uranium are made and the first revenue received. Then cash flow increases before once again falling off in the final years of operation, followed by site rehabilitation.

BUSINESS MODEL OF A URANIUM DEPOSIT, FROM EXPLORATION TO MINING FEASIBILITY *



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

Source: AREVA.

The first phase of exploration in areas chosen by AREVA for their promising geological history consists of detecting surface or subsurface indicators using aerial or ground geophysics (gravimetry, electromagnetism and radiometry) and surface geological surveys. 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 economic feasibility of mining projects has been demonstrated, mining facilities are built and uranium ore is mined in an open pit, an underground mine, or by *in situ* recovery (see *Glossary*), depending on the characteristics of the deposit.

Whether for open pit or underground mines, the extracted ore is milled and leached, usually with adequate solutions. Leaching may be static (heap leaching) or dynamic. In the processing plant, the uranium is extracted from the solutions using solvent extraction techniques or by fixation on ion exchange resins. This purified uranium is then precipitated and dried to produce a uranium concentrate called "yellowcake". This product is packaged and shipped to the conversion plant of the customer's choice.

The *in situ* recovery technique is used when the containment and permeability properties of the deposit allow the uranium to be dissolved directly in the ground. In that case, oxidizing solutions are pumped into the ore bed between injection wells and producing wells. The resulting solution is pumped to the surface and processed in the same manner as for open pit or underground mines.

Mining rehabilitation is an important activity that calls for specific mining and civil engineering techniques and involves many areas of expertise. The purpose of this activity is to minimize the residual impacts of the mining sites, with a view to sustainable development.

Controlling and limiting the impacts of mining operations are a constant priority throughout the development and production cycle.

OPERATIONS AND HIGHLIGHTS

Key events in 2013 in the Mining Business Group were as follows:

- On October 29, 2013, AREVA had the joy of announcing that AREVA employee Daniel Larribe and Vinci employees Thierry Dol, Marc Féret and Pierre Legrand had been freed after being held hostage since September 2010. The four former hostages, all of them French, had been abducted in Arlit, Niger, on September 16, 2010.
- The Business Group reported very good operating and financial performance in 2013, with growth in revenue and operating income, despite an uncertain market environment.
- On May 23, 2013, the Somaïr mining site in Niger was the target of a terrorist attack in which 1 person died and 14 others were wounded. Production was interrupted due to the damage inflicted and could restart in August 2013.

- In October 2013, AREVA and Mon-Atom signed the shareholders' of agreement AREVA Mines LLC (66% AREVA Mongol, 34% Mon-Atom), which will develop the Dulaan Uul and Zoovch Ovoo deposits. In addition, Mitsubishi Corporation acquired a 34% interest in AREVA Mongol, with AREVA holding the remaining 66%.
- In November 2013, after having received all of the necessary administrative approvals and completed preliminary technical testing, AREVA Med's Maurice Tubiana Laboratory began producing lead-212 for medical applications, specifically cancer treatment.

In 2013, AREVA produced 9,330 metric tons of uranium (in financially consolidated share of production).

- Somaïr produced 2,730 metric tons of uranium in 2013 (on a 100% basis). The terrorist attack against Somaïr caused a production loss of only about 270 metric tons of uranium, thanks to the hard work of all employees.
- Cominak produced 1,508 metric tons of uranium (on a 100% basis).
- Katco produced 3,558 metric tons in 2013. In addition, 447 metric tons were waiting for calcination at the end of December 2013, bringing the total from the plant to 4,005 metric tons.
- In Canada, AREVA's share of production from McArthur River/Key Lake amounted to 2,338 metric tons of uranium.
- Pilot phase operations at Trekkopje were completed in 2013 after having produced 186 metric tons of uranium in the first months of the year.

→ 2013 PRODUCTION IN METRIC TONS OF URANIUM (MTU)

Country	Site	Share in JV in 2013 *MTU*	Available share * 2013 *MTU*	Financially consolidated share 2013 ** *MTU*	Type ***
Canada	McArthur River	2,338	2,338	2,338	UG
Total	**Canada**	**2,338**	**2,338**	**2,338**	
France	Hérault Mining Division	5	5	5	n.d.
Total	**France**	**5**	**5**	**5**	
Kazakhstan	Katco	1,815	3,558	3,558	ISR
Total	**Kazakhstan**	**1,815**	**3,558**	**3,558**	
Niger	Cominak	513	350	513	UG
Niger	Somaïr	1,731	2,129	2,730	OP
Total	**Niger**	**2,243**	**2,479**	**3,242**	
Namibia	Trekkopje (pilot)	186	186	186	OP
Total	**Namibia**	**186**	**186**	**186**	
TOTAL		**6,588**	**8,567**	**9,330**	

* *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.*

** *Share of production consolidated in AREVA's financial statements.*

*** *Type of operation: ISR: In Situ Recovery; OP: Open Pit; UG: Underground; n.d.: not defined.*

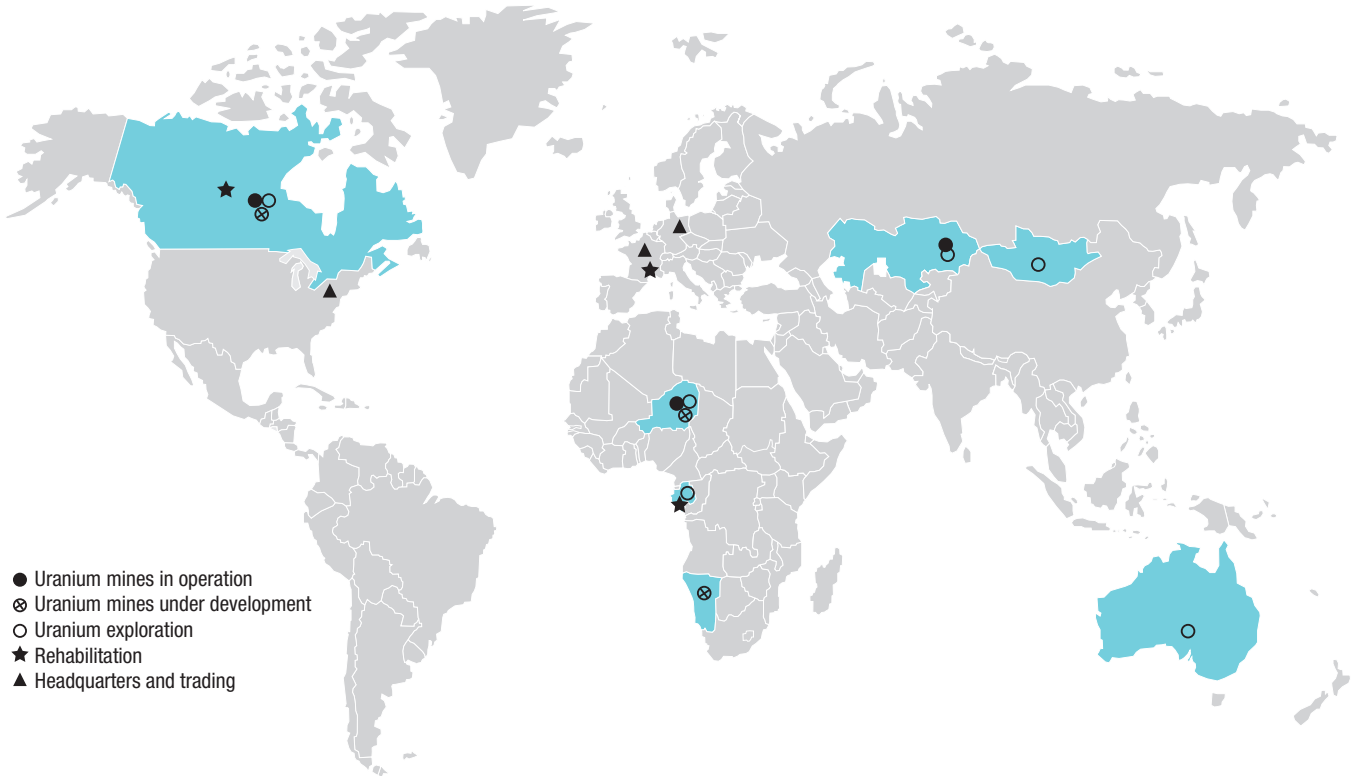
Source: AREVA.

FOOTPRINT AND HUMAN RESOURCES

AREVA's diversified portfolio of mining assets and resources constitutes an important factor in the security of supply for the utilities, which want long-term guarantees of uranium deliveries.

The Mining business has staff on five continents. The uranium production sites are located in three countries: Canada, Niger and Kazakhstan.

LEADING SITES OF THE MINING BUSINESS



Source: AREVA.

Canada

In Canada, AREVA's production comes from McArthur River, operated by Cameco Corporation. Mining began at a second deposit operated by Cameco Corporation, Cigar Lake, in March 2014 (see below). These sites are located approximately 700 kilometers north of Saskatoon in Saskatchewan Province.

AREVA is conducting a major exploration program in this uranium-rich province and in the Nunavut territory, where it also holds majority interests in several deposits: McClean Lake (70% interest), Shea Creek (51% interest), Midwest (69.16% interest) and Kiggavik (64.8% interest), for the latter of which a final Environmental Impact Statement (EIS) should be submitted in 2014. Additional studies are required to determine the development schedules for these deposits, which will depend on uranium price levels. As of today, prices are not high enough to justify developing these projects, although the deposits are generally well positioned on the merit curve of projects identified worldwide.

McArthur River

McArthur River is operated by Cameco Corporation, which holds a 69.8% interest (AREVA's stake is 30.2%). McArthur River is the largest uranium deposit in the world. The deposit was discovered in 1988 and mining began in December 1999.

Located more than 600 meters below the surface near fractured, water-saturated rock, and in view of the very high-grade uranium it contains, the deposit cannot be mined with conventional methods. The miners are protected from direct contact with the ore by the use of special mechanical mining methods (raise boring), and the ground is frozen to prevent water infiltration. The mined ore is processed at the Key Lake mill located about 80 kilometers south of the deposit. The mill is operated by Cameco Corporation, which holds an 83.3% interest (AREVA holds 16.7%). McArthur and Key Lake have a licensed capacity of 7,200 metric tons of uranium per year (18.7 million pounds of U_3O_8).

Cigar Lake

Cigar Lake is owned 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%). The deposit is operated by Cameco. Cigar Lake is the world's second largest uranium deposit, after McArthur River.

AREVA discovered the deposit in 1981 and helped develop the mining method. Given its very high-grade ore and its location 450 meters

below the surface in fractured, water-saturated rock, the deposit cannot be mined with conventional methods. Freezing techniques are used to strengthen the ground and prevent water infiltration. The selected mining method involves removing the ore by high-pressure jet boring. 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.

Cigar Lake should produce 6,900 metric tons of uranium per year at full capacity (18 million pounds of U_3O_8).

The first ore was shipped from Cigar Lake to the Jeb mill (see below) in March 2014.

McClean Lake

AREVA operates McClean 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%.

The first uranium production at the McClean Lake open pit mine began in 1995, and uranium concentrate production at McClean Lake's Jeb mill began in 1999. Mining operations were stopped in early 2009 and the mill was mothballed in 2010. The mill is capable of processing very high-grade undiluted ore (>15%) and has a capacity of around 4,600 metric tons of uranium per year (12 million pounds of U_3O_8). This capacity is being increased to be able to receive all of the ore from Cigar Lake. Following an agreement signed in 2011 with the partners of Cigar Lake and McClean, the Jeb mill will process all of the ore from the Cigar Lake mine once it has started up, scheduled for the second quarter of 2014.

Niger

Exploration teams from the CEA discovered uranium in Niger at the end of the 1950s. The uraniferous area is located west of the Aïr granitic body.

Close to 2,500 people work at Somaïr and Cominak. In addition to providing jobs, the operating companies offer health, social and educational services to the local communities in this isolated area.

Cominak and Somaïr have delivered uranium to their customers without interruption since operations began in the 1970s.

AREVA launched the Imouraren project (see below), which is one of the world's largest deposits, with 174,196 metric tons of uranium in reserves with a grade of 700 ppm.

Somaïr

Somaïr (the mining company of the Aïr) was established in 1968. The company is operated by AREVA, which owns 63.4% of the share capital; the remaining 36.6% is held by Société du patrimoine des mines du Niger (Sopamin, the Nigerien government's mining company).

Somaïr has mined several uranium deposits near the town of Arlit since 1971. The ore is extracted from open pit mines and is treated either through heap leaching or dynamic leaching at the front-end of the Arlit mill. In both cases, the uranium solutions are processed at the back-end of the mill, whose capacity was raised to 3,000 metric tons per year in 2011 (7.8 million pounds of U_3O_8).

On May 28, 2013, the Somaïr facilities were the target of a terrorist attack in which 1 person died and 14 others were wounded. Production was able to resume in August thanks to the commitment of Somaïr's entire workforce, limiting the production loss to 270 metric tons of uranium.

Cominak

Cominak (*Compagnie Minière d'Akouta*) is 34% owned by AREVA, which is operator. The other shareholders are Sopamin (Niger, 31%), Ourd (Japan, 25%), and Enusa Industrias Avanzadas SA of Spain (Enusa, 10%). The ore is extracted underground and is then processed in the site's mill, producing approximately 1,500 metric tons of uranium per year (3.9 million pounds of U_3O_8).

Status of the renewal of mining agreements with Somaïr and Cominak

AREVA and the State of Niger are currently in discussions regarding the renewal of the mining agreements with the Nigerien companies Somaïr and Cominak, which expired on December 31, 2013. The State of Niger published a decree on December 27, 2013 allowing both companies to continue to operate, (see Section 4.7.1. *Political and economic conditions*).

Imouraren project

The Imouraren deposit, located 80 kilometers south of Arlit, was discovered in 1966. Its development was deferred as market conditions were not favourable. The feasibility study was completed in December 2007 and submitted in April 2008. AREVA received the mining permit for the deposit in early January 2009. The Imouraren SA mining company was established, with AREVA NC Expansion (86.5% AREVA, 13.5% Kepco/KHNP) holding a 66.65% interest and Sopamin (Niger) holding the remaining 33.35%. Mine construction work continues at the site.

Kazakhstan

Katco, a company headquartered in Almaty, was established in 1996 to develop and mine the Muyunkum and Tortkuduk deposits in southern Kazakhstan, approximately 250 kilometers north of Shymkent.

The shareholders are AREVA (51%) and the Kazakh company Kazatomprom (49%), the national natural uranium producer of Kazakhstan.

The development of the two mining sites, located approximately 40 kilometers apart, started in April 2004 after the signature of agreements between the two shareholders. The *in situ* recovery (ISR) technology was chosen to solubilize the uranium directly in the rock.

In 2008, Katco received the authorization to increase production to 4,000 metric tons of uranium per year. This objective was reached in 2013, taking into account a work-in-progress volume of 447 metric tons of uranium.

Namibia – Trekkopje project

The Trekkopje deposit is located in Namibia. AREVA has owned 100% of the property since its acquisition in 2007. Pilot operations conducted from 2012 to 2013 produced 437 metric tons of uranium, demonstrating the feasibility of the technical solutions adopted and confirming the production cost targets. Nonetheless, due to unfavorable uranium market conditions, the AREVA group decided to put the project on care and maintenance in October 2012.

Mongolia

AREVA has successfully carried out mineral exploration operations in the Dorngobi Province for more than 15 years, with the discovery of inferred resources in 2011 and 2013 at two sites: Dulaan Uul in the Sainshand Basin, and Zoovch Ovoo.

All future project management and mining activities will be carried out by AREVA Mines LLC. Mon-Atom, a government-owned company supervised by the Commission for State Assets, acquired a 34% interest in that company, as allowed under the Mongolian nuclear energy law.

The company applied for an operating license for Dulaan Uul in August 2011 following the successful in situ recovery test. AREVA is currently evaluating the mining project with its partners. In the Zoovch Ovoo area, AREVA is conducting the necessary surveys to confirm the project's technical, economic and environmental feasibility and to define the most suitable mining process, to be followed by the installation of a pilot operating system.

Australia

Exploration work launched in early 2012 as part of a partnership agreement with Mitsubishi Corporation continues.

Gabon

In Gabon, exploration work resumed a few years ago at AREVA's former mining sites continues.

➔ AREVA'S EQUITY INTERESTS IN URANIUM PROJECTS

				AREVA share		
Country	**Site**	**Type***	**Operator**	**Share in JV** *(%)*	**Available to AREVA**** *(%)*	**Financial consolidation***** *(%)*
Australia	Koongarra	n.d.	AREVA	100.00%	100.00%	100.00%
Canada	Cigar Lake	UG	Cameco	37.10%	37.10%	37.10%
Canada	Dawn Lake	n.d.	Cameco	23.09%	23.09%	23.09%
Canada	Key Lake	OP	Cameco	16.67%	16.67%	16.67%
Canada	Kiggavik-Sissons Schultz	OP	AREVA	64.80%	64.80%	64.80%
Canada	McArthur River	UG	Cameco	30.20%	30.20%	30.20%
Canada	McClean	OP	AREVA	70.00%	70.00%	70.00%
Canada	Midwest	OP	AREVA	69.16%	69.16%	69.16%
France	AREVA Mines	n.d.	AREVA	100.00%	100.00%	100.00%
Kazakhstan	Katco	ISR	AREVA	51.00%	100.00%	100.00%
Mongolia	Zoovch Ovoo	ISR	AREVA	66.00%	66.00%	66.00%
Mongolia	Dulaan Uul	n.d.	AREVA	100.00%	100.00%	100.00%
Namibia	Trekkopje Project	OP	AREVA	100.00%	100.00%	100.00%
Niger	Arlit Concession	n.d.	AREVA	100.00%	100.00%	100.00%
Niger	Cominak	UG	AREVA	34.00%	34.00%	34.00%
Niger	Imouraren	OP	AREVA	57.66%	57.66%	100.00%
Niger	Somaïr	OP	AREVA	63.40%	63.40%	100.00%
CAR	Bakouma	OP	AREVA	100.00%	88.00%	100.00%

* *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.*

*** *Share of production consolidated in AREVA's financial statements in 2013.*

Source: AREVA.

AREVA MED

Radio-immunotherapy

AREVA Med is a subsidiary of AREVA that specializes in the development of innovative therapies based on lead-212 (^{212}Pb), a rare isotope used in radio-immunotherapy (RIT) to fight cancer. Extracted from thorium, AREVA Med's lead-212 comes from the AREVA group's former mining operations.

RIT consists of bonding a radioactive isotope such as lead-212 to a monoclonal antibody, which targets cancer cells very precisely by using their own antigens. It destroys the cancer cells while considerably limiting toxicity for healthy cells.

Activities

In 2013, AREVA Med successfully completed certification tests of its lead-212 (^{212}Pb) production laboratory in Bessines-sur-Gartempe in the Limousin region of France. Laboratory operations officially began on November 21, 2013.

AREVA Med also continued its clinical trial program in progress in the United States at the University of Alabama at Birmingham. These will be the first clinical trials using lead-212. Ten new patients were treated in 2013, and the clinical results for the first patients were presented during the annual meeting of the Society of Nuclear Medicine and Molecular Imaging (SNMMI) in the United States.

The partnership agreement signed in 2012 between AREVA Med and the Roche pharmaceutical group was implemented, with the two companies building and completing the AREVA Med Roche Common Laboratory (ARCoLab), a research laboratory dedicated to the joint development of innovative therapies backed by know-how from both industrial groups.

Macrocyclics, a global leader in the production of chelating agents for nuclear medicine and a wholly owned AREVA Med subsidiary since 2011, continued its development by signing several contracts with Roche.

The partnership with the French national institute for health and medical research Inserm was extended and focuses on the development of new therapies to fight ovarian cancer.

For AREVA Med, the ramp-up of production at the Maurice Tubiana Laboratory will sustain current and future pre-clinical and clinical programs. Clinical development programs will continue, with the upcoming phases defined after a review of patient results. Roche and AREVA Med will continue to develop innovative, customized therapies in the joint ARCoLab. AREVA Med will complete phase 1 in 2014 and, with its subsidiary Macrocyclics, will continue its efforts to develop innovative, targeted therapies to fight the disease.

In early 2014, AREVA announced that it had decided to site its second future lead-212 production unit in the town of Caen la Mer, France.

MARKET AND COMPETITIVE POSITION

Market

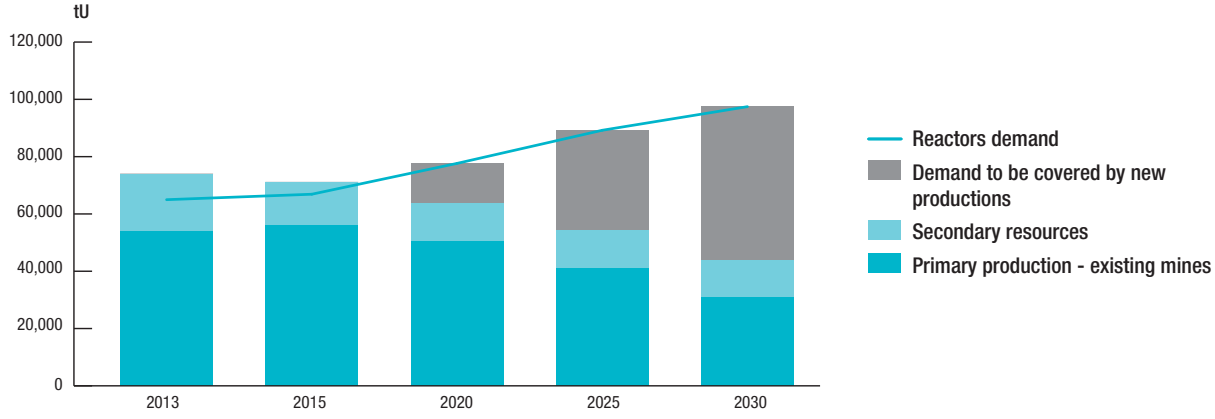
Reactor requirements were about 65,000 metric tons of uranium in 2013 *(source: WNA 2013)*. It has declined since the events at Fukushima due to the shutdown of Japanese and German reactors and the closure of some US reactors, despite the confirmation of numerous nuclear power programs (e.g. United Kingdom, China, Korea, Russia, United Arab Emirates).

Supply consists of:

- secondary resources such as the highly enriched uranium from dismantled Russian (HEU) and US weapons, materials recovered from the recycling of used fuel, US Department of Energy uranium inventory-out, tails re-enrichment and uranium from underfeeding (whose volumes increased in 2013);
- mining production, which stabilized at around 59,000 metric tons of uranium.

The "Megatons to Megawatts" agreement signed by the United States and Russia on February 18, 1993 was the first non-proliferation agreement based on commercial purpose. Over a 20-year period through 2013, Russia converted 500 metric tons of HEU into low-enriched uranium for civilian use. AREVA marketed an average of about 2,600 metric tons of natural uranium in the form of uranium hexafluoride (UF_6) per year under this agreement. Because this program has ended, secondary resources are expected to play a lesser role in the market starting in 2014.

→ WORLD DEMAND AND SUPPLY



Source: AREVA.

Estimated world production in 2013

➜ TOP TEN URANIUM PRODUCING COUNTRIES

Rank	Producer	Production (MTU)	%*
1	Kazakhstan	22,500	38%
2	Canada	9,300	16%
3	Australia	6,300	11%
4	Niger	4,400	7%
5	Namibia	4,300	7%
6	Russia	3,100	5%
7	Uzbekistan	2,500	4%
8	United States	1,800	3%
9	China	1,500	3%
10	Malawi	1,100	2%
	TOTAL TOP 10	**56,600**	**96%**
	Other	2,400	4%
	Worldwide production	59,000	100%

Source: Annual reports from the differents companies (rounded to the nearest 100 metric tons) and AREVA estimates.

* *Rounded to the nearest 1%.*

➜ TOP TEN URANIUM PRODUCERS

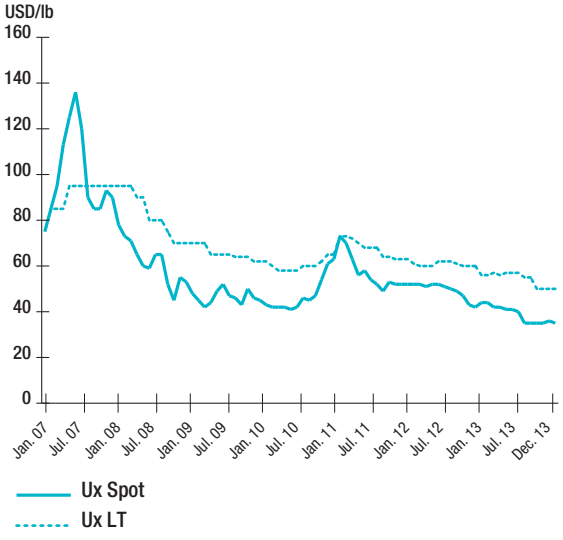
Rank	Producer	Available share of production (MTU)*	%*
1	Kazatomprom	11,000	19%
2	Cameco	9,100	15%
3	AREVA	8,567	15%
4	U1/ARMZ	8,200	14%
5	Rio Tinto	4,600	8%
6	BHP Billiton	3,400	6%
7	Paladin	3,200	5%
8	Navoi	2,500	4%
9	CNNC	1,600	3%
10	CGNPC	600	1%
	TOTAL TOP 10	**52,800**	**89%**
	Other	6,200	11%
	Worldwide production	59,000	100%

Source: Annual reports from the different companies and AREVA estimates.

* *Rounded to the nearest 1%.*

In 2013, AREVA produced 8,567 metric tons of uranium (in share of production available to the group).

➜ URANIUM PRICE INDICATORS 2007-2013 (IN CURRENT US DOLLARS)



Source: UxC.

The spot market, which covers about 15% of uranium supplies, weakened in the summer of 2013. The price went from $44 per pound at the end of 2012 to $35 per pound at the end of 2013. This is because reactor demand is lower than uranium supply from mine production and secondary resources. This imbalance is currently being absorbed by opportunistic purchases and inventory increases. The surplus of available materials on the market did not help for concluding long-term contracts in 2013, with the result that the long-term indicator stood at $50 per pound at the end of 2013, compared to $56 per pound at the end of 2012.

With the decline of market indicators, producers announced numerous project postponements in 2012 and 2013, and producing mines have been closed or put on care and maintenance since early 2014 (e.g. Kayelekera in Malawi and Honeymoon in Australia). This restructuring is expected to continue in the coming months.

Longer term, the market is still expected to grow, with demand 19% higher in 2020 than in 2013 according to the World Nuclear Association (WNA), in particular with the restart of the Japanese reactors and growing demand from the Chinese reactor fleet. Due to rising demand, project postponements and reduced production at existing mines, it will be essential to start new projects, which will necessarily demand an increase in price.

RESOURCES, RESERVES AND PRODUCTION SITES

Uranium

Mineral reserves in deposits available to the group totaled 187,716 metric tons of uranium (MTU).

The volume of the most recognized resources that may reasonably be expected to be upgraded to reserves in the medium term (measured and indicated resources) is 107,102 metric tons. The volume of inferred resources available to AREVA is 173,960 metric tons.

Estimating methods

AREVA's resources and reserves are estimated based on data gathered by the group's teams or taken from audited reports. An internal department is in charge of these estimates.

A Resources and Reserves Committee reporting to the Executive Management Board was established in 2012. The committee's mission is to validate the schedule for updating resources and reserves, to confirm the resources and reserves published by AREVA each year, and to ensure that the means, organization, and internal and external estimating methods enable a comprehensive and objective estimate of resources and reserves consistent with international practices.

In Canada, the group's reserves are the subject of independent estimates or audit reports by the shareholders of the companies operating the mines.

DEFINITION OF RESOURCES

Mineral resources: Concentrations whose form, quantity and grade or quality are such that they present reasonable prospects for economic recovery. The location, quantity, grade, geological characteristics and continuity of the mineral resources are known, estimated, or interpreted based on specific geological evidence and data. Mineral resources are subdivided into resources that are measured, indicated and inferred.

Measured Resources: Share of mineral resources for which the characteristics [(1)] are known such that they can be estimated with a high level of confidence to enable appropriate application of technical and economic parameters to support production planning and assessment of the economic viability of the deposit. The estimate is based on detailed, reliable information with sufficient detail to confirm both the continuity of the geology and the grades.

Indicated Resources: Share of mineral resources for which the characteristics [(1)] are known such that they can be estimated with a sufficient level of confidence to enable appropriate application of technical and economic parameters to support mining operation planning and assessment of the economic viability of the deposit. The estimate is based on detailed, reliable information with sufficient detail to issue a reasonable assumption on the continuity of the geology and the grades.

Inferred Resources: Share of mineral resources for which the quantity, concentration and grade can be estimated based on geological evidence and limited sampling, and which can be reasonably relied upon for assumptions of geological continuity and grades, without however verifying them.

DEFINITION OF RESERVES

Mineral reserves: Economically and technically recoverable share of measured or indicated resources, as demonstrated by at least one preliminary feasibility study or mining project. The study includes adequate information about mining and processing operations, metallurgy, the economic aspects and other relevant factors to demonstrate that mining is profitable at the that time the report was written. Mineral reserves include dilution factors and the allowance for mining losses incurred during mining operations.

Proven Mineral Reserves: Economically and technically recoverable share of measured mineral resources.

Probable Mineral Reserves: Economically and technically recoverable share of indicated mineral resources and, in some cases, of measured mineral resources.

SIGNIFICANT CHANGES IN RELATION TO 2012

Based on AREVA's equity interest (joint venture share), uranium reserves decreased by 6,139 metric tons, and uranium in measured and indicated resources was down by 4,837 metric tons. Inferred uranium resources declined by 7,498 metric tons. Aside from the depletion of production, the following were the main changes:

- Somaïr reclassified 2,066 metric tons of uranium at the Taossa deposit from measured and indicated resources to inferred resources (new estimate).
- In Gabon, around 5,420 metric tons of uranium was newly discovered at the Bagombe deposit.
- Mitsubishi acquired an equity interest in AREVA Mongol, inducing a decrease of 17,000 metric tons of uranium of inferred resources at the Zoovch Ovoo deposit.

Following the drilling campaign carried out from late 2012 to early 2013, Imouraren estimates confirmed the level of resources and reserves. However, due to uncertainties concerning the match between the geostatistical model and geological observations, proven reserves were transferred to probable reserves.

AREVA no longer publishes the "Other Resources" category since 2012. As a reminder, historical estimates of resources for the Midwest deposit in Canada (AREVA's share of the joint venture) and the Dulaan Uul deposit in Mongolia (AREVA's share of the joint venture), which were done before the adoption of international standards, totaled about 20,000 metric tons of uranium. These deposits have good potential but are not priorities and would require additional work to establish a resource estimate that conforms to international standards.

(1) Tonnage, grade, density, form and physical characteristics.

MINERAL RESERVES IN THE GROUND IN METRIC TONS OF URANIUM (MTU) (YEAR-END 2013 ESTIMATES)

		Proven			Probable			Total reserves				
Country	**Site**	**Ore** *KT*	**Grade** *‰U*	**Metal** *MTU*	**Ore** *KT*	**Grade** *‰U*	**Metal** *MTU*	**Ore** *KT*	**Grade** *‰U*	**Metal** *MTU*	**Yield** *%*	**Metal (after application of yields)** *MTU*
Canada	Cigar Lake	234	189.17	44,191	303	129.08	39,175	537	155.22	83,367	98.50%	82,116
Canada	Key Lake	67	4.26	287	-	-	-	67	4.26	287	98.70%	283
Canada	McArthur River	465	181.62	84,488	572	94.66	54,176	1,038	133.65	138,664	98.70%	136,862
Canada	McClean	94	3.39	319	1	25.12	18	95	3.56	337	96.00%	324
Canada	**Total**	**860**	**150.27**	**129,286**	**877**	**106.52**	**93,370**	**1,737**	**128.19**	**22,655**		**219,585**
Kazakhstan	Katco	-	-	-	12,526	0.76	9,466	12,526	0.76	9,466	80.37%	7,608
Kazakhstan	**Total**	**-**	**-**	**-**	**12,526**	**0.76**	**9,466**	**12,526**	**0.76**	**9,466**		**7,608**
Niger	Cominak	935	3.21	3,000	3,071	3.61	11,090	4,006	3.52	14,090	93.10%	13,118
Niger	Imouraren	-	-	-	306,048	0.70	213,722	306,048	0.70	213,722	81.51%	174,196
Niger	Somaïr	31	1.27	40	2,006	2.59	5,192	2,037	2.57	5,232	94.80%	4,960
Niger	**Total**	**966**	**3.15**	**3,040**	**311,124**	**0.74**	**230,004**	**312,090**	**0.75**	**233,044**		**192,274**
	TOTAL	**1,827**	**72.45**	**132,326**	**324,527**	**1.03**	**332,840**	**326,353**	**1.43**	**465,166**		**419,466**

Source: AREVA estimates.

		AREVA share	
Country	**Site**	**Share in JV** *MTU*	**Available to AREVA*** *MTU*
Canada	Cigar Lake	30,465	30,465
Canada	Key Lake	47	47
Canada	McArthur River	41,325	41,325
Canada	McClean	227	227
Canada	**Total**	**72,064**	**72,064**
Kazakhstan	Katco	3,880	7,608
Kazakhstan	**Total**	**3,880**	**7,608**
Niger	Cominak	4,460	4,460
Niger	Imouraren	100,439	100,439
Niger	Somaïr	3,145	3,145
Niger	**Total**	**108,044**	**108,044**
	TOTAL	**183,988**	**187,716**

* *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: AREVA estimates.

MINERAL RESOURCES IN THE GROUND IN METRIC TONS OF URANIUM (MTU) (YEAR-END 2013 ESTIMATES)

		Measured			Indicated			Measured + indicated		
Country	**Site**	**Ore** *KT*	**Grade** *‰U*	**Metal** *MTU*	**Ore** *KT*	**Grade** *‰U*	**Metal** *MTU*	**Ore** *KT*	**Grade** *‰U*	**Metal** *MTU*
Canada	Cigar Lake	19	14.27	270	25	23.02	585	44	19.28	854
Canada	Dawn Lake	-	-	-	184	37.46	6,885	184	37.46	6,885
Canada	Kiggavik	-	-	-	10,418	4.70	48,953	10,418	4.70	48,953
Canada	McArthur River	111	35.01	3,893	17	79.49	1,327	128	40.82	5,220
Canada	McClean	82	30.23	2,479	242	14.13	3,424	324	18.21	5,903
Canada	Midwest	-	-	-	463	4.81	2,227	463	4.81	2,227
Canada	**Total**	**212**	**31.31**	**6,642**	**11,349**	**5.59**	**63,401**	**11,561**	**6.06**	**70,043**
Kazakhstan	Katco	-	-	-	8,823	0.67	5,914	8,823	0.67	5,914
Kazakhstan	**Total**	**-**	**-**	**-**	**8,823**	**0.67**	**5,914**	**8,823**	**0.67**	**5,914**
Mongolia	Zoovch Ovoo	-	-	-	-	-	-	-	-	-
Mongolia	**Total**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Namibia	Trekkopje Project	-	-	-	-	-	-	-	-	-
Namibia	**Total**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Niger	Arlit Concession	-	-	-	-	-	-	-	-	-
Niger	**Cominak**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Niger	Imouraren	-	-	-	108,668	0.58	62,584	108,668	0.58	62,584
Niger	Somaïr	1,270	0.93	1,184	27,998	1.32	37,027	29,268	1.30	38,211
Niger	Total	1,270	0.93	1,184	136,666	0.73	99,611	137,936	0.73	100,795
CAR	Bakouma	-	-	-	-	-	-	-	-	-
CAR	**Total**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Gabon	Bagombe	-	-	-	-	-	-	-	-	-
Gabon	**Total**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	TOTAL	**1,482**	**5.28**	**7,826**	**156,838**	**1.08**	**168,927**	**158,321**	**1.12**	**176,752**

* *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.*

** *Average grade after dilution of the ore to be leached.*

Source: AREVA estimates.

AREVA share		Inferred			AREVA share	
JV share Measured + indicated *MTU*	Available to AREVA Measured + indicated* *MTU*	Ore *KT*	Grade *‰U*	Metal *MTU*	Inferred share in JV *MTU*	Available to AREVA Inferred * *MTU*
317	317	374	101.85	38,042	14,114	14,114
1,590	1,590	46	8.44	385	89	89
31,722	31,722	731	2.82	2,059	1,334	1,334
1,576	1,576	351	62.60	21,953	6,629	6,629
4,132	4,132	38	10.07	382	267	267
1,540	1,540	9	180.65	1,662	1,149	1,149
40,877	**40,877**	**1,548**	**41.66**	**64,482**	**23,582**	**23,582**
3,016	5,914	22,672	0.79	17,835	9,096	17,835
3,016	**5,914**	**22,672**	**0.79**	**17,835**	**9,096**	**17,835**
-	-	525,000	0.10**	50,000	33,000	33,000
-	**-**	**525,000**	**0.10**	**50,000**	**33,000**	**33,000**
-	-	250,000	0.10	26,000	26,000	26,000
-	**-**	**250,000**	**0.10**	**26,000**	**26,000**	**26,000**
-	-	12,845	1.59	20,403	20,403	20,403
-	**-**	**735**	**3.05**	**2,239**	**761**	**761**
36,085	36,085	4,394	0.66	2,879	1,660	1,660
24,226	24,226	12,468	1.67	20,822	13,201	13,201
60,311	60,311	30,442	1.52	46,343	36,025	36,025
-	-	17,974	2.03	36,475	36,475	32,098
-	**-**	**17,974**	**2.03**	**36,475**	**36,475**	**32,098**
-	-	2,000	2.71	5,420	5,420	5,420
-	**-**	**2,000**	**2.71**	**5,420**	**5,420**	**5,420**
104,204	**107,102**	**849,636**	**0.29**	**246,555**	**169,598**	**173,960**

Mining site rehabilitation

Since the start of the group's mining operations, a total of several hundred million euros have been spent on facility dismantling and rehabilitation of mining sites in France, Gabon, the United States and Canada. The purpose of rehabilitation is to ensure that residual environmental impacts are as low as reasonably achievable.

Site surveillance continues after rehabilitation, in particular monitoring of air quality, surface water and groundwater quality, bio-indicators and the food chain. The duration of monitoring, provided under post-closure management plans for the mining sites, is a function of the improvement and stability of chemical and radiological parameters. These plans are discussed with national administrations and local stakeholders. This period is specific to each site's characteristics as well as to local stakeholder expectations. Experience to date indicates that this period is generally not less than 10 years. For sites located in emerging countries and/or countries where there are strong expectations of local economic support, AREVA also leads societal initiatives designed to generate income and create jobs for communities affected by mine closures.

RELATIONS WITH CUSTOMERS AND SUPPLIERS

The group sold 17,623 metric tons of uranium in 2013 versus 11,395 metric tons in 2012. This exceptionaly high level is attributable to uranium sales connected with the HEU agreement (for which final deliveries took place in 2013) and to the drawdown of the natural uranium inventory, as per the Action 2016 plan.

The Mining Business Group had an order uptake of 366 million euros, bringing the backlog to 9.602 billion euros at the end of 2013. The backlog is diversified among customers in different uranium-consuming regions.

Suppliers

Except for the special supply contract for uranium obtained by diluting highly enriched uranium (HEU) from the dismantling of Russian nuclear weapons, for which the last deliveries were made in 2013, the Mining Business Group offers its customers uranium from the mineral resources of the companies in which it is involved or is bought on the market.

Development outlook and challenges

In a post-Fukushima environment, and despite a slower pace of growth in demand, AREVA intends to remain a key supplier of natural uranium. Its objective is to continue to optimize competitiveness at existing sites, to bring mines currently under construction into production, and to develop its portfolio of projects by conducting the necessary studies but not launching significant capital expenditure unless sales prices recover sustainably.

In this way, AREVA intends to strengthen its position in the uranium market while remaining one of the most competitive producers.

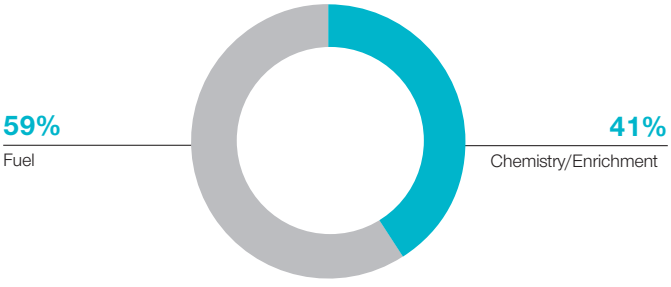
6.4.2. FRONT END BUSINESS GROUP

KEY FIGURES

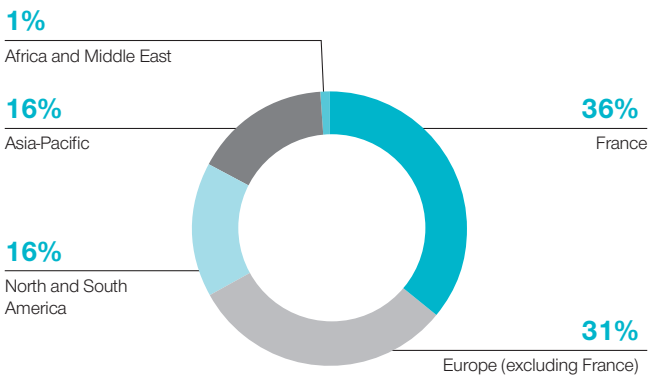
	2013	2012
Revenue *(in millions of euros)* *	2,188	2,049
Operating income *(in millions of euros)*	21	145
Workforce at year end	8,555	8,727

* *Contribution to consolidated revenue.*

2013 REVENUE BY BUSINESS AND GEOGRAPHICAL AREA



Source: AREVA.



Source: AREVA.

OVERVIEW

The Front End Business Group combines all of the operations required to convert uranium concentrates into nuclear fuel assemblies designed to generate electricity. In 2013, it represented 24% of the AREVA group's revenue and had a backlog equivalent to eight years of revenue.

AREVA operates in every segment of the nuclear fuel cycle and is a leading player in the front end of the supply chain.

The Business Group operates in the three major stages of fuel fabrication:

- chemical conversion of the ore (U_3O_8) into uranium hexafluoride (UF_6);
- enrichment of the natural uranium hexafluoride in uranium-235; and
- design and fabrication of nuclear fuel.

The Business Group's business model is characterized by significant capital expenditure in industrial facilities using very advanced technologies, made possible by customer commitments through multiyear contracts.

The Business Group's customers are primarily operators of nuclear power plants. During all of these operations, the customers retain ownership of the nuclear materials; they buy commercial uranium transformation services (conversion, enrichment and fuel fabrication) from AREVA.

HIGHLIGHTS OF THE PERIOD

Optimization and streamlining of operations for a more effective Front End Business Group

The Front End Business Group's organization is being optimized in its three business segments.

The Chemistry and Enrichment Business Units were combined into a single organization charged with coordinating industrial and financial operations. This new operational organization, effective January 1, 2013, increases flexibility and responsiveness and offers new services to the customers.

In addition to optimizing governance, the Business Group is streamlining operations both at the Tricastin site, where most uranium conversion and enrichment facilities are located, and in the organization providing support services to industrial activities. The optimization project aims to transform the site into an integrated platform for the Chemistry and Enrichment businesses.

The Fuel Business Unit has been implementing an industrial optimization plan for several years to strengthen its competitiveness and ensure its presence in growth markets.

Buoyant sales

The order intake for the year was more than 1 billion euros, bolstering the strong operating visibility through multiyear contracts, for a total backlog of 16.8 billion euros at the end of 2013.

Nuclear and occupational safety performance

Nuclear and occupational safety performance in the Front End Business Group was variable from one site to another in 2013.

Excellent results were achieved at fuel fabrication sites such as Lingen (more than 4 years without a lost time injury), Karlstein and Duisburg (more than 1,000 days) and Paimboeuf (more than 500 days).

STRATEGY AND OUTLOOK

Global reactor demand for UF6 is estimated at 62,000 metric tons per year, requiring more than 49 million separative work units (SWU - see Glossary) to enrich the uranium. In the fuel segment, the Business Group mainly serves the market for Western-designed light water reactors, of which there are about 300 worldwide. These reactors require approximately 6,000 metric tons of fuel each year.

The Business Group's strategic objective is to secure the supply of fuel and related materials for its existing and future customers. To this end, the group continues to expand and replace its industrial facilities while developing its fuel offer.

Optimizing existing production capabilities and building new capacity

The conversion and enrichment markets are structured around a small number of international players, mainly in North America, Europe and Russia.

To prepare for rising global demand, AREVA decided in 2007 to replace its conversion production capabilities with the Comurhex II project.

With respect to the Enrichment business, the group's gaseous diffusion enrichment plant was shut down permanently in 2012 and was replaced by the new Georges Besse II plant, which produced its first SWU in 2011. Lacking a partner to fund the project and given the current state of the macroeconomic conditions and market outlook for enrichment, AREVA suspended the design work pertaining to the Eagle Rock Enrichment Plant in the United States, but reserves the possibility of resuming this project if the macroeconomic conditions and market outlook were to evolve in a significant manner.

Strengthening the fuel offering

Most of AREVA's main competitors in the front end of the cycle are active in only one part of the cycle. For several years, these competitors have taken steps to migrate to an integrated model. Given the market outlook and the need for renewal of production resources for the very long term, AREVA intends to provide its customers with the added value of its unique position in every stage of the fuel cycle and to develop innovative offers that harvest internal synergies.

6.4.2.1. CHEMISTRY-ENRICHMENT

Key figures

	2013	2012
Revenue *(in millions of euros)* *	894	876
Workforce at year end	4,315	4,427

* *Contribution to consolidated revenue*

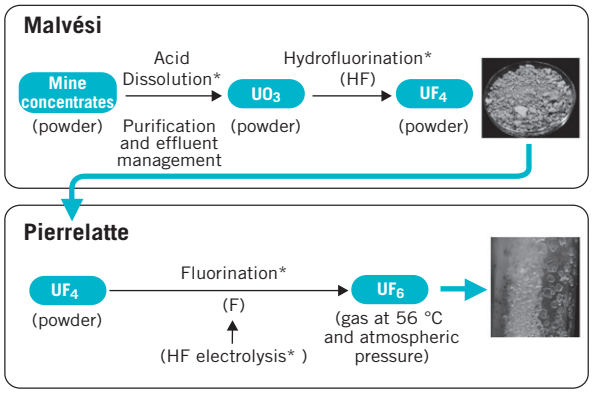
Businesses

Conversion of natural uranium (U_3O_8) into uranium hexafluoride (UF_6)

The Chemistry business' primary activity 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. They are converted in a two-stage process.

- In the first stage, the uranium is converted into uranium tetrafluoride (UF_4). This involves dissolving the mine concentrates in acid, then purifying, precipitating and calcining them to produce UO_3 powder. This powder is then hydrofluorinated with hydrofluoric acid, which converts it into UF_4. These operations are carried out in AREVA's plant at the Malvési site in the Aude department of southern France.
- In the second stage, the UF_4 is converted through fluorination into uranium hexafluoride (UF_6), a chemical compound that exists in gaseous form at relatively low temperature. The fluorine used in this process is produced through electrolysis of anhydrous hydrofluoric acid. These operations are carried out in AREVA's plant at the Tricastin site in the Drôme and Vaucluse departments of southern France.



* *Purely chemical operations (no change to the uranium's isotopic composition).*

Source: AREVA.

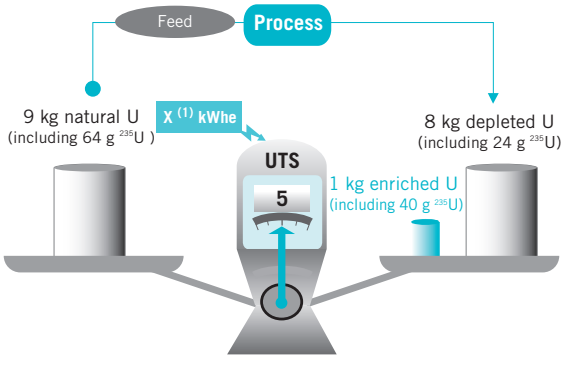
Enrichment of natural uranium in uranium-235

Enrichment operations consist of increasing the uranium-235 assay of natural uranium from its initial 0.7% to the assay specified by the customer, within a range of 3 to 5%, depending on the type and operating mode of the reactor. Molecules of gaseous uranium hexafluoride (UF_6) undergo isotopic separation to achieve the desired enrichment assay. AREVA supplies the enrichment service to the customer, with the latter retaining ownership of its material.

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 uranium-235 isotope. The SWU is a standard international unit of measurement for enrichment services and sales, and is independent of the separation technology used.

As shown in the figure below, it takes 9 kilograms of UF_6 and 5 SWUs to produce 1 kilogram of enriched uranium (at an enrichment level of 4%) and 8 kilograms of depleted uranium (at 0.3%).

➔ ENRICHMENT PROCESS



(1) Varies depending on the process.

Source: AREVA.

INDUSTRIAL TRANSITION TO A NEW, MORE EFFICIENT ENRICHMENT TECHNOLOGY THAT USES LESS ENERGY

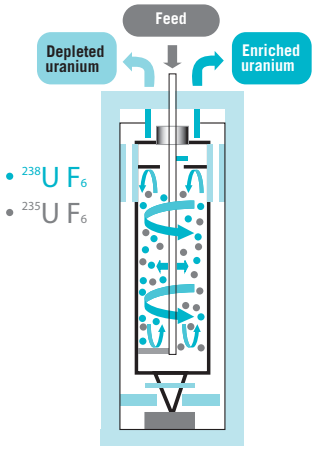
Today, the enrichment business is undergoing a major industrial and nuclear transformation by investing in a new plant called Georges Besse II. Based on the centrifuge enrichment technology, this plant combines stringent nuclear safety standards with environmental protection and the need to constantly increase competitiveness.

In using this new technology, the Georges Besse II plant consumes 50 times less electricity than that consumed by the gaseous diffusion process. Another advantage is its modular construction, enabling rapid ramp-up of production and adjustment of production capacity to market demand.

In parallel, preparations for the end of Eurodif's operations and its dismantling continue with the PRISME project (facility rinsing operations). Following the public enquiry held in 2012, a modified governmental order was published on May 25, 2013, allowing PRISME activities to proceed. These activities should continue until the end of 2015 with the objective of reducing the residual radioactivity in the facilities and preparing them for dismantling. AREVA is also preparing the dismantling permit application.

The enrichment industry is very capital-intensive. It also has a strong political dimension. Historically, major nuclear nations have sought to avoid any risk in terms of proliferation and to secure production resources contributing to their energy self-sufficiency. This dimension is vital to an understanding of decisions made in this field.

➔ CENTRIFUGATION CONCEPT



Source: AREVA.

The gaseous diffusion process takes advantage of the difference in the atomic weight of ^{235}U and ^{238}U to separate those two isotopes in the UF_6.

The centrifugal force concentrates the heaviest particles at the cylinder walls, creating isotopic separation. 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.

Conversion of depleted uranium hexafluoride into an oxide

The enrichment of uranium generates uranium hexafluoride (UF_6) depleted in the uranium-235 isotope. This depleted uranium is converted into stable, insoluble, non-corrosive uranium oxide that can be safely stored pending reuse, either in its depleted state or after a new enrichment stage. Very few defluorination facilities in the world are able to convert depleted uranium hexafluoride into an oxide on a production scale.

The conversion of depleted uranium hexafluoride into an oxide generates an ultra-pure, aqueous, 70% hydrofluoric acid, which is marketed.

AREVA earns a return from its internationally recognized expertise in depleted uranium defluorination through technology sales agreements with world-class companies. AREVA's know-how enables customers to store this reusable material safely and to produce hydrofluoric acid that can be marketed to the chemical industry. AREVA's know-how led to the signature of contracts for the sale and installation of defluorination lines with Tenex and URENCO.

Recycling of uranium from used fuel treatment

After a reactor residence time of nearly four years, uranium constitutes 95% of the remaining content of the used nuclear fuel. The uranium is recovered through treatment operations performed at the AREVA La Hague plant (see Section 6.4.4.1. *Recycling Business Unit*) and is shipped in the form of liquid uranyl nitrate for chemical conversion into a stable oxide powder. Uranium from used fuel treatment (reprocessed uranium, or RepU) may then be reconverted into uranium hexafluoride and re-enriched for reuse in the fabrication of fresh fuel, in which case it is called enriched recycled uranium (ERU).

Other fluorine derivatives

The know-how needed for conversion, particularly in the field of uranium fluorination, has served to develop fluorination activities such as the production of chlorine trifluoride, used to clean enrichment barriers from the Eurodif plant, which was shut down permanently in 2012.

Manufacturing and human resources

The Front End Business Group's chemistry-enrichment operations are split between two industrial sites in France, i.e. Malvési and the integrated platform at Tricastin:

- the Malvési plant produces UF_4 in five furnaces, which operate concurrently (annual capacity of about 14,000 metric tons);
- UF_6 is produced at the Tricastin site in two flame reactors (annual capacity of about 14,000 metric tons);
- UF_6 is enriched at the Georges Besse II plant at the Tricastin site operated by Société d'Enrichissement du Tricastin (SET) (annual capacity of 7.5 million SWU after completion of the project);
- depleted uranium is defluorinated in four production lines in the "W" facility at the Tricastin site (annual capacity of about 13,000 metric tons);

- uranyl nitrate is converted into oxide in the TU5 facility, also at the Tricastin site (annual capacity of about 1,250 metric tons);
- the Tricastin integrated platform also pools all of the logistical, laboratory, waste and effluent treatment, and equipment repair resources in the Department of Industrial Services, enabling all of the sites plants to be served more efficiently and in a more cost-effective manner.

Integration of the Tricastin platform was completed in 2013 with the pooling of support functions and the creation of industrial services for the entire site. In October 2013, the French nuclear safety authority ASN approved the new safety organization. With this integration, AREVA will reap the benefits of bringing together on a single platform all operations related to the transformation of uranium, such as UF_6 shipments between the different plants, at a lower cost and under better safety conditions. The personnel employed in the facilities are certified for the use of hazardous chemicals and for the special aspects of uranium work.

AREVA is the majority owner of SET. Six partners own a total of 12% of the company's capital (5% for GDF SUEZ, 2.5% for Kansai Electric Power together with Sojitz, 2.5% for Korea Hydro & Nuclear Power Co. Ltd, 1% for Kyushu Electric Power and 1% for Tohoku Electric Power), demonstrating our utility customers' dedication to this major project.

By becoming a 50% shareholder in Enrichment Technology Company (ETC) along with URENCO, AREVA gained access to the use of uranium centrifuge enrichment technology.

Relations with customers and suppliers

Customers

At the request of utility customers, the average term of recently signed conversion contracts is on an upward trend. In 2013, AREVA made deliveries to more than 35 customers across the globe, mostly in Europe, Asia and the United States. The volume of the transactions remained stable compared with 2012 but was down significantly in relation to the volume of the previous years, given that the utilities have already largely covered their needs and in view of buoyant trading activities in 2011.

The enrichment market is structured around multiyear commitments. The backlog for enrichment includes close to 37 utility customers, primarily in the United States, Europe and Asia, representing the supply of an average of about 60 reactors worldwide each year.

Suppliers

The risk of supply interruptions of the chemical reagents needed for its production operations are minimized by contracting with suppliers based in Europe and in the rest of the world.

Market and competitive position

CONVERSION MARKET

Annual global demand for conversion in 2013 is estimated at about 62,000 metric tons of natural UF_6, including 18,100 metric tons in Western and Central Europe (Euratom area), 10,500 metric tons in Eastern and Southeastern Europe, 17,300 metric tons in North America, and 16,100 metric tons in Asia. China's uranium conversion requirements are rising quickly, largely contributing to the growth in global demand for these services. According to the World Nuclear Association (WNA), Chinese demand for UF_6 will be around 12,500 metric tons in 2020 (Source: 2013 WNA Report).

Commercially, market prices for conversion are represented by two indicators:

- the spot indicator, where the "spot price" is a price indicator for short-term transactions on the uranium market, i.e. for deliveries within 12 months of contract signature;
- the long-term indicator, which represents the price for multiyear contracts with the initial delivery usually made 2 to 5 years after contract signature.

Spot prices:

The Fukushima accident of March 2011 led to a drop in spot market indicators, for several reasons:

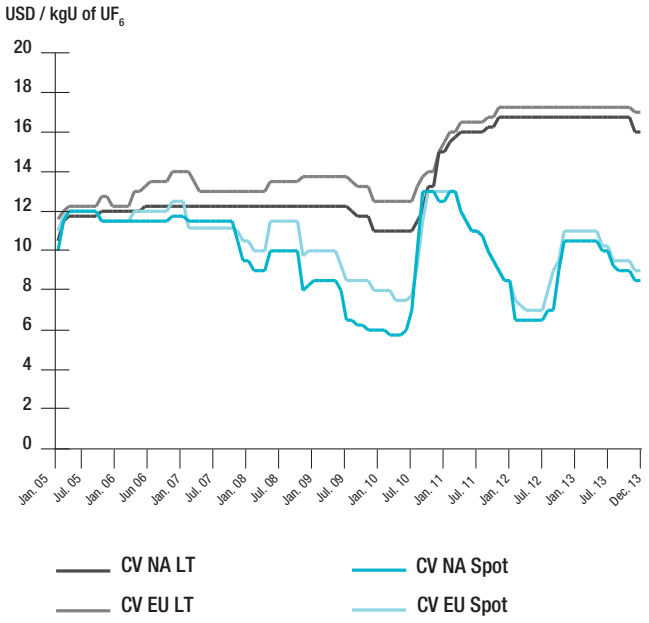
- decreased demand due to the shutdown of the damaged Japanese reactors – and of other Japanese reactors as a preventative measure – pending revalidation of the conditions for their operation, together with the shutdown of some German reactors in a political decision;
- postponement of conversion service purchases associated with uranium purchases by some utilities interested in building their inventories in preparation for a significant increase in their requirements;
- availability of existing natural UF_6 inventories put on the market by the US DOE through several companies or by certain financial entities (investment funds and brokers) looking to generate cash in a difficult financial environment.

The prolonged shutdown of the ConverDyn plant in the United States triggered a sharp increase in spot price indicators, which rose to nearly 11 dollars at the end of 2012 compared with 8 dollars at the end of 2011. After this spike, the spot price fell to as low as $8.75/kg of UF_6 when the plant restarted in July 2013.

Long-term prices:

Despite the post-Fukushima market context, representative indicators for multiyear transactions remained stable after the rising trend started in mid-2010, at about 17 dollars per kilo of uranium. They express the perception of a weak long-term conversion market combined with the need to replace aging production facilities.

→ UF_6 CONVERSION PRICES (LONG-TERM AND SPOT)



Source: Trade Tech.

COMPETITIVE POSITION IN CONVERSION

With nominal production capacity of 14,000 metric tons of UF_6 in 2013, AREVA is a major global player in conversion services. Its main competitors are Rosatom in Russia, ConverDyn in the United States, and Cameco in Canada and in the United Kingdom. Russia has a large amount of conversion capacity, estimated at around 25,000 metric tons per year (although these estimates are based on a number of uncertainties, in particular concerning the condition of the Russian facilities). ConverDyn and Cameco (including the Springfields plant) have nominal conversion capacities comparable to those of AREVA, at 15,000 s and 17,000 metric tons per year respectively. It should be noted, however, that most of the plants do not operate at their nominal capacity. The Western plants have produced at an average of close to 60% of their nominal capacity in the past ten years, mainly due to maintenance and outages for safety upgrades. AREVA produced close to 90% of its nominal capacity during that same period *(Source: Ux, December 2013)*.

The conversion plants therefore have enough existing and future capacity to meet current demand through 2018-2020. After that time, available nominal capacities will have to be increased to meet growing demand adequately, especially in Asia, the Middle East and Eastern Europe.

The conversion capacity of the Chinese government-owned China National Nuclear Corporation (CNNC) is estimated at 4,300 metric tons of UF_6 in 2013. The forecast for 2015 is from 6,000 to 7,000 metric tons, and from 10,000 to 13,000 metric tons in 2019, to satisfy China's growing demand for conversion services *(Source: Ux, May 2013)*.

In the United States, the Nuclear Regulatory Commission (NRC) ordered the ConverDyn plant in Metropolis to shut down in May 2012 for upgrades to comply with seismic and tornado resistance standards. The plant reopened in July 2013 after NRC approval.

ENRICHMENT MARKET

Global annual demand for enrichment is estimated at more than 49 million SWU in 2013 *(source: WNA 2013)*. Market growth will remain limited in volume, but will also be relatively steady, essentially driven by Asia, where nuclear power programs are growing faster than in the other three major regions of the world. This growth is also due to the widespread increase in nuclear power plant availability factors, burnups requiring higher enrichment assays, new projects, and some utilities' policy of constituting backup inventories due to concerns about a market imbalance.

Prices had begun to rise significantly in 2005, but have sagged in the past two years. The Fukushima accident triggered a drop in spot market indicators due to reduced demand in Japan and Germany and a drop in long-term indicators, particularly until Japan announces the restart of its reactors.

The Japanese reactors are expected to restart in stages beginning in the middle of 2014. As of the end of February 2013, 17 applications for reactor restarts had been filed with the Japanese safety authority.

Traditionally, the market is regulated by geopolitical considerations, but they have less and less impact. In Europe, the Euratom Supply Agency oversees the supply of uranium and enrichment services within the framework of the Corfu Declaration. In the United States, since the US Congress amended the Suspension Agreement in 2008, the Russian supplier Rosatom is allowed to supply up to 20% of the US utilities' requirements starting in 2014 and has signed several contracts with these utilities.

However, in Russia, Rosatom's competitors are still unable to access the Russian uranium enrichment market.

→ COMPETITIVE POSITION IN ENRICHMENT

Operator	Estimated installed capacity	Process
Georges Besse II (France)	5.5 million SWU/year	Centrifugation
Rosatom (Russia)	26.0 million SWU/year	Centrifugation
URENCO (UK, Germany, Netherlands, USA)	17.7 million SWU/year	Centrifugation
CNNC (China)	2.2 million SWU/year	Centrifugation
Other (Japan, Brazil)	0.1 million SWU/year	Centrifugation
TOTAL (AT DECEMBER 31, 2013)	**51.5 MILLION SWU/YEAR**	

Source: AREVA estimates based on available data.

AREVA, URENCO and Rosatom are the leading players in the enrichment market.

The Georges Besse II plant had already achieved an installed production capacity of 5.5 million SWU at year end 2013. Given the modularity of the centrifuge technology, Georges Besse II will gradually increase its production capacity and will reach its nominal capacity of 7.5 million SWU in 2016.

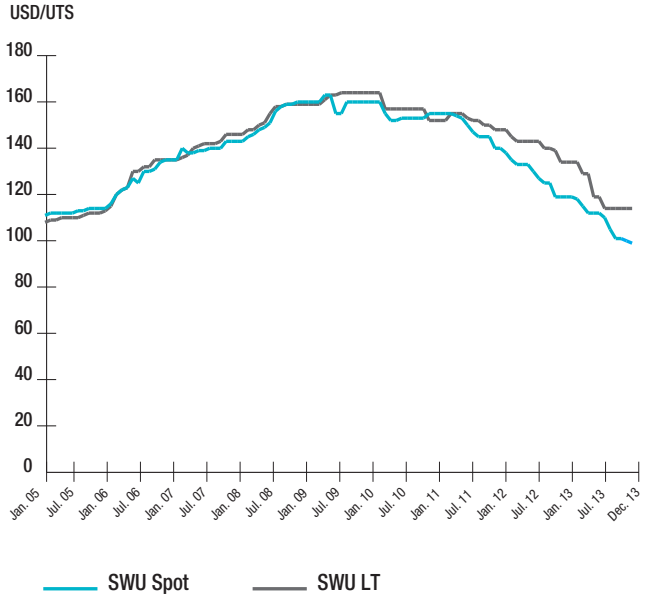
In 2013, the main change in the enrichment market was the final shutdown of USEC's Paducah plant in June 2013, after more than 50 years of operation using the gaseous diffusion process. Pending the commissioning of its American Centrifuge Plant (ACP) after 2020, USEC is maintaining its enrichment market position in the United States with special supply agreements with Rosatom.

URENCO, whose shareholders are German, British and Dutch, announced that its installed capacity in Europe and the United States should reach 18 million SWU per year by 2015.

In former USSR countries, for historical reasons, demand is chiefly met by Rosatom, whose enrichment plants are split among four combines: Angarsk, Zelenogorsk, Seversk and Novouralsk. All of these plants use centrifugation technology.

Global Laser Enrichment (GLE), which is planning to build a laser enrichment plant, recently concluded phase I of the Test Loop Program included in its research program. In November 2013, the DOE and GLE announced the start of negotiations that may lead to the use of GLE's laser technology to re-enrich American inventories of depleted uranium at the Paducah and Portsmouth sites.

SPOT AND LONG-TERM SWU PRICES FROM 2005 TO 2013 (IN CURRENT US DOLLARS)



Source: Trade Tech.

Outlook and development goals

One of the strategic objectives for the Chemistry-Enrichment operations is to bolster AREVA's position as a major player on the global uranium conversion market. It will continue to benefit from the integration of the AREVA group's operations and its physical proximity to Europe's enrichment plants.

To achieve this goal, AREVA decided in 2007 to replace its uranium conversion production capabilities by investing in a new conversion plant at the Malvési and Tricastin sites; known as the Comurhex II project, both sites are concerned. The new plant will have a full production capacity of 15,000 metric tons, with the possibility of increasing capacity to 21,000 metric tons. At this point, Comurhex II is the only new conversion plant project launched in the world. It will replace the existing capacity of Comurhex I. Comurhex II is designed to offer maximum security of supply to our customers. In addition, the plant meets the most recent safety standards, particularly in terms of its ability to withstand earthquakes and flooding. Comurhex II also received triple ISO 9001, ISO 14001 and OHSAS 18001 certification. Recently, the plant demonstrated its energy efficiency innovations when it was certified for ISO 50001 for an electrolysis facility used to heat the buildings.

With Comurhex II, the environmental footprint will decrease considerably:

- 75% reduction in ammonia effluents, 50% for nitric and hydrofluoric acids, and 60% for potassium hydroxide thanks to the Isoflash process;
- 90% reduction in the annual consumption of water.

In 2013, the Comurhex II program met major milestones:

- at the Malvési site, with the transfer of the new facilities to the operator; the facilities will gradually be placed in industrial service over the course of 2014, in particular with the use of thermal denitration in place of chemical denitration;
- at the Tricastin site, with the startup of the hydrofluoric acid storage function and connection of the new storage to existing facilities.

To recycle uranium arising from used fuel treatment, a project is on the drawing board to replace the recycled uranium conversion and processing operations at the Tricastin site. Together with the enrichment stage at the new Georges Besse II plant, this project would give AREVA a unique means of recycling uranium from used fuel treatment (RepU). Given the time required for its implementation, this industrial facility could be placed in service in the medium term.

The enrichment market offers 15 to 20 years of visibility, given the known operating period of reactors in the current fleet. Growth in volume is relatively secure. The sharp upturn in demand in Asia will largely offset an expected decline in demand in Europe.

For the coming years, the goal of the Enrichment business is to successfully ramp up production at the Georges Besse II plant in order to reach full production capacity in 2016.

6.4.2.2. FUEL

Key figures

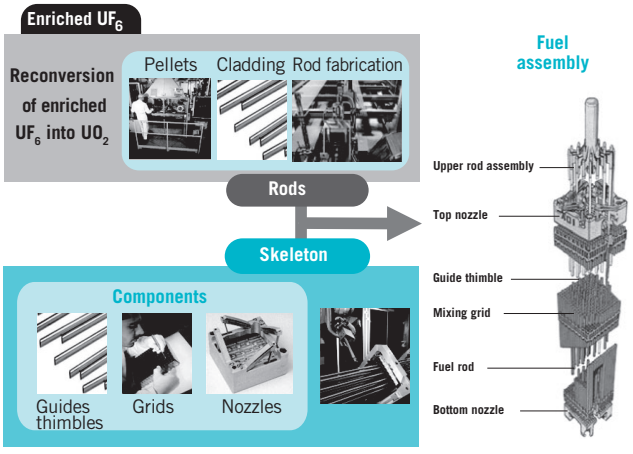
	2013	2012
Revenue *(in millions of euros)* *	1,294	1,173
Workforce at year end	4,240	4,300

* *Contribution to consolidated revenue*

Businesses

The Fuel Business Unit designs, fabricates and markets fuel assemblies and provides fuel-related services for power generating stations with light water reactors (commonly called PWR for Pressurized Water Reactors and BWR for Boiling Water Reactors). In addition to conventional enriched natural uranium oxide fuel (UO_2), the Fuel Business Unit also markets MOX fuel (a mixture of uranium and plutonium oxides) and enriched reprocessed uranium fuel (ERU – see *Glossary*) which contains fissile materials from the used fuel recycling process. The Back End Business Group's Recycling Business Unit fabricates the MOX fuel (see Section 6.4.4. *Back End Business Group*).

➔ **PRINCIPAL STAGES IN LIGHT WATER REACTOR FUEL ASSEMBLY FABRICATION**



Source: AREVA, PWR reactor system.

Reactor safety is a function of several requirements:

- containment, in the nuclear safety sense, of radioactive products under both normal and accidental operating 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 containment for the fissile materials and fission products, allow for residual heat dissipation and fuel handling, even after having been stored for relatively long periods, and allow for treatment when the closed fuel cycle has been chosen. The number of assemblies periodically replaced simultaneously (every 12 to 24 months) constitutes a fuel reload.

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. A large number of high-level scientific and technical skills must be pooled 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, thermohydraulic and mechanical design codes and databases built on lessons learned from many years of reactor operations. Fuel designs studies are referenced in reactor operating license applications, making the fuel designer one of the utility's most important partners in its relations with its national or local safety authority;
- 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 physico-chemical analyses.

The Fuel Business Unit also manufactures zirconium-based products and semi-finished products that may be sold to some competing fuel fabricators. In addition, the Fuel Business Unit markets fuel-related engineering services, fabrication services and onsite services.

Operations and highlights

The Fuel Business Unit has been implementing an industrial optimization plan for several years:

In the United States, following the 2011 transfer of fuel fabrication operations from Lynchburg to Richland, the consolidation continued with the transfer of operations from the Erwin site in Tennessee to a new facility built in Richland to process Blended Low Enriched Uranium for the US Department of Energy (DOE). The Erwin site closed at the end of May 2013.

In Europe, production plant streamlining and performance improvement continues. The gradual shutdown of the Dessel plant in Belgium, announced in late 2011, continued with the outsourcing of small component manufacturing. The Lingen site in Germany is pursuing an optimization plan to keep its production costs at the current level despite a strong reduction in work load following the decision to phase out reactors. The FBFC plant in Romans, France, has launched a rigorous action plan to secure safety committments and complete the ramp-up.

Concerning the production of zirconium tubes, a diversification project is in progress at the Duisburg site in Germany. In addition, the CAST joint venture in China, formed in 2011 with SGTC (a subsidiary of the Chinese nuclear group CNNC) continues to ramp up capacity according to the original schedule.

Manufacturing and human resources

The Fuel Business Unit is organized into six business lines with facilities in Europe and the United States:

- Fuel Design;
- Contracts & Services, which also includes the development of fuel-related service offers;
- Supply Chain;
- Products & Technologies;
- Zirconium, encompassing the full range of manufacturing processes, from the zircon ore to the finished product, with five plants in France and one in Germany as well as two joint ventures in Japan and China, each plant specializing in one aspect of zirconium metallurgy or forming;
- Fuel Manufacturing, organized into six production sites, one in the United States and five in Europe, which mainly supply US and European utilities. In Japan, production from a joint venture site serves the Japanese market.

Relations with customers and suppliers

Customers

Sales contracts are generally concluded for multiple years and for one or more reactors of a single utility. These contracts may include services such as shipping and handling, technical support for fuel loading and unloading operations, fuel inspection during scheduled outages, and even in-core repair of defective fuel rods or assemblies at the utility's reactor site. Given their importance for the customer's operations, the contracts normally include warranties. These warranties are provided for:

- fuel integrity under all normal operating conditions and up to the contractual burnup (see *Glossary*);
- satisfactory fuel performance in the reactor at nominal power;
- compatibility with fuel assemblies already in the reactor, recognizing that the reactor core is refueled in sections; and
- fuel transportability and the ability to store the fuel safely after irradiation.

Suppliers

After rising significantly in 2011, the market for zircon sand – a staple commodity from which zirconium metal is extracted at the Jarrie plant – stabilized in 2012 and fell slightly in 2013.

The price of nickel (used in inconel alloys) followed a similar trend. The price of carbon black continued to fluctuate along with the price of oil, to which it is pegged.

The group's supplies of other materials or key components – like magnesium and niobium or the components needed to manufacture rod cluster control assemblies (silver-indium-cadmium bars), stainless steel tubing, and BWR flow channels – are secured with multiyear contracts.

Rates for electricity have been rising steadily since 2007, triggering an automatic increase in the rates paid for industrial gases (argon, helium, hydrogen and nitrogen).

The workload of subcontractors for rod clusters and the cutting of spacer grids will stabilize over the 2013-2015 period as the growth in AREVA's component sales in China offsets the drop in the Japanese and European markets.

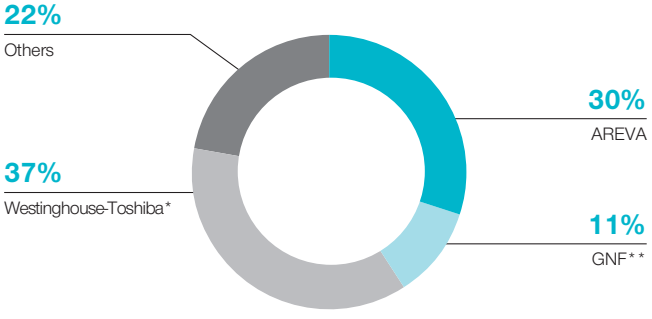
Market and competitive position

The Fuel Business Unit's target market is that of fuel assemblies for light water reactors (LWR). It represents most of the world's operating reactors and is divided into two groups: Pressurized Water Reactors (PWR) and Boiling Water Reactors (BWR).

Following the industrial reorganizations in the fuel industry of the past few years, approximately 79% of the requirements for light water reactors (excluding VVER fuel) are supplied mainly by AREVA, Toshiba-Westinghouse [1] and Global Nuclear Fuel (GNF) [2]. As of the end of 2013, the AREVA group had supplied a total of more than 216,600 assemblies.

The closure of German reactors had an impact on the Fuel Business Unit, which served the majority of them, but it is still ranked number one in Europe and is the leading challenger in the US market. It should be noted that AREVA does not serve the VVER fuel segment, in which TVEL remains the majority supplier.

→ MARKET SHARE OF LIGHT WATER REACTOR FUEL SUPPLIERS, EXCLUDING VVER REACTORS, IN 2013



* *Westinghouse-Toshiba including NFI and the part of fuel outsourced to ENUSA (Europe).*

** *GNF including GNF-A (USA), GNF-J (Japan) and the part of fuel outsourced to GENUSA (Europe).*

Source: NAC (Fuel Trac October 2013 edition) ; average values on 2013 +/- 1 year, based on new fuel loaded annually in reactors.

(1) *Toshiba-Westinghouse including NFI and the share of fuel subcontracted to Enusa in France.*

(2) *GNF including GNF-A (USA), GNF-J (Japan) and the share of fuel subcontracted to Genusa in Europe.*

Considering that a number of power plants were taken offline globally (Japan, Germany and the United States), and despite the growth of nuclear power in China, the fuel market remained stable at less than 6,000 metric tons of heavy metal (uranium or plutonium contained in the fuel assemblies). There will be no noticeable increase in fuel demand until a sufficient number of new power plants have been connected to the grid.

Outlook and development goals

The principal objective of the Fuel Business Unit is to ensure fuel reliability. In this regard, all of its teams are mobilized to ensure the continuous improvement of the solutions offered.

Beyond this major requirement, the Fuel Business Unit is pursuing efforts to improve its operating performance, whether in design and fabrication or in terms of nuclear safety, occupational safety and environmental impacts, with excellence as its objective.

In China, AREVA is building on more than 20 years of cooperation to pursue its development, directly or through joint ventures. Highlights for 2013 include the fabrication of the first fuel core for TNPJVC's Taishan 1 reactor and the ramp-up of the CAST joint venture for zirconium tubing manufacturing and marketing, with certification of the M5 cladding.

In Kazakhstan, the partnership with KAZATOMPROM initiated with the creation of the Ifastar joint venture for the marketing and sale of fuel assemblies in the Asian market (49% owned by KAZATOMPROM and 51% by AREVA) could be followed by the creation of a second joint venture, Kazakhstan Fuel Fabrication Company (KFFC), with KAZATOMPROM holding 51% and AREVA holding 49% of the company.

The streamlining of its production facilities and the development of partnerships in Asia, combined with a very comprehensive range of services, will enable the Fuel Business Unit to optimize its position in an evolving market and to secure its market share by expanding its commercial positions in all regions.

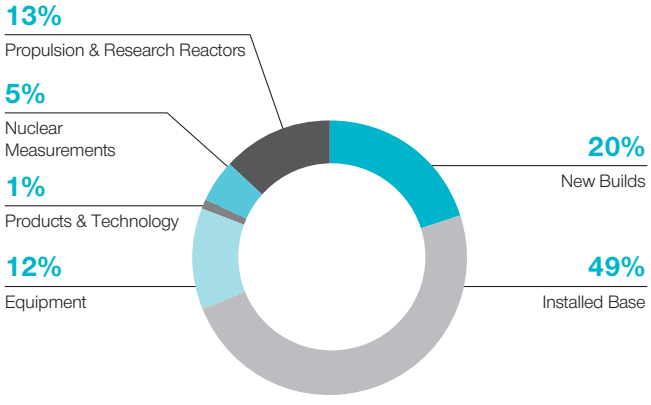
6.4.3. REACTORS & SERVICES BUSINESS GROUP

➔ KEY FIGURES

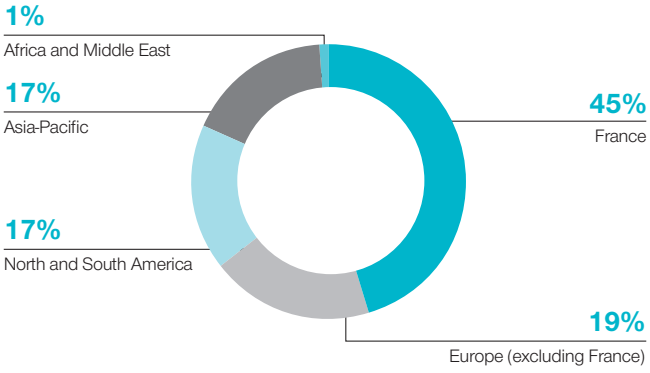
	2013	2012
Revenue *(in millions of euros)**	3,324	3,452
Operating income *(in millions of euros)*	(535)	(410)
Workforce at year end	15,592	16,113

* *Contribution to consolidated revenue*

➔ 2013 REVENUE BY BUSINESS UNIT AND GEOGRAPHICAL AREA



Source: AREVA.



Source: AREVA.

OVERVIEW

The Reactors & Services Business Group, which represents 36% of the AREVA group's revenue, designs and builds the two leading types of power generation reactors currently in use around the world – Pressurized Water Reactors (PWR) and Boiling Water Reactors (BWR) – as well as naval propulsion and research reactors. It also offers products and services for the modernization, inspection and servicing of all types of nuclear reactors.

The Business Group was organized into six Business Units at December 31, 2013:

- the New Builds Business Unit: proposals for new nuclear reactors and execution of construction projects;
- the Installed Based Business Unit: solutions and products for existing and future nuclear reactor fleets;

- the Propulsion & Research Reactors Business Unit: naval propulsion, research reactors and instrumentation and control systems vital for energy and transportation;
- the Equipment Business Unit: manufacturing of components for the nuclear steam supply system;
- the Products & Technology Business Unit: design, standardization and certification of products and technologies;
- the Nuclear Measurements Business Unit: design and manufacturing of radioactivity detection and measurement systems.

Note: The organization of the Reactors & Services Business Group evolved in early 2014 and now comprises operating divisions and support functions as follows:

- four profit centers: Major Projects, Installed Base, Nuclear Measurements, and Propulsion & Research Reactors;
- an Industrial Platform centered on production operations;
- an Operational Performance entity;
- a Products & Technology division in charge of product management, product certification, the design authority, licensing and crosscutting R&D.

In terms of installed capacity, AREVA supplied a significant share of the world's fleet of Pressurized Water Reactors (PWR). PWRs represent nearly two-thirds of the world's nuclear generating capacity. AREVA's reactors are located in key regions of the world: Western Europe, South America, China, South Korea and South Africa. Its principal competitors are groups such as Toshiba/Westinghouse, General Electric, KHNP of South Korea and Rosatom of Russia for New Builds; Mitsubishi Heavy Industries, the alliance between General Electric and Hitachi, and Toshiba/Westinghouse for the Installed Base; and engineering companies specialized in technology and systems such as Tractebel, Babcock and KAERI for Propulsion & Research Reactors.

The group's German teams also have 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, Northern Europe, Spain and Switzerland.

HIGHLIGHTS OF THE PERIOD

Brazil

On November 6, AREVA signed a contract valued at 1.25 billion euros with the Brazilian utility Eletrobras Eletronuclear to complete the construction of the Angra 3 reactor in the State of Rio de Janeiro. AREVA will supply engineering services, components and the power plant's digital instrumentation and control system. The group will also provide assistance for the supervision of installation work and for startup testing.

United Kingdom

In October, EDF and the British government reached an agreement on the main commercial terms of the investment contract for the Hinkley Point C project. In parallel, EDF signed a series of agreements with AREVA, China National Nuclear Corporation (CNNC) and China General Nuclear Corporation (CGN) setting the terms of the partnership to build these two reactors. For example, AREVA could acquire a 10% interest in the project's equity and could sign contracts to supply the nuclear steam supply system, the instrumentation and control system, and the fuel. Financial and regulatory agreements must still be finalized before the final investment decision may be made, which could occur in 2014.

STRATEGY AND OUTLOOK

The Reactors & Services Business Group aims to assert itself as a world leader in nuclear power by achieving profitable growth founded on the complementarity between a strong installed base and the construction of new power plants while promoting the nuclear option throughout the world as an alternative to fossil fuels.

To achieve this objective, the Reactors & Services Business Group is building on its construction projects in Finland, France and China. AREVA is currently building the world's first generation III reactors, where its advance positions it favorably on all markets.

In Europe, the group traditionally has very strong positions in France and Germany. It has also developed close ties with major operators in other countries. In particular, AREVA plans to win a large share of the market for new power plant construction in the United Kingdom.

The United States, which has the world's largest installed generating capacity, is also a growth engine for the Reactors & Services Business Group. The group is one of the leaders in the services sector in that country, where AREVA has acquired a considerable market share in the replacement of heavy equipment at operating reactors as well as in instrumentation and control system upgrades and the safe extension of the power plant operating period. AREVA has several strategic partners in the United States, including Bechtel Power Corporation and UniStar Nuclear Energy for the design of the US EPR™ reactor, and several utilities that would like to build EPR™ reactors.

In Asia, China and India are the leading accessible markets.

The AREVA group has been in China for more than 25 years, where it is building the first two EPR™ nuclear islands at Taishan in Guangdong Province after winning the contract at the end of 2007. In India, AREVA signed major framework agreements concerning the construction of two EPR™ reactors.

To achieve its development goals, the Reactors & Services Business Group is pursuing three strategic lines of action supported by the Action 2016 plan:

- demonstrate its ability to win and execute major projects;
- profitably increase installed base business throughout the world;
- develop a sustainable business in Asia.

At the same time, it is paving the way for the reactors of the future by participating in international Research and Development programs on 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, the United States and Germany.

6.4.3.1. NEW BUILDS

Key figures

	2013	2012
Revenue *(in millions of euros)* *	649	722
Workforce at year end	3,124	3,015

* *Contribution to consolidated revenue*

Businesses

The missions of the New Builds Business Unit are to:

- submit structured, comprehensive offers for new reactor projects in support of the Marketing and Sales teams;
- execute new reactor projects, with responsibility for engineering, procurement, construction and commissioning;
- manage purchasing and procurement for New Builds projects;
- provide project services (standard project schedule, project management office, cost estimating, contract management, risks and opportunities, industrial and operational plan) to the proposal and project teams; and
- continuously improve the competitiveness of new reactor projects in terms of both costs and schedule, particularly by optimizing execution planning.

OPERATIONS AND HIGHLIGHTS

Reactors under construction

China

Major milestones were met in 2013 in the construction of Taishan units 1&2.

For the project as a whole, AREVA's overall scope of work was 89% complete in December 2013. The configuration for installation and individual testing of systems (CSE+: Consistent State for Erection) was frozen at the end of March. On September 23, a Memorandum of Understanding was signed with the Chinese customer TNPJVC to organize the finalization of the detailed engineering work for the two units in the summer of 2014 and to set up a team at the site to support installation and testing activities.

The delivery of equipment for Unit 1 continued in accordance with the customer's installation schedule, enabling the start of testing in late December 2013. AREVA continued to provide technical assistance to the customer for equipment installation and the first tests of the safety injection system, which began in December. Cabinets for the SPPA T-2000 operating instrumentation and control system were tested on the Beijing platform and are ready to be delivered to the site. The Final Safety Analysis Report is under review with the customer and the Safety Authority to get authorization for fuel loading.

Manufacturing of Unit's 2 heavy primary components has been completed and their delivery is in progress.

In all, 240 people are dedicated to the Taishan project at AREVA.

Finland

AREVA's scope of work for the OL3 project was 86% complete at the end of December 2013. The project entered the final phase of construction thanks to the significant progress made on electromechanical activities.

The project met important milestones in the following fields:

- secondary hydrotests;
- energization of the safeguard buildings;
- operational readiness of the primary cooling system and its components;
- installation of most of the piping (more than 90%);
- seal tests of the airlocks used for personnel and equipment and of the reactor containment shutoff valves;
- start of mechanical testing of equipment associated primarily with fuel handling.

Testing activities continued, and the leak tests of the containment building were carried out successfully in February 2014.

Concerning the instrumentation and control system, all of the control cabinets are ready for testing in AREVA's Erlangen facilities. STUK must first validate the test procedure.

In 2014, the teams will focus in particular on engineering work related to project finalization and on platform testing of the instrumentation and control system

For more information, please refer to Note 24. *Consolidated financial statements*.

France

Work on the Flamanville 3 EPR™ reactor continues in accordance with the customer's schedule.

AREVA's engineering work is nearing completion, including work added to the scope under amendments to the initial contract. These amendments relate to the inclusion of modifications necessary for startup and preparation of the operating license request, which EDF will submit to the French nuclear safety authority ASN in October 2014.

At the site, the dome was installed on the reactor building in July, allowing installation of NSSS heavy components. The reactor vessel was delivered in December. The steam generators, pressurizer, reactor coolant pumps and primary coolant legs are being delivered and will be installed at the beginning of 2014.

New Build projects

Saudi Arabia

Saudi Arabia plans to issue a preliminary request for proposals for its nuclear power plants in the near future. According to the customer, King Abdullah City for Atomic and Renewable Energy (KACARE), the request for proposals may concern several reactors, the first of which would be slated for construction starting in 2017, with completion planned by 2023. KACARE is establishing the Saudi safety authority Saraa, which will enter into partnerships with foreign regulatory agencies. Throughout 2013, AREVA worked with its partners to prepare support documentation (pre-qualification, design studies, etc.) and an offer to the customer based on the EPR™ reactor model.

United States

Throughout the year, AREVA worked closely with the Nuclear Regulatory Commission (NRC) to examine the request for certification of the EPR™ reactor and to obtain a design license. An important milestone was met in May with the publication of the assessment report of the Advisory Committee on Reactor Safeguards (ACRS), officially marking the completion of Phase 3, the third of six phases in the process. In Phase 4, which is ongoing, AREVA will respond to Requests for Additional Information (RAI) from the NRC. With this information, the NRC will be able to finalize its Safety Evaluation Reports (SER), resolving outstanding issues in the 19 chapters of the Final Safety Analysis Report (FSAR). In early 2014, AREVA will submit its schedule of responses to the RAI, allowing the NRC to update its review schedule.

In October 2013, the NRC ruled that the EPR™ reactor is in full compliance with federal requirements concerning the reactor building's ability to withstand the crash of a wide-body aircraft. It is the first time that no additional review was required for this kind of assessment.

AREVA also continued working with UniStar (EDF) and PP&L on their US EPR™ projects at Calvert Cliffs 3 in Maryland and Bell Bend 1 in Pennsylvania respectively.

Finland

TVO has invited AREVA to submit an offer based on the EPR™ reactor technology for Olkiluoto 4. AREVA submitted its offer on January 31, 2013, in competition with four other groupings.

After a series of presentations and clarification sessions with TVO, the bidders updated and optimized their offers several times at the customer's request in 2013. AREVA submitted its latest proposal optimization on December 2, 2013.

TVO plans to award the contract and to start preliminary studies in the near future, in order to submit a request for a construction permit to the Finnish government before mid-2015.

India

AREVA submitted and presented new improvements to its offer to Nuclear Power Corporation of India Limited (NPCIL) for the delivery of two EPR™ reactors at the Jaitapur site, including an increase in local subcontracting. However, there was little progress in the negotiations with the customer during the year. In addition, the Indian law on nuclear liability must be clarified before plans for such a project may be implemented. Nonetheless, government-level initiatives should help advance the project, both in India, where an inter-ministerial group was created to move the project forward, and in France, where meetings were held to clarify financing options in the framework of the OECD, determine an approach to clarifying the Indian law on nuclear liability, and define a road map for bringing the negotiations to a conclusion.

Poland

AREVA worked with its partners, most notably EDF, to prepare the pre-qualification documentation for the EPR™ reactor and in particular to identify a network of Polish partners and suppliers, and to develop initiatives involving Polish academia. Poland would like to build two generation III reactors.

United Kingdom

The negotiations between AREVA and the customer Nuclear New Build Generating Company (NNB) continued in 2013 with a view to finalizing contracts for the nuclear steam supply system, the instrumentation and control system, and the fuel supply for two EPR™ units for the Hinkley Point site and two potential units for the Sizewell site.

Turkey

In May 2013, an agreement was signed between the governments of Turkey and Japan that opens exclusive negotiations with a group of investors and a consortium in charge of Engineering, Procurement and Construction (EPC) for the construction of four ATMEA1 reactors in Sinop, on the Black Sea of northern Turkey. The group of investors, which is led by Mitsubishi Heavy Industries (MHI) and includes GDF SUEZ and Itochu, negotiated a Host Government Agreement (HGA) with the Turkish government defining the conditions for project implementation. The agreement should be signed and ratified by the Turkish parliament in mid-2014.

The consortium in charge of EPC would be led by MHI in partnership with AREVA and ATMEA and include MHI/Hitachi for the turbines and a joint venture led by Taisei for civil works.

Manufacturing and human resources

The Business Unit's teams are located in France, Germany, the United States, China and Finland.

Relations with customers and suppliers

The New Builds Business Unit's customers are utilities from all over the world, whether well-established companies or newcomers to the market.

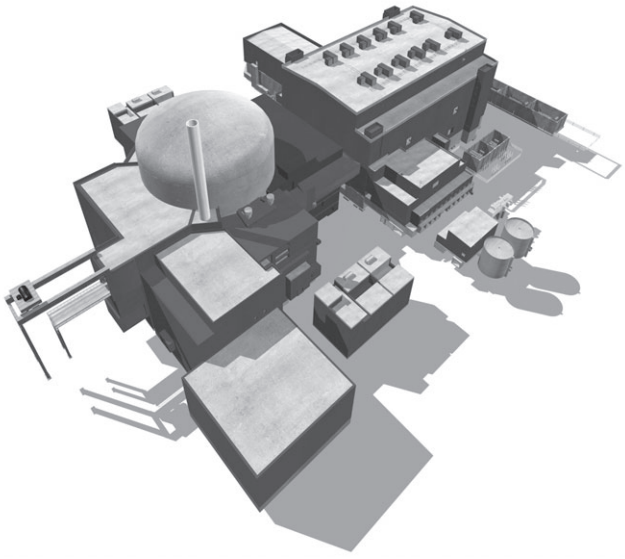
The entity offers reactor solutions that are synergistic with the group's other businesses, such as the Fuel and Installed Base Business Units. New Builds also works closely with the Mining, Front End and Back End Business Groups.

Market and competitive position

AREVA's generation III reactor offer

AREVA's line of reactors includes the EPR™ and ATMEA1 Pressurized Water Reactors, and the KERENA Boiling Water Reactor, all three of which are generation III reactors equipped with simplified operating systems. They represent significant advances in terms of competitiveness, nuclear safety and reduced environmental impacts. AREVA's reactors capitalize on proven technologies while integrating innovative systems. These reactor models feature a very high level of nuclear safety due to strengthened incident and accident prevention measures (redundancies, diversity, combination of active and passive systems, geographic separation, bunkering, etc.) and environmental protection measures (containment, core catchment systems, hydrogen recombiners, etc.). They are also designed to withstand earthquakes and the crash of a wide-body commercial aircraft. The reactors are designed to be operated for at least 60 years, compared with the reactors currently in operation in France, which were initially designed to operate for 40 years, although their robustness makes their lifecycle extension foreseeable. Measures were taken from the beginning of the design phase to reduce environmental impacts by aiming for better fuel utilization and waste volume reduction, for example by optimizing fuel burnup or authorizing plutonium recycling in the form of mixed oxide fuel (MOX). In reducing the production of long-lived radioactive waste by 15%, the EPR™ reactor helps shrink the environmental footprint. The EPR™ reactor is the most powerful PWR marketed by AREVA. It uses fuel made with uranium oxide enriched up to 5% or MOX fuel; in particular, it may use a 100% MOX core (see *Glossary*). Its net electrical output is in the range of 1,650 MWe. As part of the ATMEA joint venture formed in November 2007 by Mitsubishi Heavy Industries, Ltd (MHI) and AREVA in equal shares, AREVA and Mitsubishi Heavy Industries, Ltd developed ATMEA1 reactor, with a power level of about 1,150 MWe. This reactor will meet the demand for medium-power nuclear reactors. It features advanced nuclear and occupational safety systems, high thermal yields, and a flexible 12 to 24 month operating cycle. The reactor, which is now being marketed, was the subject of an assessment by the French nuclear safety authority ASN. AREVA also developed an advanced Boiling Water Reactor concept, the KERENA reactor, in partnership with the utility E.ON. Positioned in the medium capacity market, KERENA's electrical output is 1,250 MWe. This reactor also provides operators with a high level of safety and flexibility. Proof-of-concept tests of innovative safety systems were conducted, and the results were consistent with expectations. This concept could serve as a basis for a reactor model dedicated to utilities using the Boiling Water Reactor concept.

→ EPR™ REACTOR



Source: AREVA.

The generation III reactors under construction and designed by AREVA are currently the most advanced in the world. Its competitors are Westinghouse, which was sold by BNFL to Toshiba of Japan in 2006, General Electric of the United States, Hitachi of Japan, Mitsubishi of Japan, FAAE of Russia, AECL of Canada, KHNP of South Korea and Rosatom of Russia.

Despite a slowdown attributable to the Fukushima accident, reactor construction is still a market with substantial growth prospects. The commissioning of new power plants is expected to generate more than 300 GWe by 2030. Please refer to Section 6.1.2 for a discussion of the market for nuclear power.

Outlook and development goals

In September, the New Builds Business Unit created a new department, the "EPR 2.0 - Competitiveness and Optimization" Program. This department is organized as a project platform and takes over for initiatives launched since 2005 to reduce costs and ensure project execution. Its mission is to open a new phase in the EPR™ reactor optimization process and in the industrialization of its construction.

In addition, the group's objectives are to be number 1 in Europe, increase its presence in China, and seize opportunities that may arise in the United States as well as in the rest of the world. The group aims to book ten EPR™ reactor orders by 2016.

6.4.3.2. INSTALLED BASE

Key figures

	2013	2012
Revenue *(in millions of euros)* *	1,625	1,735
Workforce at year end	6,135	6,439

* *Contribution to consolidated revenue.*

Businesses

The missions of the Installed Base Business Unit are to supply:

- products and services to maintain, upgrade and extend the operating period of reactors in service;
- engineering, procurement and construction services for reactor completion;
- assistance for new reactor construction and commissioning in support of the New Builds market segment.

The Installed Base portfolio of solutions and services is designed to improve facility availability and productivity while reinforcing reactor safety conditions.

Operations and highlights

Some of the significant contracts won in 2013 are noted below:

United States

Several contracts with American utilities to supply solutions for measuring water levels in the pools used to cool nuclear fuel. Once fuel has been burned in a reactor to generate electricity, it is storage in pools to be cooled. The indication of water levels in these pools is an important safety factor.

AREVA signed a multiyear outage services contract with the utility PSEG for both boiling water reactors and pressurized water reactors. These services include reloading the reactors with fuel assemblies, an inspection program, and maintenance of the steam generators.

Japan

An agreement with Hitachi-GE Nuclear Energy, Ltd. (Hitachi-GE) to improve nuclear power plant safety by supplying filtered containment venting systems (FCVS). The two companies are cooperating through Hitachi-GE's adoption of AREVA's technology on the design, manufacturing and installation of these components in Boiling Water Reactors in Japan.

China

China Nuclear Power Engineering, a CNNC subsidiary, chose AREVA's TELEPERM® XS digital safety instrumentation and control system for two 1000 MWe Pressurized Water Reactors, Fuqing 5 and 6. Construction of the reactors is slated to begin in 2014.

France

The Installed Base Business Unit continues to maintain and service EDF reactors, and in particular replaced the steam generators of three reactors in 2013. AREVA is preparing actively to meet its customer's expectations as best as possible as part of EDF's "major overhauls" program, whose goal is to extend the operating period of the reactors beyond 40 years. The program will begin in 2015.

Safety Alliance program

Under the Safety Alliance program, which offers solutions for improving safety, 391 million euros have been booked with 53 customers in 19 countries since the program started.

The group also developed two offerings to meet customer requirements: the Forward Alliance offering designed to extend the reactor operating period and, more recently, the Value Alliance offering of products and services to reduce operating costs.

Manufacturing and human resources

For historical reasons, the Installed Base Business Unit teams are located mostly in France, the United States and Germany, but also in China, Sweden, Spain, Canada, Slovakia, South Africa and elsewhere. These decentralized units are staffed with highly qualified specialists. They offer personalized, localized service to their customers to help them comply with national regulations.

In addition, the Business Unit has workshops in Europe and the United States for offsite maintenance, to develop its equipment and to store its tools, as well as three facilities dedicated to personnel training and instruction, one in France co-owned by the EDF group and AREVA (Cetic), one in Germany, and one in the United States.

Relations with customers and suppliers

Customers

Customers include power companies on five continents – Europe, North America, South America, Asia and Africa. The Installed Base Business Unit maintains and modernizes about 300 reactors around the globe.

Changes in the energy environment and deregulation pressures are pushing the market towards demand for global solutions to achieve performance objectives, optimize costs and extend commercial power plant operating periods, all while ensuring an optimum level of safety level.

This environment is leading operators to combine services under integrated maintenance services umbrellas, under multiyear "Alliancing" contracts, or under contracts that combine component supply, engineering, modifications, maintenance and even fuel supply. To meet these expectations, AREVA offers and implements competitively priced integrated solutions.

Suppliers

Orders to suppliers represent a significant share of the Installed Base's revenue. They concern subcontracting for labor related to unit outage activities and engineering on the one hand and, on the other, the supply of products or equipment for component replacement activities and power plant upgrades, for which instrumentation and control systems and parts and tooling to replace steam generators represent a large share.

Market and competitive position

As part of its services to the installed base, AREVA brings solutions for all types of reactor technologies, whether:

- PWRs, including Russian-designed VVERs;
- CANDU pressurized heavy water reactors (CANada Deuterium Uranium); and
- BWRs.

Outages are scheduled for these reactors every 12 to 24 months for fuel reloading, for servicing and maintenance, and sometimes to replace heavy components or install capital items to improve performance and extend the operating period while ensuring a maximum level of safety.

AREVA estimates the global installed base services market at 5 to 6 billion euros per year.

This market is led in particular by activities related to power plant aging, such as upgrades to prolong the operating period of the power plants, engineering work, and programs to enhance safety.

In services to the installed base, AREVA and Toshiba-Westinghouse are the leading players, followed by Mitsubishi Heavy Industries of Japan and the alliance formed by General Electric of the United States and Hitachi of Japan.

Other large local companies may be present at the regional level, such as KPS in South Korea, SNC Lavalin in Canada, and numerous other specialized companies in every country with nuclear power plants, in particular the subsidiaries of utilities in China for example. In some segments – most notably non-destructive examination and general maintenance – the competition is rising, particularly in Europe and the United States. At a global level, services to nuclear power plants is an increasingly competitive market.

Outlook and development goals

Against the backdrop of a changing energy market, the outlook remains generally favorable, given the determination by the majority of the utilities to continue operating their fleets with optimum reliability, to extend the plant operating period, and to improve performance in terms of safety.

The Installed Base Business Unit continues to expand its volume of business beyond its three traditional domestic markets, with a particular focus on Asia (China, South Korea, etc.), Northern and Central Europe, South Africa and Brazil.

To meet its new challenges, the Installed Base Business Unit offers its expertise and innovation to utilities while helping them to improve their productivity and competitiveness.

6.4.3.3. PROPULSION & RESEARCH REACTORS

Key figures

	2013	2012
Revenue *(in millions of euros)* *	420	401
Workforce at year end	2,054	2,331

* *Contribution to consolidated revenue.*

Businesses

Nuclear energy supply systems for naval propulsion

The core business of the Propulsion & Research Reactors Business Unit is to design, manufacture and maintain naval nuclear propulsion reactors for the French Navy, and to provide related fuel, services and equipment. This business meets stringent safety, reliability and availability requirements. It is a strategic activity for France's nuclear deterrence.

The market consists of nuclear-powered vessels and related testing and production facilities. This market requires mastery of key methodologies and technologies, such as systems architecture, project management, digital safety systems, safety analysis, thermal hydraulics and neutronics, and integrated logistical support. Nuclear reactors designed by the Propulsion & Research Reactors market segment have powered several of the French Navy's submarines and aircraft carriers during all of the fleet's operating missions for 40 years.

The Business Unit also meets propulsion-related requirements: control systems, monitoring systems, and acoustic discretion of systems and facilities and their components. It has unique experience as a designer and facilities operator for the CEA. In addition to reactor design and related fuel design and fabrication, the Business Unit provides support to the operator of onboard reactors in the form of training, services and maintenance. 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 (research reactors, scientific research facilities and industrial facilities)

The Propulsion & Research Reactors Business Unit offers engineering solutions for the design, construction and startup of complex industrial and/or research facilities to customers in the defense, nuclear and manufacturing industries.

These include:

- **For reactors, nuclear facilities and major scientific research instruments:**
  - On behalf of the CEA, its teams serve as prime contractor for the Jules Horowitz research reactor (JHR) currently under construction at Cadarache and are responsible for supplying the reactor block.
  - On behalf of the CEA, the Business Unit supplies a certain number of services related to the ongoing construction of the Mégajoule Laser near Bordeaux.
  - It is in charge of the reactor studies in the frame of phase 1 of the AREVA/EDF/CEA/DCNS consortium involving the technical and economic evaluation of small modular reactors (SMR). Work continues in this area.
- **For industrial facilities:**
  - AREVA TA (Technicatome) is the lead company in the industrial consortium that designs and builds final assembly lines for commercial aircraft for Airbus Industrie.

Fabrication and sale of research reactor fuel and medical targets

Since December 2012, the AREVA subsidiary CERCA has been part of the Propulsion & Research Reactors Business Unit's organization. It main activity is to fabricate and sell fuel elements for research reactors. It also manufactures and sells enriched uranium fuel targets. The molybdenum extracted after the irradiation of some of these targets is used for medical applications.

Design of electronic and instrumentation and control systems with a high level of safety and availability

The Propulsion & Research Reactors Business Unit offers high tech electronics and instrumentation and control systems to customers in the defense, nuclear, transportation and manufacturing industries.

In the rail transportation sector, the Business Unit designs and builds highly safe onboard and ground electronic equipment and systems ensuring passenger comfort and safety.

Operations and highlights

Some of the highlights of 2013 are as described below.

In the nuclear defense segment: the 2013-2017 defense naval propulsion facility contract with the CEA and new milestones in the Barracuda program for the first nuclear submarine in this class, the *Suffren*, with the onboard installation of the rear auxiliary safety module for the nuclear steam supply system and onboard installation of the electric power plant;

In the civilian nuclear power segment:

- Jules Horowitz Reactor: concreting and sealing of the bottom liner of the reactor pool, installation of the polar crane, installation of the structural framing for the casing of the pools in the nuclear auxiliary building, and installation of the reactor dome;
- for the international consortium led by AREVA TA: a contract with the Belgian nuclear energy research center SCK•CEN for preliminary studies of the overall project involving the construction of the new MYRRHA research reactor.

Manufacturing and human resources

The Propulsion & Research Reactors 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: in-service support to and operation of onboard reactors;
- Toulouse: electronic equipment and engineering projects for the aeronautics industry;
- Romans: fabrication of fuel for nuclear research reactors and medical targets.

It also has operations in several other countries, principally the United Kingdom, the United States and China.

Relations with customers and suppliers

Concerning the defense sector, the main customers are the CEA, French defense procurement agency DGA, and French shipbuilder DCNS. In the civilian nuclear sector, the customers are mainly the CEA, SCK-CEN, TUM, NRG, Necsa and Ansto. In aeronautics and land transportation, the main customers are EADS and the RATP.

Market and competitive position

The Propulsion & Research Reactors Business Unit works primarily in France in the defense market and in France and internationally on major scientific and industrial instruments, energy and transportation. The naval nuclear propulsion segment is limited to France.

Its engineering activities concerning complex industrial facilities have enabled it to develop business in conjunction with other entities of the group to provide expertise and solutions in its core businesses, including mechanics, structural analysis and safety analysis. Its competitors in this field are technology and systems engineering companies such as Tractebel, Westinghouse, Nukem and Babcock.

The Business Unit is also present in China, most notably in the energy and transportation simulation field, through its subsidiary Corys T.E.S.S.

In particular, following an international call for bids to which the world's largest simulator suppliers responded, China Nuclear Power Engineering Corporation (CNPEC) awarded a contract to Corys T.E.S.S. and its subsidiary in China Corys Simulation Technology for the design and production of the full-scale replica simulator for the Taishan EPR™ power plant.

Outlook and development goals

The Business Unit designs, builds, services and dismantles nuclear steam supply systems used in naval propulsion on a recurring basis. In the civilian sector, the entity designs and builds low-power reactors, mainly research reactors today, but tomorrow small power-generating reactors. The Business Unit is also developing business in the instrumentation and control field for full-scale power reactors, thus confirming and transposing its experience and know-how into safe and reliable instrumentation and control systems.

In mid-2013, the Propulsion & Research Reactors Business Unit decided to rely on its technology building blocks and its recognized experience in reactor engineering and design and fuel fabrication to refocus its strategy on low-power defense and civilian reactors.

In August, it sold its majority interest in Technoplus Industries to Ava Conseil to streamline its subcontracting policy.

6.4.3.4. EQUIPMENT

Key figures

	2013	2012
Revenue *(in millions of euros)* *	407	329
Workforce at year end	2,047	2,085

* *Contribution to consolidated revenue.*

Businesses

The Equipment Business Unit mainly supplies:

- large forgings, castings and machined parts used in the manufacture of heavy components for the nuclear island and in process industries such as petrochemicals;
- heavy components: reactor vessels, vessel heads and vessel internals, steam generators, pressurizers and support structures (1) which are the main components required to build a nuclear steam supply system; and
- mobile components: reactor coolant pump sets (pump, motor and sealing system) for the primary cooling system and control rod drive mechanisms that regulate the reaction in the reactor core.

Operations and highlights

- On July 1st, a new organization was set up in Saône-et-Loire with two product lines: Mobile Components and Heavy Components. The latter includes the Business Unit's core functions and the Saint-Marcel and Creusot organizations.
- Manufacturing operations were disrupted as new safety regulations were gradually implemented.
- The Chalon/Saint-Marcel plant delivered two steam generators to unit 2 of the Prairie Island power plant in the United States and shipped heavy components (reactor vessel, pressurizer, steam generators) to the Flamanville 3 EPR™ reactor.
- At Creusot Forge, the new 9,000 metric ton press and its manipulator are in the final stage of installation in preparation for testing.
- The first-of-a-kind pump for the Barracuda class attack submarine was delivered.
- The first nuclear power plants in the CPR1000 program were connected to the grid with pumps supplied by Jeumont and its subsidiary ADJV: Ningde 1 was placed in service in April and Hongyanhe 1 in June.

Manufacturing and human resources

Heavy equipment

The Creusot Forge site in France's Saône-et-Loire department has production capacity for forged and machined parts. Its production resources consist mainly of machining facilities and a forge equipped with two presses (9,000 metric tons and 11,300 metric tons). In recent years, capital spending programs have been carried out to increase the production capacity of the sites. At the same time, the capital spending program deployed at the Industeel steel works (ArcelorMittal group) enabled Creusot Forge's dedicated supplier to manufacture larger and better quality ingots in a shorter period of time.

The Chalon/St-Marcel plant near Chalon-sur-Saône, France, is dedicated to the manufacturing of heavy nuclear equipment. This facility has a workshop with 39,000 m^2 of floor space and a hoisting capacity of up to 1,000 metric tons.

Mobile equipment

The Jeumont plant (2) in northern France manufactures mobile equipment for the nuclear island. Established in 1898, it specializes in the design and manufacture of reactor coolant pump sets and control rod drive mechanisms, as well as the replacement parts for this equipment. Component installation and maintenance services also represent a significant share of its operations. Jeumont has a reactor coolant pump test center.

AREVA also operates in China through the AREVA Dongfang Joint Venture (3) (ADJV) formed between Jeumont and the DFEM group to manufacture Jeumont-designed reactor coolant pumps for the Chinese market.

For 25 years, Somanu (4), a subsidiary of Jeumont based in Maubeuge, France, has focused on three main activities: it provides rooms with containment, performs equipment maintenance which may include removal, decontamination, machining, revamping, reinstallation and testing, and provides equipment storage before maintenance or shipment to a nuclear site.

(1) Equipement used to support and hold the main components of the primary cooling systems. It also reduces the vibration to which the components are subjected during earthquakes or accident conditions.

(2) Previously called JSPM.

(3) AREVA NP 50%/DECL (DongFang Electrical Corporation Limited) 50%.

(4) Société de maintenance nucléaire (nuclear maintenance company).

Market and competitive position

Heavy equipment

The nuclear forgings market has long been split between Creusot Forge and its leading competitor, the Japanese company Japan Steel Works (JSW), which supply a large part of the Western world's demand for forged products. Competition has increased since 2006, with very large capital projects in Germany, Italy, South Korea, China and India.

The market for heavy components is characterized by substantial international competition made up of six leading companies: Toshiba-Westinghouse, Doosan, MHI [(1)], ENSA, Mangiarotti (formerly Ansaldo) and Babcock & Wilcox. AREVA is able to respond to customer requirements for all engineering and project management services.

AREVA is one of the leaders in the French market, where the EDF group has completely opened up the competition for the manufacture of replacement steam generators. In 2011, AREVA was chosen to manufacture of 32 steam generators for EDF's 1,300 MWe power plants in France.

Mobile equipment

The leading competitors in the mobile components market are Toshiba-Westinghouse, MHI, Curtis Wright and KSB.

Extension of the power plant operating period and optimization of maintenance strategies are two important issues for operators, who are becoming more demanding in terms of performance improvement, reliability and maintenance costs for reactor coolant pumps.

Outlook and development goals

The Equipment Business Unit's primary mission concerns PWRs of all types, but also BWRs. The nuclear equipment market is divided into two segments: the component maintenance and replacement market, and the new builds market.

For heavy equipment, short term business is covered by manufacturing for the replacement market.

The key challenge for the manufacturing sites is to optimize industrial performance. As for the Reactors & Services Business Group as a whole, the objective is still to deliver primary cooling system components for nuclear reactors on time, at the lowest possible cost, and with the requisite level of quality. Efforts in favor of nuclear safety will also continue. Lastly, maintaining skills and know-how remains a constant priority.

6.4.3.5. PRODUCTS AND TECHNOLOGY

Key figures

	2013	2012
Revenue *(in millions of euros)* *	43	33
Workforce at year end	1,230	1,197

* *Contribution to consolidated revenue.*

Businesses

The Products & Technology Business Unit ensures the certification (licensing) and technical performance of its products and supplies advanced products and technologies offering high performance levels. Activities range from follow-up of the Safety Audits initiative to identification of the impacts on reactor design for new builds or for power plants in operation.

Research & Development

The entity is responsible for key technologies nad products for pressurized and boiling water reactors. It is also responsible for the development new systems and technologies for next-generation reactors, for high temperature reactors and fast breeder reactors.

Design Authority

This entity is the design authority for the Business Group's products. It is tasked with managing design, ensuring that required performance levels are met, standardizing solutions and providing certification.

The development of the EPR™ reactor is based on lessons learned from projects conducted in Finland, France and China, from which are drawn corresponding optimization initiatives. In France, following the Fukushima accident, safety tests were carried out in France ("supplementary safety assessments") and in Europe ("stress tests") on the robustness of the EPR™ reactor to withstand extreme events.

The Design Authority is also working on instrumentation and control system architecture with a cross-Business Unit to define instrumentation and control models and recommend a strategy.

The Generic Detailed Design for the ATMEA1 reactor designed by AREVA and Mitsubishi Heavy Industries) was launched at the beginning of 2012. This design phase is expected to last two years. It follows the basic design phase of the nuclear island for the ATMEA1 reactor, which was finalized in 2010. The success of this development illustrates the strong spirit of partnership between the European and Japanese teams working on the design. It also points to the leading role that the ATMEA1 reactor plays in the portfolio of generation III products offered by AREVA. ASN evaluated the nuclear safety options selected for the design of the ATMEA1 reactor, including Fukushima-related stress tests. It concluded that these options are consistent with nuclear safety regulations in France. In addition, the ATMEA1 reactor passed the first stage of the pre-design review carried out by the Canadian Nuclear Safety Commission (CNSC). CNSC

(1) Mitsubishi Heavy Industries.

confirmed the compliance of the reactor's general safety options and objectives with its regulatory requirements for the construction of new nuclear power plants.

Technical Center

The Technical Center brings a wide range of skills, test facilities and laboratories to the development and testing of advanced solutions and methods. It makes its production capabilities available to its customers, particularly for core instrumentation and diagnostic and monitoring product portfolios. This entity's mission is to keep existing technologies on the cutting edge of progress and to develop new technologies.

The Technical Center's facilities are located in Erlangen and Karlstein, Germany, in Le Creusot and Chalon/St-Marcel in France, and, since September 2012, in Lynchburg, Virginia in the United States. Among other missions, the center tests the resistance of equipment to major earthquakes.

Licensing

This entity is in charge of relations with the regulators. Analyses of the Fukushima accident's consequences gave rise to numerous exchanges, in particular with the Western European Nuclear Regulators Association (WENRA). WENRA is preparing a document summarizing the requirements for new reactors. AREVA made a significant contribution to the comments submitted by the nuclear industry.

It is also in charge of relations with French nuclear safety authority ASN as regards the monitoring of pressurized nuclear equipment manufacturing. The AREVA team did pioneer work and strengthened the group's position with efforts resulting in AREVA becoming the first industrial group to receive a certificate of compliance from ASN under the very strict requirements of the new decree on pressurized nuclear equipment, in this instance for steam generators for the Chinon B2 and Blayais 4 power plants.

The delivery of this certificate of compliance is a major milestone in the implementation of the new decree. It serves as a benchmark for documentation requirements and stands as recognition by ASN of the quality of manufacturing and efforts by AREVA for transparent implementation of the new decree in its industrial processes.

Instrumentation & Control Systems and Electrical Products

Working cooperatively with the representatives of the Reactors & Services Business Group's stakeholders, the Instrumentation & Control and Electrical Products entity develops technology-based products in the field of electrical systems and nuclear instrumentation and control systems to meet the needs of new builds projects and of the installed based. It handles their qualification and their long-term operating cycle.

The entity leads Research and Development activities in these fields, including coordination of R&D programs and strategic directions with the group's main players through a multiyear Instrumentation & Control System Development Plan deployed since 2011.

It is also the design authority and licensing support for major projects.

Operations and highlights

- The second phase of the preliminary design of ASTRID, a fourth-generation prototype based on fast neutron reactor technology, was launched after completion of an initial phase to optimize the reactor's architecture in terms of its construction cost while meeting all safety and performance requirements. The teams are now working to flesh out the reactor design and resolving technical challenges associated with the design of this new reactor.
- In partnership with a network of laboratories and industrial and academic players in Burgundy, the AREVA group received financing from Bpifrance for a project to manufacture innovative hydraulic parts using a hot isostatic powder compaction process (the HIPPI project). Launched by AREVA's Creusot Technical Center, this process can be used to produce large metal parts offering the same mechanical properties as forged equipment, but with faster and simpler methods.

Manufacturing and human resources

The technical units are comprised of international teams and have manufacturing and engineering facilities in France (Paris, Chalon, Le Creusot and Montpellier), Germany (Erlangen, Offenbach and Karlstein) and the United States (Lynchburg and Charlotte).

6.4.3.6. NUCLEAR MEASUREMENTS

Key figures

	2013	2012
Revenue *(in millions of euros)* *	179	233
Workforce at year end	1,003	1,047

* *Contribution to consolidated revenue.*

Businesses

The Nuclear Measurements Business Unit designs, manufactures and markets equipment and systems to detect and measure radioactivity in order to protect employees and the general public. Applications include nuclear facility monitoring, waste characterization, laboratory measurements, radiation protection and nuclear safeguards. Its products and full range of services meet customer requirements for nuclear safety, occupational safety and monitoring of their customers' production operations.

Operations and highlights

- The Business Unit delivered a measurement system for the Shaft and& Silo project in Dounreay, United Kingdom.
- During an outage campaign at the Cofrentes power plant in Spain, the Business Unit supplied a radiation monitoring system (RMS) for the continuous measurement of noble gases.
- For the commissioning of the Atucha II power plant in Argentina, the Business Unit installed a complete range of contamination monitoring equipment.

- As part of a program to upgrade radiation protection equipment, the Business Unit delivered equipment to the nuclear and health physics department of the Oak Ridge National Laboratory (ORNL) in the United States.

Manufacturing and human resources

The Business Unit has seven production sites in the United States, France, the United Kingdom, Belgium and Canada, as well as sales and service facilities in those same countries as well as in Japan, Germany and Russia. In addition, Canberra has a global network of sales agents and service centers.

Relations with customers and suppliers

Customers

The Business Unit's traditional customers are divided among a large number of diversified segments: nuclear fuel fabricators, nuclear power generators, radiochemical laboratories, environmental monitoring laboratories, and laboratories of national and international agencies for oversight and regulation.

Suppliers

Canberra buys from local and international suppliers. Depending on the raw materials or the equipment involved, purchase contracts are awarded to regional or national suppliers, including low-cost countries for standard supplies.

Market and competitive position

The world market for nuclear measurements is estimated at 800 million euros per year. The market available to AREVA is estimated at about 600 million euros. The group is one of the market leaders, with a global market share of about 30% and a similar market share in France.

Its major competitors are Thermo Fisher, Mirion and Ametek/Ortec.

Outlook and development goals

As part of the Action 2016 strategic action plan, a program of asset disposals aimed at refocusing the group on its core businesses and contributing to the financing of the group's strategic development was defined. In particular, it set forth a plan to dispose of Canberra, which is responsible for the group's Nuclear Measurements business. Negotiations with a potential buyer began at the end of 2012 and a purchase agreement was signed in March 2013. At the end of June, the potential buyer informed AREVA that it would not finalize the agreement, referring to a lack of sufficient funding. At this time, Canberra remains fully integrated within the AREVA group.

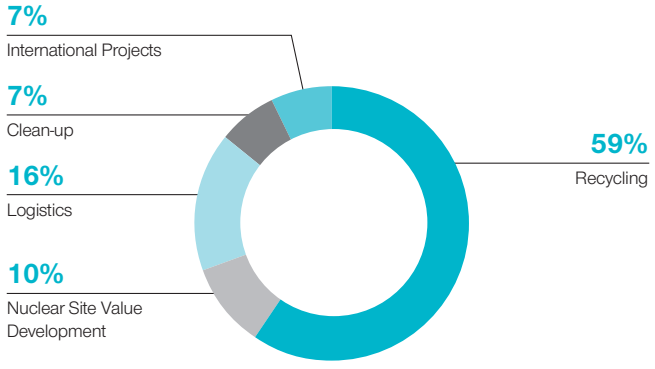
6.4.4. BACK END BUSINESS GROUP

KEY FIGURES

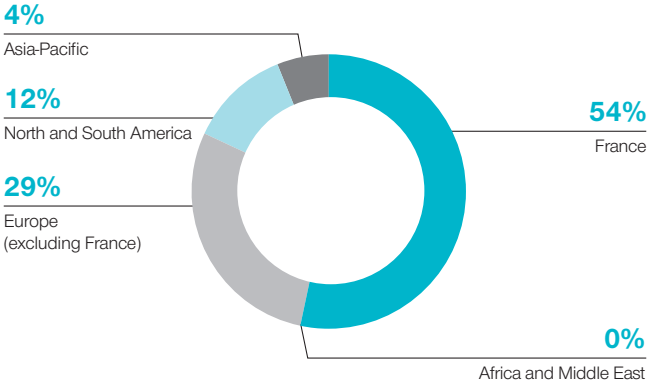
	2013	2012
Revenue *(in millions of euros)* *	1,736	1,732
Operating income *(in millions of euros)*	308	438
Workforce at year end	11,583	11,095

* *Contribution to consolidated revenue.*

2013 REVENUE BY BUSINESS UNIT AND GEOGRAPHICAL AREA



Source: AREVA.



Source: AREVA.

OVERVIEW

The Back End Business Group, whose backlog is discussed in Section 9, represents 19% of the AREVA group's revenue. It offers efficient, sustainable solutions for managing the back end of the nuclear cycle. It is organized into five Business Units: Recycling, International Projects, Dismantling & Decommissioning, Cleanup and Logistics.

The Back End Business Group's mission is to:

- provide recycling solutions and in particular to recycle used fuel for reuse in the reactor;

- develop storage systems and organize and supervise the transportation of radioactive materials;
- clean up and dismantle nuclear facilities when operations have ended.

The Business Group is also contributing to the development of recycling around the world by drawing on its know-how. The Business Group plays a key role in reducing the nuclear industry's environmental footprint and in increasing public acceptance.

The Back End Business Group has taken the technological and industrial lead in markets for the back end of the nuclear cycle.

Responsible management of the end of the lifecycle

Power companies can manage their used fuel in one of two ways:

- recycling, which responds to the objective of conserving natural resources and limiting environmental impacts. After a cooling period in the storage pool, the fuel is treated to recover materials with a residual energy potential and to fabricate fresh fuel. Uranium and plutonium, which represent 96% of the used fuel, are thus recycled into new fuel assemblies called MOX (fuel containing a mixture of uranium and plutonium oxides) and ERU (enriched recycled uranium fuel). Countries such as France, the United Kingdom and Japan have opted to recycle their used fuel;
- direct disposal: When the used fuel is unloaded from the reactor and has been cooled, it is stored temporarily in pools or at dry storage sites. Storage is not a lasting solution and must be followed by final disposal. For the medium term, direct disposal solutions for used fuel are under assessment as a component of national nuclear waste management policies. However, these solutions are not available on an industrial scale today. The direct disposal policy is currently being implemented in two countries: Sweden and Finland.

Used fuel recycling contributes to natural uranium resource conservation and non-proliferation, and facilitates radioactive waste management by significantly reducing waste volumes and radiotoxicity and by packaging the waste in standardized containers specifically designed to trap the contamination for very long periods of time.

The sustainability of nuclear power requires implementation of a used fuel management policy accepted by all stakeholders. Many countries currently plan to recycle their used fuel or are interested in doing so. Some countries seeking to deploy large-scale nuclear power programs are turning to recycling technology as an important factor in energy self-sufficiency. Some of them, such as China, even want to acquire their own facilities when warranted by their power programs.

Recycling is also a response to non-proliferation issues. AREVA can offer utilities global services consisting of removing the used fuel from the power plant and producing the corresponding recycled fuel, returning to the client country only final waste that does not contain materials subject to International Atomic Energy Agency (IAEA) safeguards.

In addition, recycling allows utilities to constitute reserves of nuclear materials that could be used in future generation IV reactors.

Market position of the Business Units

The **Recycling Business Unit** uses processes allowing its customers to recycle 96% of the used fuel into fresh fuel and to package the remaining 4% final waste in standardized containers in a safe and stable manner.

The **International Projects Business Unit** brings the technical and industrial know-how developed in the Back End Business Group's facilities to international markets. In particular, it designs and builds new recycling plants in partnership with foreign countries seeking to acquire their own production capability.

The **Dismantling & Decommissioning Business Unit** designs and supervises nuclear site dismantling and rehabilitation after production has been discontinued, for purposes of site reuse. The Dismantling & Decommissioning Business Unit begins its work when the facilities' productive life comes to an end. The dismantling phase represents a second industrial life for the sites.

The **Cleanup Business Unit** offers a complete range of nuclear services: it operates waste treatment and decontamination facilities, provides logistics for maintenance at nuclear power plants, and performs specialized maintenance. It designs and executes complex dismantling projects and provides radiation protection and nuclear measurement services.

The **Logistics Business Unit** operates in two main areas:

- the design and fabrication of casks and other specialized equipment for the transportation and/or storage of nuclear materials from the front end and back end of the cycle, and of sources for scientific uses; and
- the organization and supervision of nuclear materials transportation and, as needed, management of the related equipment fleets.

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. It was also tasked with the supervision transportation operations for the AREVA group and its customers to ensure that they are carried out according to the highest safety standards.

The Business Unit also supplies nuclear fuel storage rack solutions for power plant cooling pools as well as neutron shield systems for reactors.

HIGHLIGHTS OF THE PERIOD

The Back End Business Group put in place a new organization to adapt to changes in its markets. Called **Back End Ahead**, it puts customer satisfaction and implementation of its major projects at the center of the Business Group's operations. This new organization became effective on January 1, 2014.

STRATEGY AND OUTLOOK

The Back End Business Group has strong industrial expertise that builds on a continuous improvement and technology development approach. Its objectives are:

- to affirm its leadership position in used fuel recycling operations;
- to expand its presence in the dismantling and cleanup markets, particularly abroad;
- to participate in the development of new recycling platforms; and
- to develop innovative products and services related to the transportation of fuel and nuclear materials with the objective of strengthening its position as a major player in the market for dry used fuel storage.

6.4.4.1. RECYCLING

Key figures

	2013	2012
Revenue *(in millions of euros)* *	1,030	1,039
Workforce at year end	5,742	5,422

* *Contribution to consolidated revenue.*

Businesses

After nuclear fuel has been used in a light water reactor, 96% of its content consists of recyclable materials: 1% is plutonium and 95% is uranium. The first step in fuel recycling is to separate these reusable materials from the final waste. The latter is packaged in universal waste canisters for safe storage and transportation. The package is also designed for high integrity during subsequent final disposal, in terms of both containment and durability. Following the treatment stage, the reusable materials are recovered for recycling. Depending on the utility's strategy, the recycled uranium from used fuel treatment, also called RepU, may be re-enriched and recycled in the form of enriched recycled uranium fuel (ERU), or stored in stable form, constituting a uranium stockpile. The plutonium is used to fabricate another type of fuel: MOX, of which AREVA is the world's leading producer.

Operations and highlights

The treatment and recycling agreement between AREVA and EDF defines the terms of the industrial cooperation between the two groups in this field. The agreement runs through 2040 and is reviewed every five years. Under this agreement, AREVA continued to carry out recycling operations in 2013 under an interim agreement. Negotiations are underway for the signature of the 2013-2017 agreement. In November 2013, AREVA and EDF signed a supplementary agreement for the treatment and recycling of an additional 400 metric tons for the 2013-2015 period.

In 2013, as part of its facilities' review, the Recycling Business Unit continued to implement the action plans submitted to French nuclear safety authority ASN in June 2012. These measures are intended to strengthen nuclear safety in the event of extreme circumstances at the La Hague and MELOX sites.

Manufacturing and human resources

Most of the Recycling Business Unit's operations are conducted at two recycling sites, the AREVA La Hague site in northern France and the MELOX site in southern France.

The installed capacity of the La Hague and MELOX plants along with AREVA's cumulative experience rank the group number one worldwide in recycling.

AREVA La Hague

The La Hague site is in charge of the first step in recycling: recyclable materials and waste in used fuel from French and foreign power plants and research reactors are first separated, and then these recyclable materials and final waste are packaged in a safe and stable form.

More than 4,000 AREVA employees and 1,000 subcontractors work at the site.

The plant has two production lines, UP2-800 and UP3, which currently have a combined licensed capacity of 1,700 metric tons of used fuel per year, corresponding to the generation of 450 TWh per year of electricity.

Without investment in additional capacity, productive capacity is currently around 1,250 metric tons.

In 2013, the La Hague plant achieved its highest level of production in 10 years, with 1,172 metric tons of used fuel treated – 141 metric tons more than the initial objective. The site increased its existing storage capacity by nearly 30% with the deployment of a new facility to store French vitrified waste.

MELOX

MELOX is the global market leader for the fabrication of recycled nuclear fuel, or MOX.

In 2013, MELOX produced 124 metric tons of MOX fuel for French and foreign customers and met all of its delivery commitments for the year.

MELOX produced its first batches of MOX fuel for the Netherlands under a multiyear contract with the Dutch utility EPZ.

Market and competitive position

The world market for used fuel recycling is highly restricted by stringent technical and regulatory requirements. The market's main features are:

- stringent emissions and environmental impact requirements;
- a concentrated industry with a limited number of suppliers of recycling services;
- the very high level of technological expertise required;
- capital-intensive operations; and
- services under multiyear contracts.

Outlook and development goals

In 2014, the Recycling Business Unit's objectives are to:

- continue to sell and supply recycling solutions in France and internationally;
- promote the recycling technology abroad;
- develop innovative offers to strengthen nuclear and occupational safety in used fuel management;
- participate in the establishment of appropriate infrastructure in partner countries.

6.4.4.2. INTERNATIONAL PROJECTS

Key figures

	2013	2012
Revenue *(in millions of euros)* *	119	109
Workforce at year end	479	200

* *Contribution to consolidated revenue.*

Businesses

The engineering and operating know-how developed by the AREVA group at its French sites is without equivalent in the world. All countries with nuclear activities must define and implement solutions to manage the back end of the cycle. The International Projects Business Unit offers its assistance to customers for the management of existing sites or for the construction of new facilities to secure their management of the back end of the nuclear cycle.

Operations and highlights

The group is already involved in projects in several key countries, described below:

- China confirmed its intention of supporting the development of its nuclear power program with a high-capacity treatment and recycling plant. In 2013, this strategy led to the signature of a letter of intent between the Chinese utility CNNC and AREVA. This is an essential step forward in the technical and commercial negotiations for the project. AREVA would design the plant and provide assistance to CNNC for its construction and commissioning. The negotiations continued throughout 2013;
- In the United States, under the US Plutonium Disposition Program, a MOX fuel fabrication facility is under construction for the US Department of Energy (DOE) to recycle US defense plutonium. As one of the two members of the consortium in charge of this project, AREVA is providing engineering and technology know-how. Civil works for the plant under construction were completed in 2013. AREVA continued its preparations in 2013 for the program to train the operators at the two reference facilities, MELOX and La Hague;

  AREVA is also a member of the consortium chosen in 2013 to manage the Waste Isolation Pilot Plant (WIPP), a deep disposal facility for radioactive waste in New Mexico;

  AREVA is also conducting several technical studies with US utilities to apply its recycling experience to the management of used US fuel;

  In addition, AREVA is a member of other teams formed with US partners to manage facilities in the back end of the cycle at Savannah River and Hanford;
- In Japan, the group has had a major technical assistance program with its customers since 1987. This partnership culminated in the construction of a used fuel treatment plant at the Rokkasho Mura site by Japan Nuclear Fuel Limited (JNFL), with support from AREVA. The plant is currently waiting for review of its report on compliance with new safety regulations for cycle facilities to be issued by the Nuclear Regulation Authority. In June 2013, AREVA and JNFL announced their intention to step up their cooperation in the back end of the fuel cycle in a joint declaration signed by the CEOs of both companies;
- In the United Kingdom, AREVA is one of three members of Nuclear Management Partners (NMP), which manages the Sellafield site – the largest nuclear complex in Great Britain – for the Nuclear Decommissioning Authority (NDA). AREVA managers and experts are bringing their know-how to improve Sellafield operations. In October 2013, the NDA announced the renewal of the contract with NMP for a five-year period;
- In Spain, the Business Unit assisted Enresa in 2013 for the design of a centralized used fuel and waste disposal site.

Manufacturing and human resources

The International Projects Business Unit offers customized solutions to its clients and implements them by drawing on its industrial and human resources in France, at the La Hague and MELOX sites, and abroad.

The La Hague and MELOX sites provide teams of experts whose role is to offer technical support for the preparation of international bids and to implement the projects of the International Projects Business Unit. Customers are offered training to support the operation of their recycling facilities.

Internationally, the International Projects Business Unit has a commercial and technical network in direct contact with its customers. In the United Kingdom, operating managers and engineering specialists were embedded at the Sellafield site to provide their expertise in site operations. Employees from the International Projects Business Unit are also located in the United States. In Japan, a team is available at all times at the Rokkasho-Mura site, bringing expertise and experience from the La Hague plant to the operator, JNFL.

Relations with customers and suppliers

Relying on its local presence in the United Kingdom, Japan and the United States, the International Projects Business Unit maintains very close partnership relations with its customers. The Business Unit's participation in several international teams brings a wide variety of skills to global customers.

Market and competitive position

Having opted in favor of the closed fuel cycle, China, the United Kingdom and Japan are natural customers for the Business Unit.

The International Projects Business Unit is able to offer solutions to all nuclear operators seeking to implement their back end projects, in particular in the European countries and in the United States.

The International Projects Business Unit is also responsible for offering solutions for the construction of new storage and disposal facilities in France and in international markets.

Outlook and development goals

In 2014, one of the objectives of the International Projects Business Unit is to continue the technical negotiations with CNNC for the construction of a used fuel treatment and recycling plant in China. Other major objectives concern the start of the recently renewed Sellafield site management contract with the establishment of a new strategy and a new performance plan, and continued construction of the MFFF facility.

6.4.4.3. DISMANTLING & DECOMMISSIONING

Key figures

	2013	2012
Revenue *(in millions of euros)* *	181	195
Workforce at year end	1,598	1,655

* *Contribution to consolidated revenue.*

Businesses

Numerous facilities built in the 1950s and 1960s have reached the end of their operation. Their dismantling and the rehabilitation of the sites that host them is a major industrial challenge, especially to allow new projects, whether nuclear or conventional, to be located at these sites.

The Dismantling & Decommissioning Business Unit operates as the contracting authority for AREVA projects. It is in charge of projects both as an operator and as a project manager. It leads and coordinates all partners and subcontractors to deliver on-time, in-budget performance while maintaining high levels of nuclear and occupational safety.

Manufacturing and human resources

In 2013, the Dismantling & Decommissioning Business Unit had six key projects in France:

Cadarache site

Production was discontinued at the old MOX fuel fabrication plant at the Cadarache site in 2003. Repackaging operations and the removal of reusable materials were completed in June 2008. The Dismantling & Decommissioning Business Unit is now the contracting authority for cleanup and dismantling operations at the site's plutonium technology shop (ATPu) and at the chemical purification laboratory (LPC) before their transfer to the CEA. This step occurs before the cleanup and dismantling of civil works begin. At the end of 2013, more than 300 AREVA employees and subcontractor personnel were working at the site, and two thirds of the cleanup and dismantling work had already been completed.

Marcoule site

The Marcoule site has conducted cleanup and dismantling operations for the CEA since 2005 under an industrial partnership agreement set to expire in 2015. AREVA also operates various industrial units that support the dismantling program. This is first-of-a-kind dismantling of a recycling plant that treated used fuel from the defense sector and natural uranium-gas graphite reactors. In connection with the new contract for the 2011-2015 period, the Business Unit was given a new mission of coordinating cleanup and dismantling operations. Close to 1,000 AREVA employees are involved in these projects.

SICN's Annecy and Veurey sites

Cleanup, dismantling and re-industrialization operations are complete at the two industrial sites of Annecy and Veurey. The easement and decommissioning applications for these facilities have been prepared. The Dismantling & Decommissioning Business Unit continued its improvement work to facilitate the return of these sites to general industrial uses.

Eurodif's uranium enrichment plant at Tricastin

The Dismantling & Decommissioning Business Unit is currently preparing the project to dismantle the Eurodif enrichment plant, which operated for thirty years and was shut down in 2012.

Miramas site

The Dismantling & Decommissioning Business Unit is responsible for soil cleanup at this former AREVA chemical plant, whose principal activity involved the isotopic separation of lithium and lithium product manufacturing. One of the project's objectives is to minimize waste production. As of the end of 2013, about 17,500 metric tons of earth had already been processed. Efforts focused on optimizing washing operations for rubble and the excavation and treatment of soils located at the center of the site are now complete. Some 50 people are working on the project, which began in late 2009 and should last about six years.

Relations with customers and suppliers

To improve the cost-competitiveness of its projects, the Business Unit is engaged in dialogue with its suppliers to strengthen their visibility on the future workload over the short and medium terms and to work on improving performance.

Market and competitive position

More than a hundred of the world's nuclear power plants have reached the end of their operating life. Nuclear installations also include dozens of research facilities, in addition to fuel fabrication and recycling plants. The value development of these shut-down sites adds up to a significant market. The leading segments are countries with a legacy of civilian nuclear power, having developed their capacities in the 1950s, 1960s and 1970s. Some of these facilities are reaching the end of their operating period. Their dismantling is under preparation or in progress.

In France, the net present value of provisions for the three main contracting authorities – CEA, AREVA and EDF – is approximately 30 billion euros. Some projects and operations have begun. The market will grow significantly in the coming years, driven by the ramp-up of decommissioning programs undertaken by the three operators. The Decontamination & Dismantling Business Unit has a major role to play in that effort.

The biggest international markets are in the United States and Europe. Japan is a special case because of the Fukushima accident and the site's dismantling needs. Significant growth is expected in Germany in a few years due to the shutdown of eight of its power plants in 2011. In the United Kingdom, although business is currently slow, the market represents significant potential and is a priority for the group.

Outlook and development goals

The strategic objective of the Dismantling & Decommissioning Business Unit is to consolidate its position as a major player in the management of dismantling projects and the development of solutions for its customers in France and abroad, particularly in the United States, the United Kingdom, Germany and Japan.

In France, at the CEA's request, a competitive bidding process will be phased in for the operation and production of workshops supporting the dismantling projects. While work is declining, the CEA Marcoule is an important market for the Business Unit. The D&D Business Unit will be positioned to win these contracts in the future.

In the United Kingdom, the group continues to collaborate with CH2M-Hill of the United States and Serco of the United Kingdom to win contracts for the management of the decommissioning and dismantling program for the 22 Magnox reactors and the Winfrith and Harwell research sites.

In the United States, the D&D Business Unit's objective is to maintain its presence with the US Department of Energy, particularly at the Hanford site, despite budget restrictions imposed on this government agency. In addition, the group is seeking to expand its presence with operators who recently announced the closure of some of their power plants, including Kewaunee, Crystal River, San Onofre 2 & 3, Oyster Creek and Vermont Yankee.

Lastly, in Japan, the D&D Business Unit continued to develop several industrial solutions as part of its work in 2011, such as the decontamination of contaminated soils. At the end of 2013, AREVA and the Japanese company ATOX announced their intention to create a joint venture dedicated to the joint development of innovative solutions focused primarily on the rehabilitation of the Fukushima site and region. AREVA also signed partnership agreements with other Japanese companies, such as Chivoda and JAEA, to offer proven technical solutions.

6.4.4.4. CLEANUP

Key figures

	2013	2012
Revenue *(in millions of euros)* *	128	121
Workforce at year end	2,519	2,419

* *Contribution to consolidated revenue.*

Businesses

The Cleanup Business Unit supplies comprehensive services giving nuclear facility operators the assurance of clean and safe facility operations.

This offering encompasses the following activities:

- the outsourced operation of nuclear waste treatment facilities;
- the cleanup and dismantling of shut-down facilities, in association with other AREVA Business Units, with operations ranging from scenario design and development to actual dismantling work and management of the related projects;
- the management and implementation of logistics operations for jobsites or support operations at the sites or nuclear facilities, including installation and removal of overhead access and insulation;
- special maintenance operations, mechanical maintenance and repair, and nuclear equipment and systems handling;
- radiation protection and nuclear measurement services, and operation of laboratories dedicated to physico-chemical and radiological analyses.

Operations and highlights

In 2013, the Cleanup Business Unit continued to implement its action plan aimed at capturing new markets, increasing its economic and operational performance, strengthening its presence near its customers, and developing its skills.

The Cleanup Business Unit was awarded significant contracts during the year:

- in facility operations, in particular the decontamination workshop at the Marcoule site, CEA facilities in Saclay and EDF's Chemistry and Environmental Laboratory in Creys-Malville;
- in the Cleanup business at EDF's Creys-Malville site;
- in the Dismantling business at the CEA site in Fontenay-aux-Roses;
- in Logistics and Maintenance for EDF nuclear power plants with the signature of a major five-year support contract in October 2013 for eight reactors at the Chinon, Nogent and Belleville power plants; decontamination contracts concerning all of EDF's nuclear power plants; maintenance contracts at the Tricastin and St Alban sites (2014-2020); and non-destructive testing of steam generators (2014-2016).

Manufacturing and human resources

The Business Unit provides services to almost all of the French nuclear sites. These services are carried out by human resources deployed to its customer sites.

The Business Unit has expertise in the vast majority of techniques for low- and medium-level effluent and waste processing, volume reduction and safe packaging. Its experience and ability to innovate enable it to offer competitive, demonstrated solutions to its customers.

The Business Unit has operated the Triade environmentally regulated facility (see Glossary) since 1994, where it maintains machinery and equipment used in controlled areas, recertifies equipment, processes waste and dismantles tooling. It also makes facilities available to customers so that they may maintain their equipment in a secure environment.

Relations with customers and suppliers

Most of the Cleanup Business Unit's customers are in the French nuclear industry: utilities, nuclear cycle companies, and companies working in the nuclear waste field, such as Andra, the CEA and EDF. The Business Unit also provides nuclear logistics services to Electrabel at the Tihange site in Belgium and housekeeping services for the nuclear island of the Olkiluoto EPR™ reactor under construction for TVO in Finland.

In line with the general policy of the AREVA group's Purchasing department, the Cleanup Business Unit continues to implement a subcontracting plan anchored in multiyear partnerships.

Market and competitive position

The Cleanup Business Unit's market is driven by new requirements from customers who are increasingly outsourcing their operations.

The Cleanup Business Unit is a major player in France, with a market share of about 20%.

Outlook and development goals

The Cleanup Business Unit will grow by continuing to expand its offer based on operations underpinned by in-house expertise, while widening the scope of its offer through partnerships when the Business Unit's competitive needs to be strengthened.

The Cleanup Business Unit's development efforts encompass all product lines:

- "Specialized Maintenance" in the field of facility maintenance, in particular at AREVA or CEA sites where the Cleanup Business Unit is the industrial operator for operations pursuant to the Supplementary Safety Assessments and the "major overhauls" program for EDF's power plants; this maintenance program aims to meet new post-Fukushima safety rules and to extend the operating period of the 58 nuclear reactors to 60 years, vs. 40 today;
- "Dismantling", particularly of high-level facilities at AREVA or CEA nuclear sites for the Dismantling & Decommissioning Business Unit, and dismantling of the Creys-Malville and Bugey reactors for EDF's deconstruction engineering and environment center CIDEN;
- "Industrial Operator" and "Nuclear Logistics and Operating Assistance", a presence maintained in the market for industrial operation and operating assistance, in addition to a position in the market for the operation of new facilities to be started up in connection with waste retrieval and packaging programs linked to dismantling projects;
- "Environmental Radiation Protection and Measurement", in the context of major dismantling projects at AREVA and CEA sites;
- "Total Project Support" and "Scaffolding and Thermal Insulation" across the entire EDF fleet in connection with ongoing and future calls for bids, for services pursuant to the Supplementary Safety Assessments and EDF's "major overhauls" program for its power plants.

The Cleanup Business Unit is also investing in technology innovation to successfully carry out the above developments.

6.4.4.5. LOGISTICS

Key figures

	2013	2012
Revenue *(in millions of euros)* *	278	268
Workforce at year end	1,245	1,399

* *Contribution to consolidated revenue.*

Businesses

The Logistics Business Unit operates in two main areas:

- the design of casks and specialized equipment for the shipment and/or storage of radioactive materials, and management of their manufacture; and
- the organization and execution of radioactive materials shipments and supply chain management as needed, including that of the related equipment fleet.

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. It was also tasked with the supervision transportation operations for the AREVA group and its customers to ensure that they are carried out according to the highest safety standards.

The Business Unit also supplies nuclear fuel storage rack solutions for power plant cooling pools as well as neutron shield systems for reactors.

Operations and highlights

To strengthen its visibility with customers and prospects, the AREVA group's nuclear logistics operations are marketed under the AREVA TN trade name.

In the front end of the nuclear cycle, the Logistics Business Unit continues to open up new maritime shipping lanes to China, in particular from Canada. An important contract was signed with an enrichment company for shipments of natural uranium in North America in 2014-2015.

The Logistics Business Unit expanded its partnership with the CEA with the renewal of the cask fleet management contract and through new transportation services.

In the back end of the cycle, several used fuel and radioactive waste shipments were carried out for French, Belgian, Swiss, Dutch and Italian customers in 2013. Also in 2013, post-Fukushima MOX fuel shipments to Japan resumed and a new contract was implemented for the first shipment of MOX fuel to the Dutch utility EPZ. The Business Unit continued to do brisk business for the French utility EDF, with as usual close to 200 used fuel shipments between EDF's power plants and AREVA's recycling plant at La Hague.

In the field of used fuel storage, the Business Unit's development continued.

Highlights for 2013 include the licensing of the TN24E shipping cask by the German office for radiation protection, leading to the signature of contracts to supply more than 70 casks. This is first time that a non-German company is able to access the market for transportation casks used in the German used fuel management program.

In Belgium, the Business Unit won an additional order for ten TN®-24 dual-purpose metal casks from repeat customer Synatom.

In the United States, the Logistics Business Unit continued its expansion with the repeat delivery of dozens of NUHOMS® dry fuel storage systems and several new orders. A number of service contracts were also signed this year to commission and load the Nuhoms systems.

In research reactors, the Logistics Business Unit developed and licensed a new cask to ship a wide variety of nuclear fuels and other irradiated materials.

In nuclear medicine, the Logistics Business Unit carried out the first air shipment of medical isotopes used in cancer research between France and the United States.

Manufacturing and human resources

The Logistics Business Unit carries out nearly 6,000 shipments each year. It is based in several regions of the world:

- in Europe, its leading entity, which has expertise in every aspect of logistics, possesses a large fleet of shipping casks and carries out radioactive materials shipments;
- in the United States, the company and its subsidiary design, manufacture and sell storage casks to US nuclear utilities. They also operate in the front end of the nuclear cycle and are based at three sites, in Columbia, Maryland, Aiken, South Carolina, and Greensboro, North Carolina;
- in Japan, its subsidiary provides engineering, transportation and the sale and maintenance of reactor fuel casks;
- in Niger, the Business Unit ships mining concentrates; and
- in China since the beginning of this year, where the Business Unit is developing all of its operations.

The Logistics Business Unit has manufacturing resources for shipping and storage casks. It also owns transportation equipment and operates road, rail and sea terminals.

To accomplish its mission of supervising the AREVA group's transportation operations, the Logistics Business Unit has an organization that minimizes risks and establishes appropriate action plans to manage any emergency at any location. Its real-time transportation tracking center provides it with a continuous stream of information on transportation operations.

Relations with customers and suppliers

The Logistics Business Unit's customers are nuclear operators seeking solutions for radioactive materials transportation and for materials storage and supply chain management. Through its entities, the Business Unit's customers are the majority of the world's utilities, research reactor operators, fuel cycle companies and research centers, institutes and laboratories.

The Logistics Business Unit has developed a diversified international network of suppliers for all of its key components.

Market and competitive position

The business of nuclear materials transportation and design of nuclear materials storage and shipping casks is characterized by the diversity of materials involved, the international and competitive nature of the markets, and the strict and changing regulatory framework, which differs according to each transportation mode and each country.

The Business Unit's sales were evenly distributed among France, Europe, North America and Asia.

The Logistics Business Unit offers comprehensive management of the logistics chain and has strengthened its position in securing supplies to the nuclear sites.

Activities related to the front end of the fuel cycle are deployed around the globe. In recent years, the Business Unit strengthened its position in this market with shipments organized for AREVA's uranium mines and fuel fabrication plants.

In the back end of the fuel cycle:

- in Europe, EDF continues to be the leading shipper of used fuel to the La Hague recycling plant, followed by the Dutch operator EPZ and certain research reactors;
- in the United States, the Logistics Business Unit is a market leader in the dry storage of used fuel and is also positioned in the supply chain and transportation market, most notably in the nuclear research field;
- in Asia, the Logistics Business Unit is mainly present in Japan, where it carries out fuel and waste shipments between Europe and Japan. It also supplies storage racks to the Chinese nuclear reactors and organizes shipments from Russia to the port of Shanghai.

The Logistics Business Unit is a world leader in both of its main businesses and is active in every stage of the nuclear fuel cycle on an international level.

Outlook and development goals

The Logistics Business Unit is pursuing three major objectives:

- to bolster its global position in transportation and storage for both the front end and back end of the nuclear fuel cycle;
- to supervise AREVA group shipments and promote their standards of safety all over the world; and
- to support the strategy of AREVA's Back End Business Group for the development of used fuel recycling.

In Europe, the Logistics Business Unit wants to consolidate its position in the storage market and develop its offering in transportation services for the front end of the cycle and for research reactors.

In North America, the Business Unit plans to maintain its 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 deployment to the transportation markets for the front end and back end of the cycle.

6.4.5. RENEWABLE ENERGIES BUSINESS GROUP

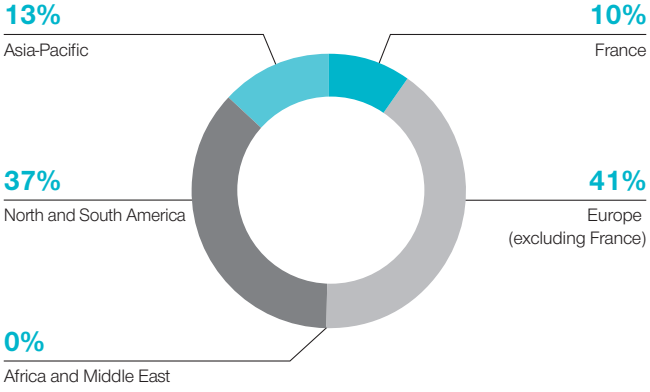
KEY FIGURES

In accordance with IFRS 5 and in view of exclusive negotiations with Gamesa for the creation of a joint venture (50% AREVA, 50% Gamesa) in the offshore wind field as well as active initiatives initiated in the second half of 2013 with potential partners to set up a strategic partnership or the sale of an interest in AREVA Solar, revenue from the Wind and Solar businesses is no longer included in consolidated revenue or in other consolidated data (EBITDA, operating income, free operating cash flow). Thus, 2012 data was restated to present pro forma information using the 2013 consolidation scope and income from these operations is presented on a separate line of the income statement under "net income from discontinued operations". Consequently, the backlog and revenue reported at January 30, 2014 were restated for the Wind and Solar operations.

	2013	2012
Revenue *(in millions of euros)* *	69	117
Operating income *(in millions of euros)*	(39)	(20)
Workforce at year end	451	522

* *Contribution to consolidated revenue.*

→ 2013 REVENUE BY GEOGRAPHICAL AREA



Source: AREVA.

OVERVIEW

The Renewable Energies Business Group had 69 million euros in backlog at December 31, 2013. Revenue totaled 69 million euros in 2013, a decrease of 41.2% compared with 2012 (-35.7% like for like). The Business Group offers solutions in two renewable energy fields: Bioenergy and Energy Storage. A limited review of offshore wind and concentrated solar power (CSP) operations will be provided in this section.

Relations with customers and suppliers

Customers

Customers of the Renewable Energies Business Group mainly include major power companies, project developers, independent power producers and electricity-intensive industries.

Suppliers

Items purchased represent a significant portion of the Renewable Energies Business Group's product offering. The supply chain management function provides an essential contribution to the Business Group's financial performance. It centralizes requirements, identifies the best global sources of supply and negotiates the best terms in all areas, including:

- equipment, components and mechanical systems;
- electricity, electronics and instrumentation;
- castings, boilers and piping;
- steel, composite materials and intermediate products;
- civil engineering and installation;
- intellectual services.

The supply chain management organization contributes to the Business Group's profitable growth. It focuses its activities on:

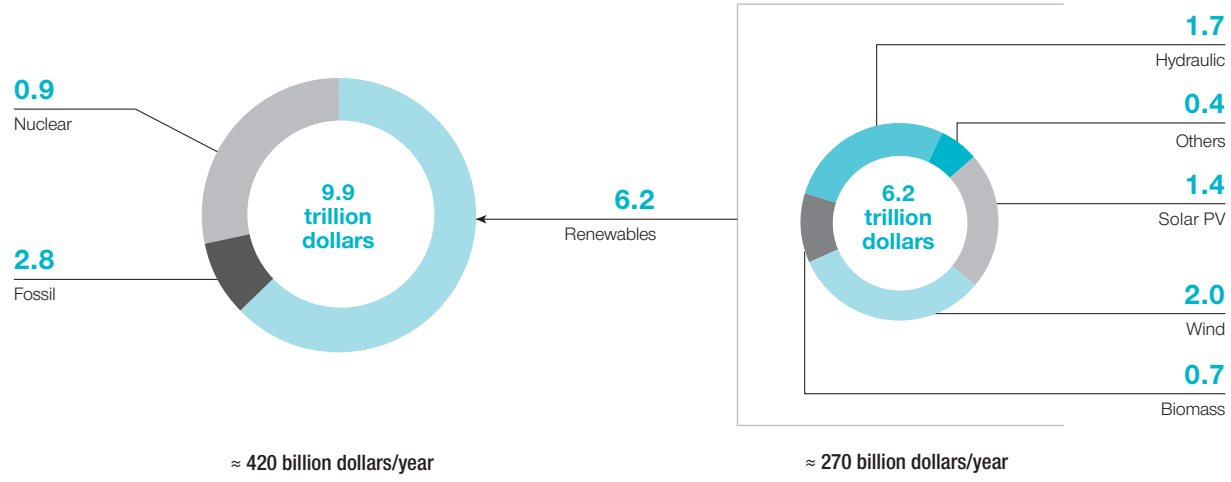
- defining a global procurement policy for the main supplies and managing a global supplier database;
- securing the offshore wind supply chain through long-term agreements and multi-sourcing;
- establishing a global and efficient supply chain for the solar business;
- Implementing robust processes for managing supplier quality and controlling supplier risk;
- helping to reduce costs and developing technical optimizations programs.

Market and competitive position

The central scenario in *World Energy Outlook 2013* published by the International Energy Agency (IEA) – the "New Policies Scenario [(1)]– foresees a transformation of the electricity mix, with the share of non-hydro renewable energies expected to rise from 4% in 2011 to more than 16% of global electricity generation in 2035. This growth is expected to occur alongside an increase of more than 67% in global demand for electricity over that same period.

Renewable energies (including hydro) are expected to represent more than 62% of all capital spending devoted to new power plants from 2013 to 2035. Major investments are planned in China, India, Europe and the United States.

➜ **INVESTMENT IN RENEWABLE-BASED ELECTRICITY GENERATION BY TECHNOLOGY, 2012-2035 - NEW POLICIES SCENARIO (IN BILLIONS OF 2012 US DOLLARS)**

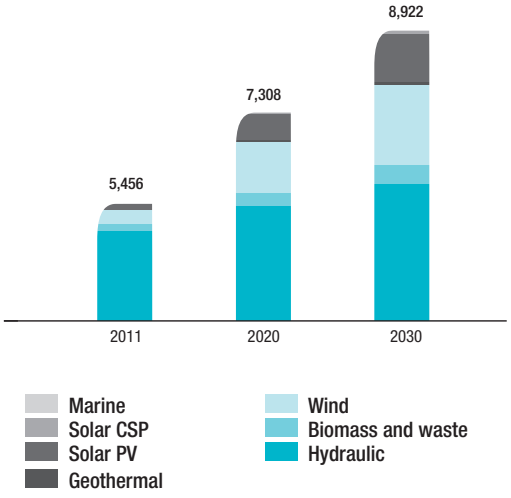


Source: IEA, WEO 2013.

(1) According to the IEA, further efforts would need to be undertaken beyond those highlighted in the New Policies Scenario to limit the impact of global climate change to a temperature increase of less than 2°C. As detailed in its 450 Scenario, such efforts would imply the implementation of additional nuclear and renewable energy capacities around the world.

As explained in Section 6.1.1, governments all over the world are urging utilities to increase the share of renewable energies in their portfolios. Installed capacity from biomass plants would practically triple over the 2011-2035 period under the New Policies Scenario in the *World Energy Outlook*.

➜ INSTALLED GENERATING CAPACITY FROM RENEWABLE ENERGIES – NEW POLICIES SCENARIO (GWE)



Source: IEA, WEO 2013.

The *World Energy Outlook* also notes that the intermittent nature of some renewable energy production technologies (in particular photovoltaic solar and onshore wind) assure the future of energy storage technologies as a way to stabilize power grids.

The Business Group's energy storage operations are ideally positioned to benefit from the growth of this market.

6.4.5.1. BIOENERGY

Key figures

	2013	2012
Revenue *(in millions of euros)* *	68	117
Workforce at year end	342	418

* *Contribution to consolidated revenue.*

Businesses

The Bioenergy Business Unit offers integrated technology solutions for the design, construction and commissioning of biomass power plants. It also offers solutions for the construction of biomass torrefaction units for green coal production. Its principal customers are in Europe, South America and Asia. Carbon-neutral biomass power plants convert organic residues (wood, bagasse, straw, etc.) into energy.

With a strong presence in Asia, the Bioenergy Business Unit also offers targeted technologies suitable for the region, in particular the FlexBio boiler island, which burns complex or mixed biomass available in the Asian market.

Operations and highlights

In November 2013, the AREVA biomass power plant project for the Dutch utility Eneco reached a major milestone with the turnover of the facility to the customer.

In mid-November, AREVA and its partner Leroux & Lotz Technologies, chosen by the renewable energy producer Neoen, laid the cornerstone of the biomass cogeneration plant in Commentry (Allier department). The plant will have a generating capacity of 15 MWe and a thermal capacity of about 50 MW. It is slated to start up in the first quarter of 2015.

In October, the independent power producer Green Innovations For Tomorrow Corporation awarded a contract to AREVA and its local partner Engcon Energy Philippines for the construction of a biomass power plant 200 kilometers north of Manila in the Philippines. With an installed capacity of 12 MWe, the plant will burn rice husks to supply electricity to some 10,000 households per year. It should be completed by mid-2015.

In May 2013, an energy project developer awarded a contract to AREVA and its Thai industrial partner for the construction of a biomass power plant 80 kilometers west of Bangkok in Thailand. With an installed capacity of 9.5 MWe, the power plant will be fueled *with rice husks, bamboo, bagasse and rubber wood chips.*

Also in Thailand, the last phase of construction is underway on the 9.9 MWe power plant built in partnership with Ensys for U-Thong Bio Power Co Ltd. The plant will supply green electricity from rice husks, possibly mixed with bagasse, to 6,000 to 8,000 households. Located in Suphanburi Province 160 kilometers north of Bangkok, the project started in July 2012.

Also in 2013, the Bioenergy Business Unit benefitted from the recovery of the Brazilian bioenergy power plant market by signing a contract with a Brazilian developer for the construction of a 60 MWe biomass power plant in the State of Mato Grosso do Sul.

Lastly, 2013 marked the launch of AREVA's torrefaction technology on an industrial scale, including the installation of a pilot plant with an industrial partner in France.

Manufacturing and human resources

The Bioenergy Business Unit is organized into three regional units and one cross-business technical center:

- Europe: locations in France and Germany;
- Asia: locations in India and Singapore;
- Latin America: a long-standing location in Brazil;
- Bioenergy technical center: located in Bordeaux, France.

With operating excellence at the heart of the Business Unit's strategy, the Business Unit's occupational safety performance is also exemplary (accident frequency rate: zero).

Positioned as a key player for solutions with a strong technology component, the Bioenergy Business Unit focuses on innovation to differentiate itself and improve its competitiveness in this fast-growing and highly competitive market.

Market and competitive position

Market

The global market for biomass power plants is set to increase by 7 GWe per year from 2013 to 2018 (Source: 2013 IEA Renewable Energies Report).

Though the biomass market is highly fragmented in terms of customers and types of biomass, it remains the world's largest renewable energies market. Emerging countries, in particular Brazil and the countries of Southeast Asia, are high-growth markets for biomass.

With the industrialization and commercial development of AREVA's torrefaction process, the group is positioned in two high-potential markets: biomass co-combustion in coal-fired power plants, and heat production using biomass. The use of biocoal in coal-fired power plants requires very little modification of the existing facilities. It is also the easiest way for European countries to reach their 2020 targets for renewable energies' share of the overall energy mix.

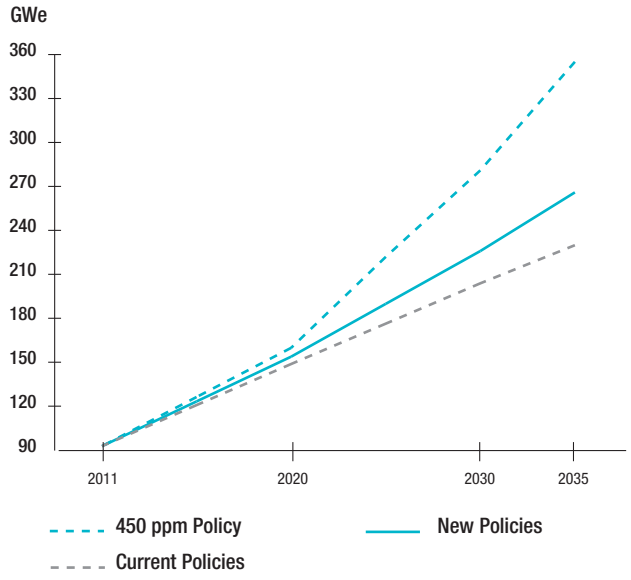
Position

The Bioenergy Business Unit is an industrial pioneer in the field of power engineering, especially as concerns biomass combustion and cogeneration technologies. The power plants in service in Europe, Latin America and Asia represent installed biomass generating capacity of 2.5 GWe. The Business Unit plans to consolidate its position as a leading supplier of technology solutions in its target markets:

- sugarcane residues in Latin America (particularly Brazil);
- wood and straw residues in Europe;
- agricultural residues in Asia (wheat and rice straw, palm stalks, coconut shells).

With its industrial torrefaction technology, the Business Unit is one of the trail-blazers in this innovative bioenergy sector. The Business Unit recently broadened its offering to torrefaction to extend the group's technology portfolio and anticipate market trends aims, which is one of the Business Unit's key missions.

GLOBAL INSTALLED GENERATING CAPACITY FROM BIOMASS AND WASTE



Source: IEA, WEO 2013.

Outlook and development goals

The market for biomass power plants will continue to grow, led by abundant agricultural and forestry residues and stimulated by government subsidies. The Bioenergy Business Unit seeks to conquer new markets through innovation, in particular by optimizing the processes and technologies it uses in its bioenergy power plants and by developing its torrefaction process. In addition, it was decided to refocus the Business Unit on its core operations of design, construction and commissioning of biomass power plants in Latin America, and more specifically in Brazil.

6.4.5.2. ENERGY STORAGE

Key figures

	2013	2012
Revenue *(in millions of euros)* *	0	0
Workforce at year end	50	55

* *Contribution to consolidated revenue.*

Businesses

The Energy Storage Business Unit develops and industrializes solutions for generating clean electricity based on fuel cells and hydrogen-producing electrolyzers. The Business Unit is positioned as a major player in the energy transition and provides assistance to local communities and industries interested in instituting new energy systems.

The Business Unit aims to reduce the cost of its technical solutions to offer its customers completely reliable carbon-free systems. Commercially, the Business Unit is developing its traditional markets and exploring new outlets for its Greenergy Box™ in the energy storage markets.

Operations and highlights

HELION changed its corporate name and is now AREVA Stockage d'Énergie (AREVA Energy Storage). This strengthens the AREVA brand in the Renewable Energies field.

The Myrte platform installed in 2011 offers a solar energy storage solution based on hydrogen technologies. Production ramped up gradually and the plant is now operated in automated mode. Connected to the ERDF power distribution system in December 2011, it is contributing to the reliable integration of solar energy into the Corsican grid. The platform was improved in 2013 to increase the fuel cell's flexibility. The Greenergy Box™, which will be installed on the platform in phase 2, was assembled and reception-tested at the manufacturing plant and has been delivered to the platform.

The Energy Storage Business Unit began fabricating a PEM electrolyzer to convert electricity into hydrogen as part of the Smart Grid Solar project undertaken by the University of Erlangen in Germany, in cooperation with AREVA GmbH.

The Energy Storage Business Unit initiated the fabrication of a Greenergy Box™ for the City of LaCroix Valmer. All of the administrative permits required to operate the equipment in a public facility have been received. The State's validation of the terms for deployment of the Greenergy Box™ is a significant step towards opening up hydrogen energy markets.

AREVA Energy Storage also strengthened its role in the development of hydrogen energy in France by becoming a member of the French association for hydrogen and fuel cells (AFHyPAC) in December 2013.

Manufacturing and human resources

The Business Unit is based in Aix-en-Provence, the leading center in France for environmental technologies. It employed 50 people as of the end of 2013.

Market and competitive position

Market

The market for hydrogen production by electrolysis, traditionally used in industrial applications, is evolving with the opening of hydrogen service stations. Other applications, such as Power-to-Gas, offer additional and important avenues for AREVA's development in this field.

The fuel cell, which is the Business Unit's traditional product, has many advantages: reliability, energy performance, low carbon footprint and absence of noise. The fuel cell market has taken off in recent years, particularly for backup systems equipment. It includes two main sets of applications:

- onboard applications use hydrogen as the primary fuel, with the cost offset by value-added system features that make these applications profitable;
- stationary applications involve decentralized electricity production and backup systems.

The growth expected in the US, European and Asian markets makes them highly attractive. Hydrogen and fuel cells may also be used for decentralized energy storage and for energy management; both applications are under evaluation.

Position

With its technologies currently in the industrial scale-up phase, the Business Unit is focusing on two products lines:

- highly reliable backup systems with a wide power range. A demonstrator coupled with a modular data center has been in operation since mid-2012 at a subsidiary's site;
- Greenergy Box™ energy storage systems, with two demonstrators already in operation:
  - a pilot facility in Corsica as part of the MYRTE project, in operation since the beginning of 2012,
  - a proof of concept prototype at a subsidiary's site, whose operating experience will be used to develop the first commercial version of the Greenergy Box™ to be delivered to the town of La Croix Valmer by the end of 2014 .

The Business Unit also has assets and skills in the electrolysis field and is aiming to develop large-scale electrolyzers.

Outlook and development goals

The Energy Storage Business Unit intensified its search for technology partnerships at the end 2013 and will develop energy storage and management solutions based on hydrogen production and fuel cells in association with other industrial groups specializing in energy management.

6.4.5.3. WIND ENERGY

Businesses

The Wind entities designs, manufactures, assembles, erects and commissions turbines for the offshore wind market. The group also offers installation and maintenance services to its customers.

Operations and highlights

The Wind Power entity is carrying out its first two large-scale projects in the German North Sea with the production and installation of 40 turbines for the Trianel Borkum offshore wind farm and 80 turbines for the Global Tech 1 project.

The entity also met several milestones in expanding its market reach beyond its historical presence in Germany.

- In France, in the framework of a call for tender organized by the government, the group and its partners Iberdrola and Eole-RES were selected to develop the Saint-Brieuc site (500 MWe), which will be equipped with AREVA turbines. The group is also partnering with GDF SUEZ, EDP Renewables and Neoen Marines, which submitted a bid for the second French offshore wind tender concerning the Tréport and Noirmoutier-Yeu projects. Armed with this success, AREVA confirmed its intention of installing two plants in Le Havre, one for turbines and

the other for blades, where the group has secured areas with direct access to sea.

- In Germany, Iberdrola selected AREVA's wind turbines for its Wikinger project, to be installed 35 kilometers off the Baltic sea coast. This success followed a highly competitive tendering process with several different offshore technologies proposed.
- In the United Kingdom, AREVA now has a dedicated sales team and is participating in major tenders, including those Round 3 development projects.
- AREVA is also positioned in other European markets such as the Netherlands and Belgium, each of which have announced their intention of installing 1.8 GWe and 1.0 GWe respectively by 2020.

Manufacturing and human resources

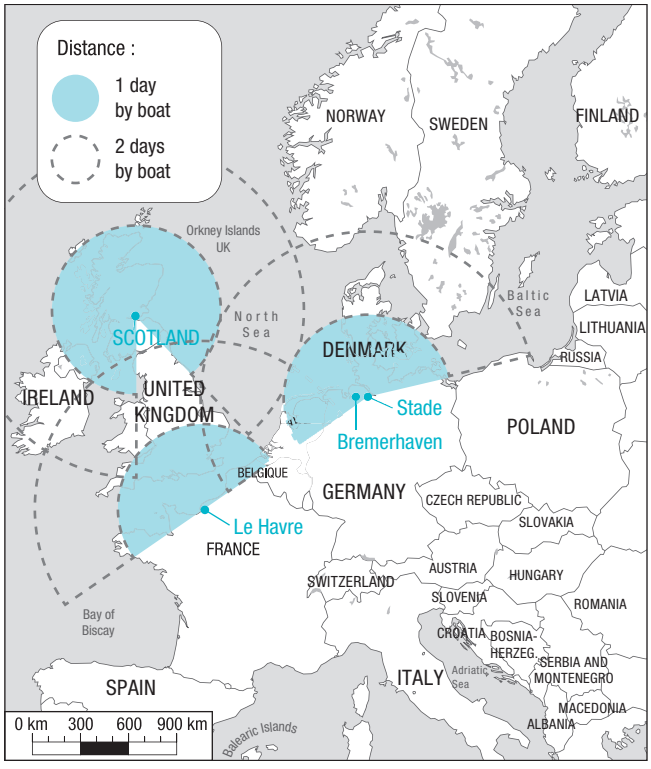
The group's industrial footprint reflects its long-standing presence in Germany, where the group has nacelle manufacturing plants in Bremerhaven, blade manufacturing in Stade, and commissioning and maintenance services units.

Outside Germany, AREVA has announced plans to build new wind turbine manufacturing plants in Le Havre, France and in Scotland.

Market and competitive position

Market

➔ **AREVA WIND PLANTS IN GERMANY AND PROPOSED INDUSTRIAL PROJECTS IN FRANCE AND SCOTLAND – DISTANCES FROM THE LEADING EUROPEAN MARKETS FOR OFFSHORE WIND**



The offshore wind market is growing quickly. In Europe, installed offshore wind capacity is expected to rise to more than 25 GWe by 2020.

UNITED KINGDOM

The United Kingdom is Europe's leading offshore wind market, with 2.7 GWe of installed capacity and a target of 13 GWe by 2020.

GERMANY

With a target of 6.5 GWe of installed offshore wind capacity in the North Sea and Baltic Sea by 2020, Germany is the second largest European market. The insufficiencies of the transmission grids delayed the commissioning of several offshore wind farms. The German government is currently working on a solution to avoid similar difficulties with planned new facilities.

FRANCE

The French government decided to increase the offshore wind's share of the energy mix in France by announcing a second call for bids in March 2013. It concerns the installation and operation of 1,000 MWe of capacity off Le Tréport in Normandy (500 MWe) and the Yeu and Noirmoutier islands in the Pays-de-Loire region (500 MWe). AREVA partnered with a consortium consisting of GDF SUEZ, EDP Renewables and Neoen Marine to offer its next-generation 8 MWe wind turbine for the two wind farms. The French energy regulation commission (*Commission de Régulation de l Énergie*) is expected to make a decision in the first quarter of 2014 for the construction and deployment of these two offshore wind farms by 2021-2023.

In 2012, after a first call for bids to develop 2,250 MWe of offshore wind energy capacity, the French government chose AREVA for the construction of a 500 MWe wind farm in Saint-Brieuc as part of a consortium led by Iberdrola and Eole RES.

OTHER MARKETS

Other European countries are planning to develop large wind farms by 2020, including Belgium, the Netherlands and Sweden. The Polish market is growing as well. Japan is showing growing interest in this source of energy, and China and South Korea are seeking to deploy accelerated programs with government-set targets.

Position

In the offshore wind field, AREVA pioneered the development of offshore turbines with medium-speed drive-trains and permanent magnet technology. It was also the first to install six 5-MWe turbines in the German North Sea as early as 2009, in the very rough conditions of the Alpha Ventus pilot site (40 kilometers from the shore at a depth of 30 meters). The successful operation of the Alpha Ventus project, the production of more than 120 5-MWe machines and the continuous improvement of the group's technology make AREVA a leading player in the still emerging offshore wind market.

The business model rests primarily on the delivery and maintenance of high-power wind turbines. The business is also building strategic partnerships with installers to offer integrated solutions to customers seeking to minimize interface risks.

Outlook and development goals

To boost its development in offshore wind, AREVA announced on January 20, 2014, the start of exclusive negotiations to create a joint venture (50% AREVA, 50% Gamesa), thereby creating a European champion destined to become a leading global player.

By uniting their strengths, AREVA and Gamesa will enable the joint venture to become a leading player in the global offshore wind market and will contribute to the development of this fast growing segment by:

- providing expertise, innovation and R&D funding to develop competitive and reliable technologies for the future;
- offering their capacity for industrialization and their expertise in the development of and internal and external supply chain;
- applying best practices developed onshore wind to the offshore segment.

The joint venture will be able to harvest substantial synergies:

- the wind experience gained by AREVA from several wind projects since 2004, in particular with the ongoing installation of 120 5-MW turbines in the North Sea; and
- Gamesa's technology assets in onshore and offshore wind based on 19 years of experience as an industrial leader across the entire value chain. The company also has a strong capacity for industrialization, based on its proven expertise and experience in supply chain development.

AREVA and Gamesa will pool their personnel and technologies in offshore wind:

- for AREVA: the German Bremerhaven (turbine assembly) and Stade (blade manufacturing) plants, as well as its offshore wind technology and commercial contracts;
- for Gamesa: high-capacity technologies applicable to offshore wind, the 5 MW platform and the Arinaga turbine prototype, as well as its keys skills in offshore-related engineering, operation and maintenance;
- additionally, the joint venture will enter into a preferred supplier agreement with Gamesa for certain key components.

The joint venture will develop a portfolio of high value-added products aimed at covering the requirements of the offshore market:

- 5 MW: the joint venture will continue to market AREVA's M5000 turbine, which enjoys a strong track record. In addition, a new generation of enhanced 5 MW turbines will be developed in the short term by drawing on Gamesa's high-capacity technologies;
- 8 MW: accelerated development of the next generation of turbines through investments made to date by both parties and from the technology synergies of the joint venture.

From the start, the joint venture will bring several customers, including Iberdrola*, which selected the M5000 turbine for its offshore wind farms in Saint-Brieuc, France and Wikinger, Germany.

The joint venture will pursue the industrial plan led up to now by AREVA in France and the United Kingdom, including the creation of a turbine assembly and blade manufacturing plant in Le Havre and the development of a network of subcontractors and partners.

6.4.5.2. SOLAR ENERGY

Businesses

The Solar entity continues to deploy its concentrated solar power solutions (CSP) based on the Compact Linear Fresnel Reflector (CLFR) technology. AREVA's solar steam generators may be used in a wide variety of power generation applications, from fifty to several hundred megawatts, whether for standalone CSP facilities or hybrids. Solar steam generators can also be used to boost the power of thermal power plants and increase their power generation during peak periods while reducing power plant emissions and fuel consumption. In addition, they will be integrated into industrial steam production processes. To meet growing demand for solar solutions, AREVA combines its CLFR technology with an energy storage system based on molten salt.

Operations and highlights

In Rajasthan, India, the Solar entity is building a concentrated solar plant for Reliance Power, a renowned Indian player in the global energy sector. Cold testing began in October 2013 and the power plant should be connected to the grid in 2014.

In Queensland, Australia, the entity is building a steam production solar facility for CS Energy. Commercial startup is expected in 2014. With AREVA's solar generators, CS Energy will be able to increase the peak production of its coal-fired power plant without added carbon emissions while reducing its fuel consumption.

In the United States, the entity launched the construction of a solar generator to boost power for Tucson Electric Power (TEP) in Phoenix, Arizona. When the solar augmentation unit enters operation in 2014, it will increase peak output of TEP's coal- and gas-fired power plant by up to 5 MWe without added carbon emissions.

Manufacturing and human resources

The entity operates automated reflector and component assembly plants in Australia and India. It employed 128 people in the United States, India, Australia and France as of the end of 2013.

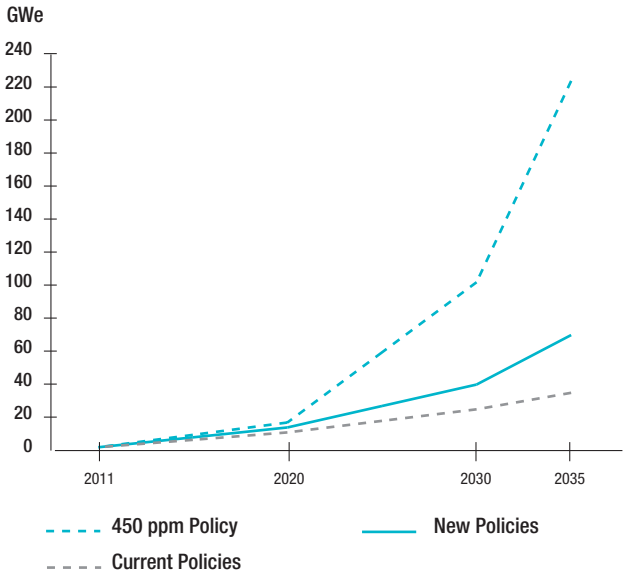
Market and competitive position

Market

Supported by national energy policies, the CSP market is set to experience strong growth over the coming decades. Assuming average annual growth of 20%, CSP should exceed 14 GWe in installed capacity by 2020.

** Iberdrola has a 20% stake in Gamesa.*

GLOBAL INSTALLED GENERATING CAPACITY FROM CONCENTRATED SOLAR POWER



Source: IEA, WEO, 2013.

Key CSP markets encompass North and South America, India, the Africa/Middle East region, and countries with considerable sunshine, as long as environmental regulations promote its development.

Position

The Solar entity brings a comprehensive and integrated solution to the market, combining the most reliable, cost-effective and land-efficient CSP technology with the engineering and project management services the customers expect.

Outlook and development goals

In the second half of 2013, AREVA initiated active contacts with potential partners to set up a strategic partnership agreement or to sell an equity interest in AREVA Solar.

6.4.6. OTHER

Engineering & Projects (E&P)

The integrated model set up by AREVA to complete its projects successfully is founded on the know-how of some 6,000 professionals in the Engineering & Projects team, whose size is unparalleled in the nuclear field. Backed by 50 years of experience in nuclear engineering and major projects, the Engineering & Projects organization (E&P) is actively contributing to the success of AREVA's integrated business model. The objective of this crosscutting organization is to guarantee the reliable, safe and competitive performance of AREVA customer facilities. Its international teams draw on standardized tools, methods and procedures developed by capitalizing on operating experience from more than 3,000 projects led every year in every aspect of the fuel cycle. Based on the risk-sharing requirements of customer Business Groups, the Engineering & Projects organization commits to carrying out turnkey projects or work packages under cost-plus or fixed-price contracts, either as a sole contractor or as an integrator of different partners on a local or international level. To that end, and to support AREVA's customers in integrating local resources into the projects while ensuring the global competitiveness of AREVA's offering, the Engineering & Projects organization is responsible for developing strategic partnerships with engineering firms and construction companies across the globe.

The project execution capabilities of Engineering & Projects together with the technical expertise of its teams, who are familiar with the technologies developed by the group as well as with those of its competitors, give AREVA a major advantage. Skills management, adjusting the skills mix to meet market demand, and the creation of attractive careers are the core mission of E&P's four centers of competence dedicated to project management, design and engineering, construction and testing, and inspection. They also draw on AREVA's global network of experts, who contribute to the success of the projects by developing innovative technologies, transferring know-how and training technical contributors to the projects.

Consulting and Information Systems Business Unit

The **Consulting and Information Systems Business Unit** operates commercially under the brand names of Euriware and Open Cascade, its subsidiary. The Business Unit leads for the AREVA group as well as for other customers integration projects and provides consulting services, IS outsourcing for business and infrastructure applications (hosting, monitoring, operation, administration and expertise).

Its external customers are in Energy, Manufacturing, Transportation, Defense, Industry, and other Services.

In 2013, the Business Unit represented 1.1% of AREVA's revenue. It has 2,010 employees.

The Business Unit is the last digital services company that still belongs to a large industrial group. AREVA decided, after a strategic assessment, to sell the Business Unit's activities except the nuclear instrumentation & control operations dedicated to AREVA to be integrated within AREVA's Engineering & Projects organization. The CSI Business Unit will be merged with a leader in the IT industry. This will allow the Business Unit to benefit from a more prosperous environment for its development.

OPERATIONS AND HIGHLIGHTS

1. Commercial successes

The Business Unit posted 94 million euros in new orders in a slightly declining IT services market. It acquired new customers such as GCAD and NextPharma in the healthcare industry, Louis Dreyfus in international trading, and Michelin for scientific calculations. It also strengthened its position in the energy and manufacturing segments:

- diversifying projects within the GDF SUEZ group: replacement of a solid waste recycling system for Electrabel; development of an energy aggregation system for Ecometering SAS; industrial performance monitoring system for Storengy;
- pursuing businesses with EDF: risk prevention monitoring system; deployment of a documentation migration system as part of a Nuclear Information System renovation project; maintenance outsourcing for computer-aided design and scientific calculation applications for the National Center for Nuclear Components (CNEN); industrial cyber-security contracts for EDF's Nuclear Production Division (DPN) and Nuclear Engineering Division (DIN);
- extending its boundaries within Dalkia: contract renewal and increased scope or work for facility management services concerning the remote monitoring of industrial facilities (contract first awarded in 2004);
- award, alongside AREVA, of the conventional instrumentation & control system (design studies, equipment procurement, installation and testing) for the CEA's Jules Horowitz research reactor;
- developing business for the automotive equipment supplier Mecaplast Group: integration of the SAP maintenance module, followed by overall facility management.

2. Recognition for the continuous improvement initiative

- Once again, the Business Unit demonstrated its commitment to reaching its continuous improvement objectives for quality, safety and the environment (QSE). Following an audit in June 2013, it received triple QSE certification based on ISO 9001, ISO 14001 and OHSAS 18001.
- The Business Unit's SAP Hosting certification for application hosting was renewed for the third time, with the auditor's compliments for the progress achieved and the maturity of the processes applied.
- The Business Unit was certified under ISO 27001 for the quality of its Information Safety Management System, for all resources deployed in the framework of its facility management/outsourcing services.

3. Sustained innovation

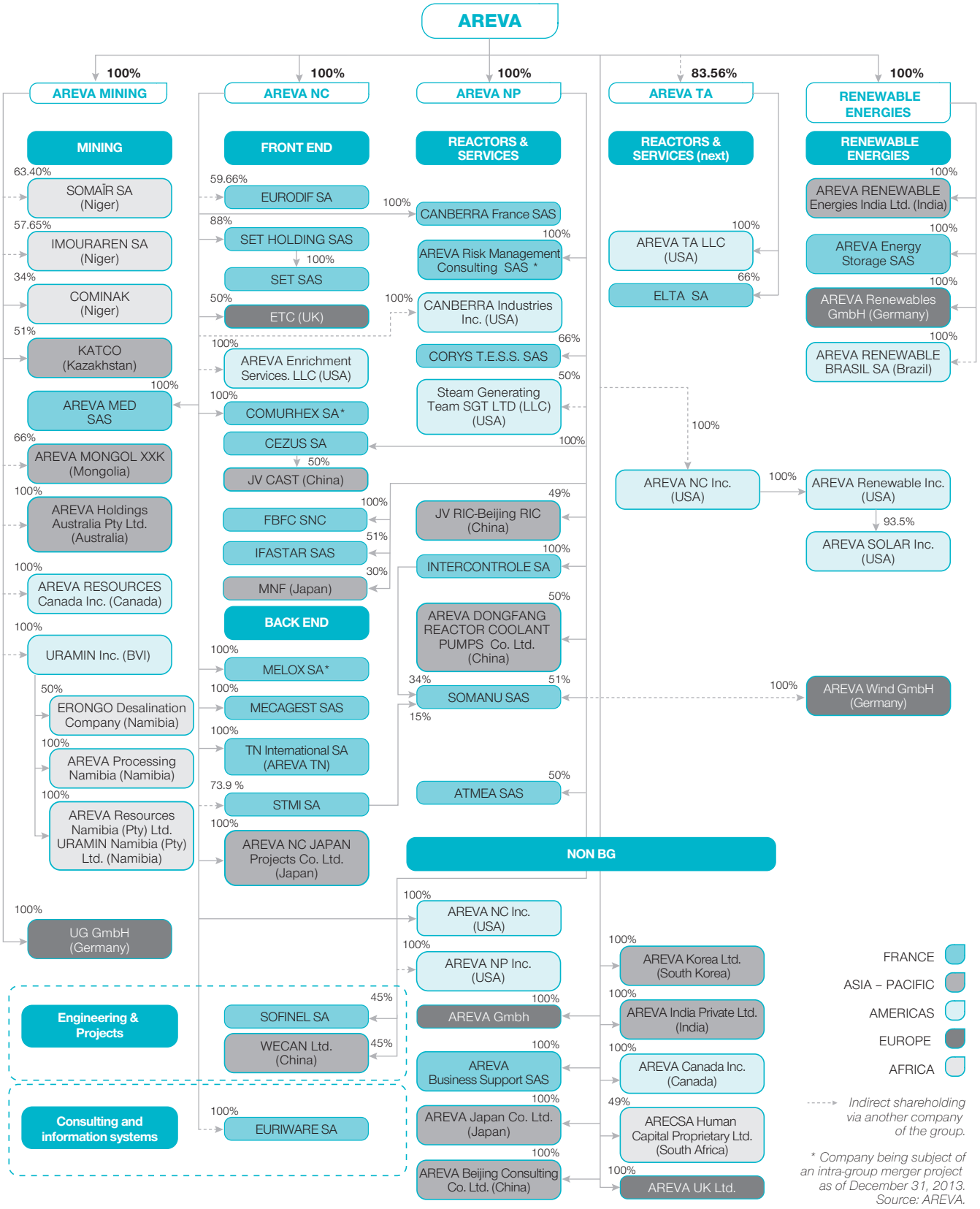
Innovation efforts in services and technology were strengthened. Several R&D projects were carried out in areas such as mobility for work in industrial environments, the cybersecurity of industrial control systems, automation of I&C functional testing, documentation of complex systems, and the interoperability of information systems to exchange technical data pertaining to engineering or operations. Four patent applications were filed.

OUTLOOK AND DEVELOPMENT GOALS

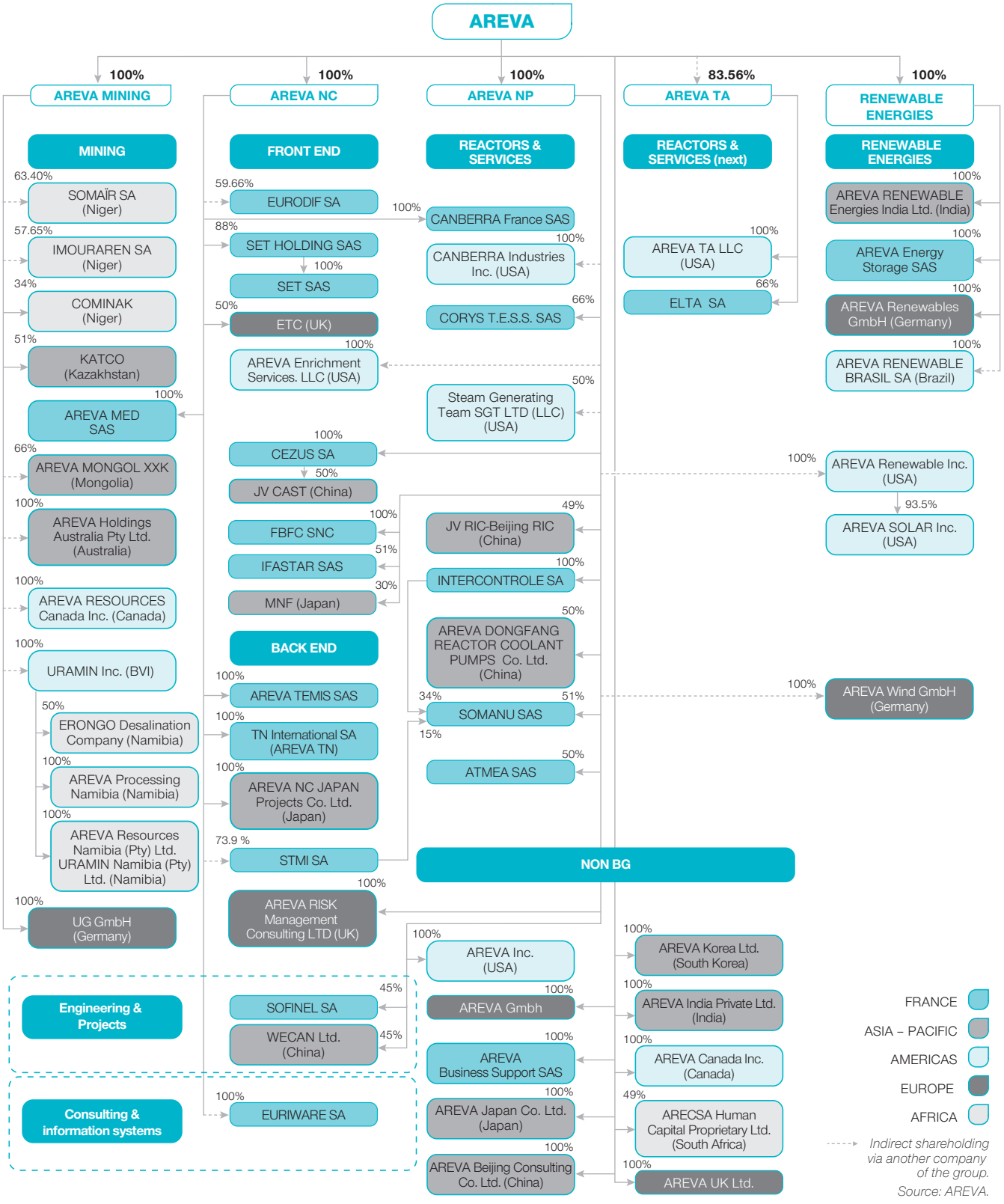
In October 2013, AREVA and Capgemini started exclusive negotiations to form a partnership allowing Capgemini to acquire Groupe Euriware SAS and its subsidiaries and to provide services to AREVA for a period of ten years, including IS outsourcing and application maintenance services for AREVA's information system, projects, project management assistance and engineering operations. The deal should close in the first half of 2014.

Organizational structure

SIMPLIFIED ORGANIZATION CHART OF THE AREVA GROUP AT DECEMBER 31, 2013



SIMPLIFIED ORGANIZATION CHART OF THE AREVA GROUP AT JANUARY 1, 2014



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Property, plant and equipment

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➜ 8.1. Principal sites of the group

Pursuant to Appendix I, point 8 of European Commission Regulation no. 809/2004 of April 29, 2004 and recommendation 146 of the European Securities and Markets Authority (ESMA), information is provided hereunder on the real estate properties and rentals used by the group in connection with its operations.

The group's principal worldwide plant sites at December 31, 2013 are listed below. The primary criterion for listing sites is the size of the operation conducted there. It should be noted that several different operations are performed at some of these sites.

8.1.1. CORPORATE

Location	Type of asset	Lease/full ownership	Existence of encumbrances on the real estate	Surface area
Tour AREVA, 1 place Jean Millier – Paris-La-Défense (92) France	Offices (registered office)	Lease	No	92,710 m²
33, rue La-Fayette – Paris (75) France	Offices	Lease	No	27,419 m²
1-5, rue du Débarcadère – Colombes (92) France	Offices	Lease	No	13,477 m²

8.1.2. MINING BUSINESS GROUP

Location	Type of asset	Lease/full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Arlit Niger	Offices + production and storage facilities	Long-term concession/Full ownership	No	72.1 ha	Uranium concentrates
Akokan Niger	Offices + production and storage facilities	Long-term concession/Full ownership	No	49.9 ha	Uranium concentrates
Imouraren Niger	Mining site	Long-term concession/Full ownership	No	19,761 ha	Under development
Trekkopje Namibia	Mining site	Long-term concession/Full ownership	No	37,367 ha	Care and maintenance
Trekkopje Namibia	Desalination plant	Full ownership	No	Land: 20 ha Building: 12,945 m^2	Seawater desalination
McClean Canada	Mill + base camp	Long-term concession/Full ownership	No	4,600 ha	Uranium concentrates
Muyunkum Kazakhstan	Offices + production and storage facilities	Long-term concession/Full ownership	No	72.2 ha	Eluates
Torkuduk Kazakhstan	Offices + production and storage facilities	Long-term concession/Full ownership	No	103.43 ha	Eluates + uranium concentrates (DUA)

8.1.3. FRONT END BUSINESS GROUP

Location	Type of asset	Lease/full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Tricastin (26) France (nuclear regulated, security regulated, environmentally regulated facility)	Plant and storage areas	Full ownership	No	Land: 625.64 ha Building: 109.24 ha	Conversion of UF_6, defluorination and denitration of TU_5, TU_2 and depleted UO_2, related services (effluent treatment, equipment maintenance), storage and enrichment services
Malvési (11) France (nuclear regulated, environmentally regulated facility)	Mill	Full ownership	No	Land: 144.68 ha Building: 31,192 m²	UF_4 conversion services
Romans-sur-Isère (26) France (regulated nuclear facility)	Mill	Full ownership	No	Land: 32.6 ha Building: 59,789 m²	PWR fuel assemblies
Paimbœuf (44) France (environmentally regulated facility)	Mill	Full ownership	No	Land: 64,366 m² Building: 18,170 m²	Zirconium tubes for fuel assemblies
Jarrie (38) France (environmentally regulated facility)	Mill	Full ownership/ Lease	No	Land: 10.13 ha Building: 41,813 m²	Zirconium sponge
Rugles (27) France (environmentally regulated facility)	Mill	Full ownership	No	Land: 73,491 m² Building: 12,630 m²	Flat products in zirconium
Ugine (73) France (environmentally regulated facility)	Mill	Full ownership	No	Land: 56,465 m² Building: 33,550 m²	Intermediate products in zirconium and titanium Plug rods
Lyon (69) France	Offices	Lease	No	Building: 19,335 m²	Engineering
Dessel Belgium (nuclear facility)	Mill	Full ownership	No	Land: 10.39 ha Building: 18,573 m²	Site undergoing dismantling
Richland Washington – United States (nuclear facility)	Mill	Full ownership	No	Land: 134.42 ha Building: 36,900 m²	Powder and pellet production (UO_2, Gad & BLEU) Assemblies and various components
Lingen Germany (nuclear facility)	Mill	Full ownership	No	Land: 44.13 ha Building: 14,260 m²	Fuel assemblies for BWRs and PWRs
Duisburg Germany (nuclear facility)	Mill	Full ownership	No	Land: 43.9 ha Building: 9,940 m²	Zirconium tube for fuel assemblies

8.1.4. REACTORS & SERVICES BUSINESS GROUP

Location	Type of asset	Lease/full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Saint-Marcel (71) France (environmentally regulated facility)	Mill	Full ownership	No	Land: 18.54 ha Building: 55,608 m²	Heavy components (reactor vessel, vessel head, steam generator, pressurizer)
Jeumont (59) France (environmentally regulated facility)	Mill	Full ownership	No	Land: 92,483 m² Building: 40,618 m²	Reactor coolant pump sets, control rod drive mechanisms
Maubeuge (59) France (regulated nuclear facility)	Mill	Full ownership	No	Land: 96,390 m² Building: 11,429 m²	Services related to contaminated component maintenance: reactor coolant pumps
Le Creusot (71) France (environmentally regulated facility)	Plant, offices, workshop	Full ownership/ Lease	No	Land: 12.48 ha Building: 73,131 m²	Forgings and machining of large parts for the nuclear and petrochemicals industries Technical center - testing
Chalon-sur-Saône (71) France (environmentally regulated facility)	Offices, CEDEM, CEMO, CETIC (50/50 JV with EDF)	Full ownership	Information not available	Land: 25.41 ha Building: 58,321 m²	Robotics, tooling, decontamination, storage of tooling (contaminated/decontaminated)
Cadarache (13) France (INBS)	Production plant, offices	CEA host site	No	Land: 15.3 ha Building: 53,357 m²	Nuclear fuel
Aix-en-Provence (13) France	Offices	Full ownership	No	Land: 10.6 ha Building: 12,168 m²	Design/Engineering
Saclay (91) France	Offices	Full ownership/ Lease	No	Land: 1.1 ha Building: 6,953 m²	Design/Engineering
Loches (37) France (environmentally regulated facility)	Production and services site	Full ownership	No	Land: 16,844 m² Building: 4,800 m²	Standard products
Lyon (69) France	Offices	Lease	No	Building: 15,552 m²	Engineering
Deyang Sichuan, China	Mill	JV 50 JSPM/50 Dongfang Electric Machinery	No	Land: 36,729 m² Building: 16,435 m²	Reactor coolant pumps
Lynchburg Virginia – United States (nuclear facility)	Offices, hot facilities, Training Center	Full ownership/ Lease	No	Land: 99,636 m² Building: 23,172 m²	Decontamination Hot maintenance facility
Meriden Connecticut – United States	Production and services site	Full ownership	No	Building: 16,200 m²	Standard products, systems
Canberra Oak Ridge Tennessee – United States	Production and services site	Full ownership	No	Land: 9,915 m² Building: 3,160 m²	Crystal growth
Olen Belgium	Production and services site	Full ownership	No	Land: 9,400 m² Building: 1,627 m²	Standard detectors
Harwell United Kingdom	Production and services site	Lease	No	Land: 8,665 m² Building: 2,262 m²	Standard products, systems
Erlangen Germany	Offices, facilities	Lease	No	Building: 71,990 m²	Robotics/tooling, Technical Center – testing, Engineering

8.1.5. BACK END BUSINESS GROUP

Location	Type of asset	Lease/full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
La Hague (50) France (regulated nuclear facility)	Plant site	Full ownership	No	Land: 384.2 ha Building: 77.56 ha	Used fuel treatment
Valognes (50) France	Offices, Warehouse	Full ownership	No	Land: 39,023 m² Building: 12,900 m²	-
Saint-Sauveur-le-Vicomte (50) France	Office, workshop	Full ownership/ Lease	No	Land: 27,094 m² Building: 9,638 m²	Machining and mechanical fabrication
Cadarache (13) France (regulated nuclear facility)	Plants, offices	Full ownership	No	Building: 4,995 m²	Site undergoing dismantling
Miramas (13) France (environmentally regulated facility)	Mill	Full ownership	No	Land: 31.3 ha Building: 19,910 m²	Site undergoing cleanup
Marcoule (30) France (regulated nuclear facility)	Plants, offices	Full ownership	No	Land: 11.47 ha Building: 54,576 m²	MOX fabrication
Bollène (84) France (environmentally regulated facility)	Mill	Full ownership	No	Land: 19,483 m² Building: 9,644 m²	Machine maintenance, waste processing, equipment recertification

8.1.6. RENEWABLE ENERGIES BUSINESS GROUP

Location	Type of asset	Lease/full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Aix-en-Provence (13) France	Offices, Plant	Lease	No	Land: 1,230 m² Building: 1,870 m²	Fuel cells
Recife Brazil	Offices, Plant	Full ownership	No	Land: 9,410 m² Building: 4,191 m²	Turnkey power plant construction and manufacturing of electrical panels
Bremerhaven Germany	Offices, Plant	Lease	No	Land: 85,635 m² Building: 16,209 m²	5 MW wind turbines
Stade Germany	Offices, Plant	Full ownership/ Lease	No	Land: 11.8 ha Building: 11,257 m²	Blade manufacturing for offshore wind turbines
Chennai Inde	Offices, Plant	Lease	No	Land: 8,084 m² Building: 3,140 m²	Fabrication et assemblage biomass
Mountain View California – United States	Offices	Lease	No	Land: 20,234 m² Building: 6,224 m²	Construction of solar steam generators

8.1.7. ENGINEERING & PROJECTS

Location	Type of asset	Lease/full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Saint-Quentin-en-Yvelines (78) France	Offices	Lease	No	Land: 27,472 m² Building: 29,457 m²	Engineering
Erlangen Germany	Offices	Lease	No	Land: 27,500 m² Building: 53,632 m²	Engineering
Offenbach Germany	Offices	Lease	No	Building: 27,325 m²	Engineering

8.1.8. SCHEDULED INVESTMENTS

Please refer to Section 5.2. *Investments* and to the appropriate sections of Chapter 6. *Business overview* for more detailed information on scheduled investments by Business Group.

➜ 8.2. Environmental issues that may affect the issuer's use of property, plant and equipment

Please refer to Section 4. *Risk factors*.

Situation and activities of the Company and its subsidiaries

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9.1. Overview

The following comments are based on financial information for fiscal years 2012 and 2013 and must be read in conjunction with AREVA's consolidated financial statements for the years ended December 31, 2012 and December 31, 2013. 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, 2013.

AREVA's information by business segment is presented for each operating Business Group (BG), which is the level at which information is examined by the group's governance bodies, as per the requirements of IFRS 8.

Information by business segment therefore corresponds to AREVA's five operating Business Groups: Mining, Front End, Reactors & Services, Back End and Renewable Energies.

9.1.1. BUSINESS TRENDS

STRATEGIC POSITIONING AND CHANGES IN THE SCOPE OF CONSOLIDATION

The AREVA group is a global leader in solutions for low-carbon power generation and a major player in solutions for nuclear power generation, and aims to become a leading player on the renewable energies market. 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.

There was no significant change in the group's consolidation scope in 2013. However, fundamental decisions made in the second half of 2013 concerning the wind and solar operations resulted in their accounting treatment under "discontinued operations" in the group's consolidated financial statements, in application of IFRS 5.

MARKET TRENDS

The Fukushima accident led to a revision of nuclear market forecasts. Although the market fundamentals for energy, and in particular the growth of demand for electricity, are unchanged from pre-Fukushima scenarios, a delay in the start of new builds is perceptible over the short term. Nevertheless, the majority of the world's large nuclear programs have been confirmed. In its *World Energy Outlook 2013*, the International Energy Agency forecasts annual growth in installed capacity of about 2% by 2030, in line with the projections of other energy agencies.

Recurring business represents about 90% of AREVA's consolidated revenue, equivalent to the level of 2012, mainly in reactor services and in the fuel cycle.

The group's remaining operations concern the construction of new nuclear facilities and renewable energy production units. These two businesses have very specific market dynamics.

The market for renewable energies is very buoyant, with average annual growth in demand for renewable energy [(1)] estimated at 2.4% over the 2011-2035 period, compared with 2.1% for nuclear energy (Source: IEA, WEO, New Policies Scenario, 2013).

Government programs, particularly in the United States, the United Kingdom, India and China, provide considerable stimulus to the nuclear and renewables markets.

Over the long term, the growth in energy demand, rising fossil fuel prices, the consensus on the need to fight global warming and the quest for national energy independence will sustain the market.

For more information, see Section 6. *Presentation of activities*, and Section 12. *Trend information* of AREVA's Reference Document.

9.1.2. KEY FEATURES OF AREVA'S BUSINESS MODEL

The group's continuing operations are represented by five Business Groups (BGs): Mining, Front End, Reactors & Services, Back End and Renewable Energies. Each of the Business Groups is organized into several business units.

The **Mining Business Group** is characterized by multiyear contracts equivalent to an average backlog of more than 5 years, and sometimes more than 15 years. The contracts contain standard price escalation clauses. Therefore, the rising trend of long-term natural uranium prices has gradually produced a positive impact on the average sales prices of the contracts. The Mining Business Group's operations require substantial capital due to the need for heavy investments, but these investments support operations over very long periods of time.

The **Front End Business Group** is also characterized by multiyear contracts equivalent to an average backlog of more than 5 years, and sometimes more than 15 years for Enrichment. The contracts contain standard price escalation clauses. The relatively favorable long-term pricing outlook for conversion and enrichment has a positive effect on the sales prices of these contracts over the long term.

The **Reactors & Services Business Group** is characterized by recurring business (services and engineering) based on long-term or frequently renewed contracts representing nearly 80% of the Business Group's total activity. The Business Group conducts a large share of these operations in North America and is consequently sensitive to fluctuations in the euro/US dollar exchange rate. The Business Group also has attractive prospects for non-recurring business, in particular as relates to nuclear power plant construction; independent organizations such as the International Atomic Energy Agency (IAEA) and the World Nuclear Association (WNA) are 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 & Services Business Group.

The **Back End Business Group** is characterized by multi-year contracts with a limited number of customers. The Back End Business Group's operations involve large industrial facilities which must be kept in operational readiness through regular and heavy capital expenditure financed by customers through long-term contracts. In addition, the Business Group provides industrial know-how to international projects involving the creation of or support to other treatment and recycling platforms. In parallel, the Business Group continues to deploy know-how in the dismantling and cleanup of nuclear sites and in the shipment of nuclear materials.

The **Renewable Energies Business Group** represented 69 million euros in consolidated revenue in 2013. In the biomass segment, where the technology is mature and the market fragmented, the group offers turnkey solutions and support for the financing and technical execution of biomass projects. Moreover, AREVA acquired a unique technology to substitute torrefied biomass (biocoal") for coal of fossil origin used in the production of thermal energy and electricity. In the energy storage segment, the Business Group offers solutions for producing hydrogen by water electrolysis and for generating electricity with fuel cells. As provided in IFRS 5 and in view of exclusive negotiations with GAMESA for the creation of a joint venture in the offshore wind field (50% AREVA, 50% GAMESA) as well as active initiatives begun in the second half of 2013 with potential partners to set up a strategic partnership in solar energy or to sell an interest in AREVA Solar, revenue from the Wind and Solar businesses is no longer included in consolidated revenue or in other consolidated data. These activities are no longer consolidated under "continuing operations", but rather under "discontinued operations" in the Renewable Energies Business Group.

(1) Including hydro-electricity.

9.1.3. HIGHLIGHTS OF THE PERIOD

The information provided in this section concerns the AREVA group as a whole. Highlights related to contracts recorded over the period are described in business segment review.

CONCERNING BUSINESS STRATEGY AND CAPITAL EXPENDITURES

- On January 10, AREVA announced that it had turned to Natixis to set up a liquidity contract for the AREVA shares listed with NYSE Euronext Paris.
- On January 18, AREVA signed a syndicated line of credit agreement in the amount of 1.25 billion euros for a period of five year with 19 banks. This facility replaces the previous, unused syndicated credit line expiring in 2014.
- On June 2, AREVA launch ed the first employee shareholding program since the company was established; 36% of the employees in France, the United States and Germany participated in this operation and hold approximately 1.2% of the group's share capital at December 31, 2013.
- On August 5, AREVA announced the finalization of the sale to AVA Conseil of the 65.2% interest the group held up to then in Technoplus Industries (TPI). This transaction was part of AREVA's asset sale program conducted under the "Action 2016" plan.
- On August 29, AREVA launched a new 7-year, 500-million-euro bond issue maturing on September 4, 2020 with an annual coupon of 3.25%. In addition, the group undertook the buy-back of outstanding bonds maturing in 2016 and 2017.
- On October 17, AREVA entered into exclusive negotiations with Capgemini for the sale of Euriware's operations to Capgemini.

IN THE FIELD OF GOVERNANCE

- Highlights regarding changes in the group's governance are reported in Section 4. *Information on Directors and Officers*.

IN THE COMMERCIAL ARENA

- The group's commercial highlights are mentioned in Section 9.2.8 *Business Group Review*.

IN THE NUCLEAR FIELD

- On January 9, 2013, the Canadian Nuclear Safety Commission (CNSC) authorized AREVA to process very high-grade uranium ore from the Cigar Lake mine at the McClean Lake mill. The CNSC also authorized the processing plant to increase its milling capacity from 3,600 metric tons of uranium per year to 5,900 metric tons.
- On January 16, the AREVA-led consortium including Motor and Turbine Union (MTU) and Shanxi North MTU Diesel Co. (SNMD) signed a contract with China Nuclear Power Engineering Co., Ltd and the nuclear plant operator Jiangsu Nuclear Power Corporation (JNPC) to supply backup diesel generators for units 3 and 4 of the Tianwan power plant.
- On March 4, Transnuclear Ltd, a joint subsidiary of AREVA and Kobe Steel Ltd, delivered to Tepco three metal casks for the dry storage of used fuel from the common pool of the Fukushima Daiichi nuclear power plant.
- On March 5, AREVA's nuclear medicine subsidiary, AREVA Med, and Roche, a world leader in cancer therapy, completed the construction of their joint cancer research laboratory. The creation of this laboratory is the continuation of the global, long-term agreement signed by the two groups in July 2012.
- On March 6, AREVA completed the fabrication of the first batch of fuel assemblies for the Taishan 1 EPR™ reactor in China at its Romans plant in the Drôme department of France.
- On March 29, AREVA celebrated the start of commercial production of the Georges Besse II North uranium enrichment plant at the Tricastin site in the Drôme and Vaucluse departments of France. The North plant started production two years after the South plant, in accordance with the schedule.
- On April 15, AREVA and PEICo announced an alliance to provide and operate regional response centers for the US nuclear industry. Under this Strategic Alliance for FLEX Emergency Response (SAFER), AREVA and PEICo will supply and manage a full range of services and emergency back-up equipment.
- On April 25 in Beijing, in the presence of Mr. Xi Jinping, President of the People's Republic of China, and Mr. François Hollande, President of the French Republic, Mr. Luc Oursel signed a series of key agreements with Chinese companies CNNC and CGNPC to develop the strategic partnership between France and China in civilian nuclear power.
- On May 3 in Ankara, Japanese Prime Minister Shinzo Abe and Turkish Prime Minister Recep Tayyip Erdogan signed a major bilateral agreement confirming the choice of the ATMEA1 reactor system and opening exclusive negotiations with a group of investors and a consortium in charge of the engineering, procurement and construction of Turkey's second nuclear power plant. The consortium will be led by Mitsubishi Heavy Industries (MHI). The power plant will be built in Sinop, on the Black Sea, in northern Turkey. Work is expected to begin in 2017.
- On June 4, the government authorized EDF to load MOX fuel in another two 900 MWe reactors at the Blayais power plant in France's Gironde department, as per a decree published in the *Journal officiel* on May 30. MOX fuel had already been used in units 1 and 2 of the power plant and may now be used in units 3 and 4. This decision raises the number of "moxed" French reactors to 24 out of a total of 58 reactors.
- On June 7 in Tokyo, Mr. Luc Oursel signed a series of key agreements with Japan Nuclear Fuel Ltd (JNFL) and ATOX to maintain and expand the strategic partnership between France and Japan in civilian nuclear power.

- On July 8, the ATMEA1 reactor successfully passed the pre-design review led by the Canadian Nuclear Safety Commission (CNSC) of reactor vendor projects. CNSC confirmed the compliance of the reactor's general safety options and objectives with its regulatory requirements for the construction of new nuclear power plants. This assessment allows ATMEA1 to be proposed in response to requests for proposals for reactors to be built in Canada.
- On July 16, a major milestone was met in the construction of the Flamanville EPR™ reactor (FA3) with the placement of the dome over the reactor building. Coordinated by the project owner and contracting authority EDF and built by Bouygues Construction, which is in charge of civil engineering for the project, this occurred a little more than five years after the first concrete was poured for the reactor building.
- On October 7, a major component of the EPR™ reactor, the reactor vessel, was delivered to the construction site of EDF's Flamanville power plant in France's Manche department following a shipment that began in early September.
- On October 21 at the Hinkley Point site, in the presence of British Prime Minister David Cameron, Luc Oursel signed a series of agreements with the heads of EDF, China National Nuclear Corporation (CNNC) and China General Nuclear Corporation (CGN) setting the terms of their partnership for the construction of two EPR™ reactors in the United Kingdom.
- On October 22, a key milestone was reached in the construction of the Comurhex II plant when the new hydrofluoric acid (HF) storage building (Building 61) started commercial operations at AREVA's Tricastin site.
- On October 23, the vessel head for the Olkiluoto 3 EPR™ reactor in Finland was successfully installed. This major project milestone marked the end of heavy equipment installation for the Finnish EPR™ reactor, thus making it the first EPR™ reactor with a fully equipped vessel ready to receive its first core of fuel assemblies.
- On October 26, AREVA signed an agreement to develop uranium mines in Mongolia and to establish AREVA Mines LLC, a subsidiary of AREVA (66%) and Mon-Atom (34%), a Mongolian government-owned nuclear company. An agreement was also signed concerning the acquisition of an equity interest by Mitsubishi Corporation.
- On October 29, after examining AREVA's documentation on the EPR™ reactor's ability to withstand the crash of a large commercial aircraft, the US Nuclear Regulatory Commission (NRC) confirmed the reactor's full compliance with federal requirements. It was the first time that an assessment of this kind was not the subject of a request for supplementary review.
- On November 4, AREVA's MELOX plant began fabricating the first MOX fuel for the Borssele power plant in the Netherlands.
- On November 13, the first fuel core for the Taishan 1 EPR™ reactor in China was completed at Romans. This momentous project for AREVA started in 2011 with the procurement of the raw materials for the components and continued in 2012 with the fabrication of metal components (spacer grids, nozzles, etc.).
- On November 21, AREVA Med inaugurated the Maurice Tubiana laboratory in Bessines-sur-Gartempe, in the Limousin region of France. After receiving all of the administrative approvals and completing preliminary technical tests, this unique laboratory started producing lead-212 for medical purposes.
- On December 9, AREVA signed a series of key agreements with China National Nuclear Corporation (CNNC) and China General Nuclear Corporation (CGN) to develop the partnership between France and China in civilian nuclear power and renewable energies.

IN THE RENEWABLE ENERGIES FIELD

- On July 25, the GDF Suez – EDP Renewables consortium selected AREVA as its exclusive supplier of wind turbines for France's second request for proposals in the offshore wind segment. The tender provides for the installation of 1,000 MWe of combined capacity off of Le Tréport in Normandy and the Yeu and Noirmoutier islands in the Pays de la Loire region.
- On September 24, the installation phase for the first AREVA M5000 turbines began at the Trianel Windpark Borkum and Global Tech I offshore wind farms in the German North Sea. By 2014, these two wind farms will feature 120 wind turbines (40 at the Trianel Windpark Borkum and 80 at Global Tech I) for installed capacity of 600 MWe.
- On October 1, AREVA, Entrepose Projets (a subsidiary of Entrepose Contracting) and Fouré Lagadec signed an industrial agreement to manufacture AREVA's offshore wind turbine masts for future wind farm projects in France and in the southern United Kingdom.
- On November 5, AREVA and Kepco, South Korea's largest electric power company, signed a cooperation agreement in the renewable energies sector.
- On November 29, GDF Suez, EDP Renewables, Neoen Marine and AREVA submitted their applications to the French government for the installation and operation of 1,000 MWe in offshore wind capacity off of Le Tréport in Normandy (500 MWe) and the Yeu and Noirmoutier islands in the Pays de la Loire region (500 MWe). The estimated production of these two wind farms would supply electricity to 1.6 million people by 2021.
- On November 29, AREVA reached a major pre-commissioning milestone at its concentrated solar power plant (CSP) with the start of steam production. The Dhursar plant in the state of Rajasthan, India, uses compact linear Fresnel reflector technology (CLFR) and is the largest CSP plant in Asia. It will be operated by Reliance Power Limited. Steam production is an essential first step for the power plant's commissioning and connection to the grid.

9.2. Situation and activities of the company and its subsidiaries by business segment during the year

The 2013 consolidated financial statements were prepared in accordance with IFRS 5 as regards the Wind Energy and Solar Energy businesses, considering initiatives undertaken in the second half of 2013 to seek or implement a strategic partnership for these two businesses. Accordingly, these businesses no longer contribute to revenue or to consolidated data (EBITDA, operating income, free operating cash flow). Data for 2012 was therefore restated to present pro forma information based on a consolidation scope comparable to that for the 2013 results.

Recovery in the group's financial performance continued in 2013, in particular with the achievement of break-even free operating cash flow, despite:

- the lasting negative impact of legacy projects (OL3 project in Finland, a power plant modernization project and a research reactor project);
- losses generated by two Renewable Energies Business Group activities (Wind and Solar), for which strategic partnerships have been sought or implemented since the second half of 2013;
- remaining uncertainties in the group's markets (market price indicators in Mining and the Front End, delays in the effective launch of certain new build projects in the nuclear and renewables operations).

This key financial milestone is reached even when the Wind Energy and Solar Energy operations are included in the data. Reported free operating cash flow is strongly positive at +204 million euros, representing an improvement of more than 900 million euros compared with 2012 pro forma data, restated for asset sales.

Two years after Fukushima, AREVA's activity level was particularly strong in 2013. The group outperformed its revenue objective in the nuclear business, with 7.1% organic growth. At more than 9 billion euros, revenue was favorably impacted by the strength of recurring business and by items related more to the economic environment, such as the exceptionally high volumes of uranium deliveries.

EBITDA rose sharply to 1.043 billion euros in 2013, an increase of 39% compared with 2012, excluding the insurance payment received in 2012 for the OL3 contract. Good execution of the performance plan contributed to this result. At the end of 2013, 75% of the operating cost savings target of one billion euros by the end of 2015 had been achieved, while 95% of the target had been secured through action plans. As part of this objective, support function costs were brought down from 13.5% of revenue in 2012 to 12% in 2013, as compared with the target of 10% in 2015.

In the renewables market, where the situation was characterized by a drop in customer investments, AREVA acted to anticipate the movement towards consolidation required in this sector by setting up industrial partnerships such as the joint venture project with Gamesa, which aims to create a European champion in offshore wind. Similar initiatives are being undertaken in solar energy and energy storage.

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

9.2.1. SUMMARY OF KEY DATA

(in millions of euros except workforce)	2013	2012	Change 2013/2012
Results			
Reported revenue	9,240	8,886	+353
Gross margin	1,299	994	+305
Percentage of reported revenue	*14.1%*	*11.2%*	*2.9 pts.*
Operating income	11	306	-295
Percentage of reported revenue	*0.1%*	*3.4%*	*-3.3 pts.*
Net financial income	(248)	(318)	+70
Share in net income of associates	0	11	-11
Net income from discontinued operations	(238)	(214)	-24
Net income attributable to owners of the parent	(494)	(99)	-395
Comprehensive income attributable to owners of the parent	(504)	(195)	-309
Cash flow			
Reported EBITDA	1,043	1,270	-227
Percentage of reported revenue	*11.3%*	*14.3%*	*-3 pts.*
Restated EBITDA (1)	1,043	1,052	-9
Percentage of reported revenue	*11.3%*	*11.8%*	*-0.5pt*
Restated EBITDA (1) excluding insurance payment received for OL3 in 2012	1,043	752	+291
Percentage of reported revenue	*11.3%*	*8.5%*	+2.8 pts
Change in operating WCR	543	312	+231
Net operating Capex	(1,374)	(1,741)	+367
Reported free operating cash flow before tax	204	(450)	+654
Restated free operating cash flow before tax	204	(723)	+927
Miscellaneous			
Backlog	41,521	44,602	-3,081
Net cash (debt)	4,415	4,307	+108
Equity attributable to owners of the parent	5,082	5,556	-474
Capital employed	7,790	8,315	-6.3%
Workforce at year end	45,340	45,542	-0.4%
Dividend per share	-	-	-

(1) Restated for the impacts of the 2012 asset disposal plan.

9.2.2. SUMMARY DATA BY BUSINESS SEGMENT

➔ **2013**

(in millions of euros, except workforce)	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Corporate, Shared Services and Engineering	Total
Contribution to consolidated revenue	1,756	2,188	3,324	1,736	69	167	9,240
Operating income	509	21	(535)	308	(39)	(254)	11
Percentage of contribution to consolidated revenue	*29.0%*	*0.1%*	*ns*	*17.7%*	*ns*	*ns*	*0.1%*
Cash flow							
EBITDA	655	328	(264)	531	(33)	(174)	1,043
Percentage of contribution to consolidated revenue	*37.3%*	*15.0%*	*ns*	*30.6%*	*ns*	*ns*	*11.3%*
Change in operating WCR	216	207	166	68	2	(117)	543
Net operating Capex	(335)	(727)	(147)	(115)	(12)	(38)	(1,374)
Free operating cash flow before tax	524	(191)	(242)	484	(42)	(328)	204
Miscellaneous							
Property, plant & equipment and intangible assets (including goodwill)	3,121	4,775	1,305	1,933	20	218	11,373
Capital employed	3,322	5,290	839	(1,258)	13	(418)	7,790
Workforce at year end	4,463	8,555	15,592	11,583	451	4,697	45,340

➔ **2012**

(in millions of euros, except workforce)	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Corporate, Shared Services and Engineering	Total
Contribution to consolidated revenue	1,360	2,049	3,452	1,732	117	176	8,886
Operating income	352	145	(410)	438	(20)	(200)	306
Percentage of contribution to consolidated revenue	*25.9%*	*7.1%*	*ns*	*25.3%*	*ns*	*ns*	*3.4%*
Cash flow							
EBITDA	643	294	98	417	(14)	(169)	1,270
Percentage of contribution to consolidated revenue	*47.3%*	*14.3%*	*2.8%*	*24.1%*	*ns*	*ns*	*14.3%*
Change in operating WCR	261	7	44	(9)	(46)	54	312
Net operating Capex	(224)	(1,182)	(198)	(115)	(3)	(19)	(1,741)
Free operating cash flow before tax	463	(958)	(54)	293	(63)	(132)	(450)
Miscellaneous							
Property, plant & equipment and intangible assets (including goodwill)	2,847	4,206	1,231	1,903	268	245	10,699
Capital employed	3,540	5,043	1,059	(1,173)	426	(581)	8,315
Workforce at year end	4,601	8,727	16,113	11,095	522	4,484	45,542

SUMMARY OF REVENUE BY REGION AND BUSINESS GROUP

(in millions of euros)	2013	2012	Change 2013/2012
France	**3,748**	**3,286**	**+14.0%**
Mining BG	383	330	+16.2%
Front End BG	783	612	+28.1%
Reactors & Services BG	1,510	1,262	+19.6%
Back End BG	932	930	+0.2%
Renewable Energies BG	7	15	-55.3%
Corporate, Shared Services and Engineering	133	138	ns
Europe (excluding France)	**2,020**	**1,997**	**+1.1%**
Mining BG	124	93	+34.2%
Front End BG	686	751	-8.6%
Reactors & Services BG	645	613	+5.2%
Back End BG	510	494	+3.3%
Renewable Energies BG	28	19	+45.6%
Corporate, Shared Services and Engineering	26	28	ns
North and South America	**1,490**	**1,812**	**-17.7%**
Mining BG	316	340	-7.1%
Front End BG	356	383	-7.1%
Reactors & Services BG	581	804	-27.7%
Back End BG	213	200	+6.4%
Renewable Energies BG	25	77	-67.5%
Corporate, Shared Services and Engineering	-	7	ns
Asia-Pacific	**1,863**	**1,616**	**+15.3%**
Mining BG	869	517	+68.3%
Front End BG	349	285	+22.2%
Reactors & Services BG	551	701	-21.4%
Back End BG	78	104	-24.9%
Renewable Energies BG	9	5	+62.3%
Corporate, Shared Services and Engineering	7	3	ns
Africa and Middle East	**118**	**175**	**-32.4%**
Mining BG	64	81	-21.8%
Front End BG	14	18	-22.7%
Reactors & Services BG	37	72	-48.9%
Back End BG	3	3	-7.4%
Renewable Energies BG	-	-	+0.0%
Corporate, Shared Services and Engineering	1	-	ns
Other countries	**-**	**-**	**+0.0%**
TOTAL	**9,240**	**8,886**	**+4.0%**

Additional information on Germany and Japan at December 31, 2013:

(in millions of euros)	Revenue by customer location	Percentage of the group's consolidated revenue
Germany	670	7.3%
Japan	341	3.7%

Additional information on Germany and Japan at December 31, 2012:

(in millions of euros)	Revenue by customer location	Percentage of the group's consolidated revenue
Germany	991	10.6%
Japan	450	4.8%

9.2.3. COMPARABILITY OF FINANCIAL STATEMENTS

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 under the international accounting standards (IAS) and international financial reporting standards (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 restated to reflect the consolidation scope, exchange rates and accounting methods and standards of the current year.

For instance:

- to compare 2013 and 2012 revenue, the group calculates what the 2012 revenue of the different businesses would have been when average exchange rates for 2013 are applied;
- the resulting revenue is then restated for the consolidation effect, and the group calculates what 2012 revenue of the different businesses would have been based on the applicable consolidation scope at fiscal year-end 2013.

FACTORS POTENTIALLY IMPACTING THE COMPARABILITY OF THE FINANCIAL STATEMENTS

At December 31, 2013, the following activities meet the criteria of IFRS 5 for being classified under "assets and liabilities of discontinued operations":

- Wind energy: On January 20, 2014, AREVA announced that it was in exclusive negotiations with Gamesa to create a joint venture in the offshore wind field. In view of governance rules agreed upon with Gamesa, the future joint venture will be recognized under the equity method.
- Solar energy: In the second half of 2013, AREVA contacted potential partners to set up a strategic partnership agreement or to sell an equity interest in AREVA Solar. This may result in the creation of a joint venture that would be recognized under the equity method.
- Euriware: On October 17, 2013, AREVA announced that it was in exclusive negotiations with Capgemini for the sale of the operations of this IT services subsidiary of the group.

Detailed information on the impacts of IFRS 5 is provided in Notes 9 and 37 to the consolidated financial statements.

In particular, the Wind and Solar operations no longer contribute to revenue or consolidated data (EBITDA, operating income, and free operating cash flow). Data for 2012 was therefore restated to present pro forma information based on a consolidation scope comparable to that for 2013 results.

Change in the consolidation scope

The group's consolidated financial statements for the years ended December 31, 2013 and December 31, 2012 were slightly affected by the transactions described in Note 2 to the consolidated financial statements.

Estimated impact of changes in consolidation scope, in foreign exchange rates and in accounting methods and standards on revenue for fiscal years 2013 and 2012

The table below presents the estimated impact of variations in exchange rates, changes in the group's consolidation scope, and changes in valuation methods for 2013 in relation to 2012.

(in millions of euros)	2012 pro forma revenue	Exchange rate impact	Consolidation scope impact	Changes in valuation method	Recalculated 2012 revenue	2013 reported revenue
Mining BG	1,360	(18)	(94)	-	1,248	1,756
Front End BG	2,049	(13)	-	-	2,037	2,188
Reactors & Services BG	3,452	(47)	(31)	-	3,374	3,324
Back End BG	1,732	(7)	22	-	1,747	1,736
Renewable Energies BG	117	(10)	-	-	107	69
Corporate, Shared Services and Engineering	176	-	(1)	-	175	167
TOTAL CONTINUING OPERATIONS	**8,886**	**(95)**	**(104)**	**-**	**8,687**	**9,240**

9.2.4. BACKLOG

(in millions of euros)	2013	2012	Change 2013/2012
Backlog	**41,521**	**44,602**	**-3,081**
Mining BG	9,602	12,036	-2,435
Front End BG	16,770	18,047	-1,276
Reactors & Services BG	9,111	8,314	+797
Back End BG	5,884	6,030	-146
Renewable Energies BG	69	76	-7
Others	85	99	-14

The group's backlog totaled 41.521 billion euros at December 31, 2013, slightly down from that at December 31, 2012. The year-on-year order uptake was 7.6 billion euros, excluding orders associated with agreements concluded in October 2013 with the EDF group for the Hinkley Point EPR™ project or the 2013-2017 contract being negotiated with EDF under the umbrella of the treatment and recycling agreement.

9.2.5. STATEMENT OF INCOME

9.2.5.1. REVENUE

In 2013, AREVA reported consolidated revenue of 9.240 billion euros, an increase of 4.0% (+6.4% like for like) compared with 2012, with strong organic growth in the nuclear operations:

- Revenue from the nuclear operations was 9.042 billion euros in 2013, compared with 8.633 billion euros in 2012, a 7.1% increase (+4.7% on a reported basis). Revenue was led by the Mining Business Group (+40.6% like for like) and the Front End Business Group (+7.5% like for like), offsetting the expected business downturn in the Reactors & Services Business Group (-1.5% like for like). Revenue was stable in the Back End Business Group (-0.6% like for like).
- The Renewable Energies Business Group had 69 million euros in revenue, down from 2012.
- Foreign exchange and consolidation scope had a negative impact of 95 million euros while accounting methods had a negative impact of 104 million euros over the period.

The group had consolidated revenue of 9.240 billion euros in 2013, an increase of 4.0% on a reported basis and of 6.4% like for like compared with 2012.

(in millions of euros)	2013	2012	Change 2013/2012
Consolidated revenue	**9,240**	**8,886**	**+353**
Mining BG	1,756	1,360	+396
Front End BG	2,188	2,049	+139
Reactors & Services BG	3,324	3,452	-128
Back End BG	1,736	1,732	+4
Renewable Energies BG	69	117	-48
Corporate, Shared Services and Engineering	167	176	-9

9.2.5.2. GROSS MARGIN

The group's gross margin was 1.299 billion euros, compared with 994 million euros in 2012. In percentage of revenue, it rose from 11.2% in 2012 to 14.1% in 2013.

(in millions of euros)	2013	2012	Change 2013/2012
Gross margin	**1,299**	**994**	**+305**
% contribution to consolidated revenue	14.1%	11.2%	+2.9pts.

9.2.5.3. RESEARCH AND DEVELOPMENT

The group's Research and Development expenses came to 293 million euros in 2013, representing 3.1% of the contribution to revenue. This indicator is down compared with 2012, when Research and Development expenses totaled 311 million euros and 3.5% of revenue, reflecting greater selectivity in R&D programs.

9.2.5.4. GENERAL AND ADMINISTRATIVE, MARKETING AND SALES EXPENSES

The group's marketing, sales, general and administrative expenses totaled 605 million euros in 2013, down from 627 million euros in 2012. In particular, general and administrative expenses totaled 390 million euros in 2013, in contrast to 406 million euros in 2012. As a percentage of revenue for the period, they fell from 4.6% to 4.2%, partially reflecting the impact of efforts to reduce organizational and support function costs under the ACTION 2016 strategic action plan (a significant share of the support function costs are classified in commercial expenses and reduced from the gross margin).

9.2.5.5. OTHER OPERATING INCOME AND EXPENSES

Other operating income and expenses represent a net expense of 389 million euros in 2013, compared with net expense of 251 million euros in 2012. This change is due to:

- other operating income which, in 2012, included capital gains from the sale of the Millennium mining project and the gold business (La Mancha Inc.) in Canada, and the one-time impact of a favorable change in provisions for employee benefits constituted in application of IAS 19 revised; and
- the reduction in 2013 of impairment of property, plant and equipment and intangible assets, and of provisions for losses at completion, for a total of 686 million euros compared with 927 million euros in 2012.

Impairment of intangible assets and property, plant and equipment in 2012 and 2013 is described in Notes 11 and 12 respectively to the consolidated financial statements (Section 20.2.). Provisions for losses at completion are described in Note 24 to the consolidated financial statements.

9.2.5.6. OPERATING INCOME

The group reported operating income of 11 million euros in 2013, compared with 306 million euros in 2012.

Restated for asset disposals in 2012 [(1)] operating income was down 77 million euros in 2013 compared with 2012, which had benefitted from the one-time positive impact of the deployment of a new early retirement plan set up in March 2012 in the Mining, Front End and Back End BGs, modifying the provisions of the main early retirement plan of a group subsidiary.

9.2.5.7. NET FINANCIAL INCOME

Net financial income was -248 million euros in 2013, compared with -318 million euros in 2012. Net borrowing costs totaled -214 million euros in 2013 compared with -181 million euros in 2012. The change in financial income reflects an improvement over the period of the share related to end-of-lifecycle operations. The net gain on sales of securities included in the share related to end-of-lifecycle operations includes 12 million euros corresponding to the reversal of lasting impairment on securities sold, compared with 93 million euros at December 31, 2012. At December 31, 2012, income on disposals of investments in associates consisted primarily of the gain on the disposal of Sofradir shares.

(in millions of euros)	2013	2012
Net borrowing costs [(expense)/ income]	**(214)**	**(181)**
Other financial income and expenses	**(34)**	**(137)**
Of which share related to end-of-lifecycle operations	165	36
Of which share not related to end-of-lifecycle operations	(199)	(173)
NET FINANCIAL INCOME	**(248)**	**(318)**

9.2.5.8. INCOME TAX

Net tax income was 62 million euros in 2013, compared with net tax income of 152 million euros in 2012.

9.2.5.9. SHARE IN NET INCOME OF ASSOCIATES

The share in net income of associates was zero in 2013, compared with +11 million euros in 2012.

(in millions of euros)	2013	2012
MNF	(5)	4
Other	4	7
TOTAL	**-**	**11**

9.2.5.10. MINORITY INTERESTS

Minority interests in the group's net income amounted to 71 million euros in 2013, compared with 24 million euros in 2012. This share mainly includes the contribution of minority shareholders in the mining and enrichment businesses.

9.2.5.11. NET INCOME ATTRIBUTABLE TO OWNERS OF THE PARENT

Net income attributable to owners of the parent is a loss of 494 million euros in 2013, compared with a loss of 99 million euros in 2012.

9.2.5.12. COMPREHENSIVE INCOME ATTRIBUTABLE TO EQUITY OWNERS OF THE PARENT

Comprehensive income attributable to owners of the parent was -562 million euros in 2013, compared with -217 million euros in 2012. This change is primarily due to the drop in net income described above.

(1) Restated for the impacts of the asset disposal plan in 2012.

9.2.6. CASH FLOW

9.2.6.1. CHANGE IN NET DEBT

Items contributing to the change in the group's net debt for the year are presented below. It was calculated according to the new French Accounting Board definition (sum of "cash and cash equivalents" less "current and non-current borrowings").

(in millions of euros)	2013
Net debt at the beginning of the period (at December 31, 2012)	(4,307)
Earnings before interest, tax, depreciation and amortization (EBITDA)	1,043
Percentage of revenue	*11.3%*
Gain (loss) on disposals of operating assets	(7)
Change in operating WCR	543
Net operating Capex	(1,374)
Free operating cash flow before tax	204
Acquisitions/disposals of short-term investments	211
Net change from discontinued operations	(173)
Cash flows related to end-of-lifecycle operations	(23)
Dividends paid to minority shareholders	(33)
Income tax paid	(143)
Net financial income	(164)
Other items	12
For the year ended December 31, 2013	
(NET DEBT)/NET CASH AT THE END OF THE PERIOD (INCLUDING PUT OPTIONS OF MINORITY INTERESTS)	**(4,415)**
CHANGE IN NET DEBT IN 2013	**-108**

9.2.6.2. 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-lifecycle 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 statement of cash flows for 2013.

(in millions of euros)	Operating	End-of-lifecycle operations[1]	Other[2]	Total
EBITDA (i)	1,043			
Income from the sale of non-current operating assets and other non-cash operating items (ii)	(7)			
Cash flow from operations after interest and taxes (i+ii)	**1,036**	**(75)**	**(427)**	**534**
Change in working capital requirement (iii)	543		(25)	518
Net cash flow from operating activities (i+ii+iii)	**1,579**	**(75)**	**(451)**	**1,052**
Cash from (used in) investing activities, net of disposals (iv)	(1,411)	53	(5)	(1,364)
Net cash from (used in) financing activities (v)	37		235	272
Impact of changes in consolidation scope, rates and securities held for trading (vi)			194	194
Net cash from (used in) operations held for sale (vii)			28	28
Cash flow (i+ii+iii+iv+v+vi)	**204**	**(22)**	**(1)**	**181**

(1) Includes expenses for end-of-lifecycle operations incurred on-site and for final waste disposal, flows relating to the financial asset portfolio earmarked for end-of-lifecycle operations, and flows resulting from the signature of agreements with third parties for the funding by such parties of a share of end-of-lifecycle operations.

(2) That is, non-operating flows not relating to end-of-lifecycle operations and primarily corresponding to financing flows, including exceptional flows relating to external growth operations, dividends paid, and tax flows.

9.2.6.3. OPERATING CASH FLOW

➔ 2013 AND 2012

	EBITDA		Change in operating WCR		Net operating Capex		Free operating cash flow before tax	
(in millions of euros)	2013	2012	2013	2012	2013	2012	2013	2012
Mining	655	643	216	261	(335)	(224)	524	463
Front End	328	294	207	7	(727)	(1,182)	(191)	(958)
Reactors & Services	(264)	98	166	44	(147)	(198)	(242)	(54)
Back End	531	417	68	(9)	(115)	(115)	484	293
Renewable Energies	(33)	(14)	2	(46)	(12)	(3)	(42)	(63)
Corporate	(174)	(169)	(117)	54	(38)	(19)	(328)	(132)
TOTAL GROUP	**1,043**	**1,270**	**543**	**312**	**(1,374)**	**(1,741)**	**204**	**(450)**
Total group excluding 2012 disposals and the OL3 insurance payment	**1,043**	**752**			**(1,374)**	**(2,014)**	**204**	**(723)**

EARNINGS BEFORE INCOME TAX, DEPRECIATION AND AMORTIZATION (EBITDA)

Restated EBITDA [1] was stable compared with 2012 (1.043 billion euros in 2013 vs. 1.052 billion euros in 2012), which included 300 million euros in insurance indemnity received for the Olkiluoto 3 EPR™ project. EBITDA rose 291 million euros (+39%) excluding this insurance indemnity.

Reported EBITDA went from 1.270 billion euros in 2012 to 1.043 billion euros in 2013, a reduction of 227 million euros.

(1) Restated for the impacts of the asset disposal plan in 2012.

CHANGE IN OPERATING WORKING CAPITAL REQUIREMENT (OPERATING WCR)

The change in operating WCR was favorable by 543 million euros in 2013, compared with 312 million euros in 2012.

NET OPERATING CAPEX

The group's gross operating capital expenditure totaled 1.428 billion euros in 2013, compared with 2.025 billion euros in 2012.

Capex was 100% self-financed by operating cash flows (1) compared with a rate of 64% in 2012.

Asset disposals classified in operating cash flow amounted to 53 million euros in 2013 compared with 284 million in 2012, which primarily included disposals of Millennium and La Mancha Resources Inc. in accordance with the Action 2016 plan.

In 2013, 57% of the group's capital spending concerned sites in France.

Restated net operating Capex (1) therefore totaled 1.374 billion euros in 2013, a downturn of 367 million euros in relation to 2012.

OPERATING CASH FLOW

Restated for asset disposals in 2012, free operating cash flow before taxes rose 927 million euros compared with 2012 (+204 million euros in 2013 versus -723 million euros in 2012), reflecting the combination of performance improvement, control of capital spending over the period and optimization of the operating working capital requirement (OWCR), offset in part by the insurance payment received in 2012 for the Olkiluoto 3 EPR™ project.

Reported free operating cash flow before tax went from -450 million euros in 2012 to +204 million euros in 2013.

9.2.6.4. CASH FLOWS RELATED TO END-OF-LIFECYCLE OPERATIONS

Cash flows for end-of-lifecycle operations totaled -23 million euros in 2013, essentially unchanged from 2012 (-21 million euros).

9.2.6.5. CONSOLIDATED STATEMENT OF CASH FLOWS

The simplified consolidated statement of cash flows is presented below.

(in millions of euros)	2013	2012	Change 2013/2012
Cash flow from operations before interest and taxes	877	836	+4.9%
Interest expense and taxes paid	344	400	-14.0%
Cash flow from operations after interest and taxes	**534**	**436**	**+22.0%**
Change in working capital requirement	518	310	+67.1%
Cash from operating activities	**1,052**	**746**	**+41.0%**
Cash used in investing activities	(1,364)	(1,056)	-€308
Cash from (used in) financing activities	272	(406)	+€678
Change in Consolidated group, foreign exchange adjustments, etc.	*(17)*	*(13)*	*ns*
Changes in securities held for sale	*211*	*(179)*	*ns*
Cash from discontinued operations	28	126	-€9
INCREASE/(DECREASE) IN NET CASH	**181**	**(784)**	**+€965**
Net cash at the beginning of the period	1,489	2,273	-€784
CASH AT THE END OF THE YEAR	**1,670**	**1,489**	**+€181**

CASH FLOW FROM OPERATING ACTIVITIES

Net cash from operating activities increased from 746 million euros in 2012 to 1.052 billion euros in 2013. This increase reflects a combined improvement in cash provided by operations and in the change in the working capital requirement.

CASH USED IN INVESTING ACTIVITIES

Net cash from investing activities came to -1.364 billion euros in 2013 compared with -1.056 billion euros in 2012, which included the sale of AREVA's participating interest in Eramet.

(1) Before Capex.

CASH PROVIDED BY FINANCING ACTIVITIES

Cash provided by financing activities totaled 272 million euros in 2013, a net improvement compared with 2012 (-406 million euros). In 2013, it includes proceeds from the sale of treasury shares allocated to the employee shareholding plan.

9.2.7. STATEMENT OF FINANCIAL POSITION

➜ SUMMARY CONSOLIDATED STATEMENT OF FINANCIAL POSITION

(in millions of euros)	December 31, 2013	December 31, 2012
Assets	**22,346**	**21,709**
Net goodwill	3,864	3,998
Property, plant and equipment (PP&E) and intangible assets	11,372	10,699
End-of-lifecycle assets (third party share)	199	217
Assets earmarked for end-of-lifecycle operations	6,057	5,695
Equity associates	145	175
Other non-current financial assets	262	294
Deferred taxes (assets – liabilities)	1,122	1,006
Operating working capital requirement	(1,318)	(601)
Non-current assets and assets related to discontinued operations	643	225
Shareholders' equity and liabilities	**22,346**	**21,709**
Equity attributable to owners of the parent	4,673	5,174
Minority interests	408	382
Provisions for end-of-lifecycle operations (third party share)	199	217
Provisions for end-of-lifecycle operations (AREVA share)	6,238	6,114
Other current and non-current provisions	4,881	4,751
Net borrowings	4,415	4,307
Liabilities of operations held for sale	389	73
Other assets and liabilities	1,142	691
TOTAL OF THE SUMMARY STATEMENT OF FINANCIAL POSITION	**22,346**	**21,709**

9.2.7.1. NON-CURRENT ASSETS

Net goodwill

Net goodwill went from 3.998 billion euros at December 31, 2012 to 3.864 billion euros at December 31, 2013, for a net decrease of 134 million euros, reflecting in particular the classification of the Wind Energy and Solar Energy businesses to "discontinued operations".

Property, plant and equipment and intangible assets

Property, plant and equipment and intangible assets went from 10.699 billion euros at December 31, 2012 to 11.372 billion euros at December 31, 2013, for a net increase of 673 million euros.

Other non-current financial assets

Other non-current financial assets went from 294 million euros in 2012 to 262 million euros in 2013, mainly due to the change in the market value of available-for-sale securities not included in the earmarked portfolio.

9.2.7.2. OPERATING WORKING CAPITAL REQUIREMENT

The group's operating working capital requirement (operating WCR) was negative (resource), at -1.318 billion euros at December 31, 2013, compared with -601 million euros a year earlier.

9.2.7.3. NET CASH (DEBT)

The group had net debt of 4.415 billion euros at December 31, 2013, compared with 4.307 billion euros at December 31, 2012. This small increase in net debt mainly reflects tax payments of 143 million euros, financial expenses of 164 million euros and cash used in discontinued operations of 173 million euros, offset in part by the free operating cash flow from continuing operations of +204 million euros.

➜ RECONCILIATION BETWEEN NET CASH REPORTED IN THE STATEMENT OF CASH FLOWS AND NET CASH (DEBT) REPORTED IN THE STATEMENT OF FINANCIAL POSITION

(in millions of euros)	2013	2012	Change 2013/2012
Net cash per statement of cash flows	**1,670**	**1,489**	**+181**
Short-term bank facilities and non-trade current accounts (credit balances)	87	60	+27
Net cash from (used in) operations held for sale	**4**	**(5)**	**+9**
Borrowings	(6,176)	(5,850)	-326
NET CASH (DEBT)	**(4,415)**	**(4,307)**	**-108**

➜ SCHEDULE OF BORROWINGS

(in millions of euros)	2013	2012	Change 2013/2012
Put options of minority shareholders	-	17	-17
Interest-bearing advances	91	88	+3
Borrowings from lending institutions and commercial paper	747	542	+205
Bond issues	5,174	5,048	+126
Short-term bank facilities and other credit balances	87	60	+27
Financial derivatives	33	49	-16
Miscellaneous debt	43	46	-3
TOTAL BORROWINGS	**6,176**	**5,850**	**+326**

9.2.7.4. EQUITY

Equity attributable to owners of the parent totaled 4.673 billion euros at December 31, 2013, compared with 5.174 billion euros at December 31, 2012. This change mainly reflects the effect of comprehensive income attributable to owners of the parent for 2013 in the amount of -562 million euros. No dividends were paid by the group to its shareholders in 2013 on 2012 income.

9.2.7.5. ASSETS AND PROVISIONS FOR END-OF-LIFECYCLE OPERATIONS

The change in the balance sheet from December 31, 2012 to December 31, 2013 with regard to assets and liabilities for end-of-lifecycle operations is summarized in the table below.

(in millions of euros)	December 31, 2013	December 31, 2012
Assets		
End-of-lifecycle assets	**432**	**431**
AREVA share (to be amortized in future years)	233	214
third-party share	199	217
Assets earmarked for end-of-lifecycle operations	**6,057**	**5,695**
Shareholders' equity and liabilities		
Provisions for end-of-lifecycle operations	**6,437**	**6,331**
provisions to be funded by AREVA	6,238	6,114
provisions to be funded by third parties	199	217

At December 31, 2013, earmarked assets covered 102% of the provisions for end-of-lifecycle operations.

The change in assets and provisions related to end-of-lifecycle operations is described in Note 13 to the consolidated financial statements.

9.2.7.6. CAPITAL EMPLOYED AND RETURN ON AVERAGE CAPITAL EMPLOYED (ROACE)

➔ CAPITAL EMPLOYED

The following table shows the determination of average capital employed by year:

(in millions of euros)	December 31, 2013	December 31, 2012
Net intangible assets	2,642	2,961
Goodwill	3,864	3,998
Net property, plant and equipment	8,731	7,738
Prepayments and borrowings funding non-current assets	(1,254)	(1,080)
Operating working capital requirements, excluding advances to fund non-current assets	(1,318)	(601)
Provisions for contingencies and losses	(4,875)	(4,702)
Total capital employed	**7,790**	**8,315**
AVERAGE CAPITAL EMPLOYED OVER THE PERIOD	**7,867**	**8,216**

Note: The method used takes into account a definition of capital employed after deduction of all provisions for contingencies and losses.

➔ ROACE

The following table presents changes in the group's ROACE by year:

December 31 (in millions of euros)	Average capital employed	Net operating income	ROACE
2013	**7,867**	**11**	**0.1%**
2012	8,216	84	1.0%

Considering the impact of non-recurring items on operating income, ROACE for 2012 and 2013 is immaterial.

9.2.8. BUSINESS GROUP REVIEW

9.2.8.1. MINING BUSINESS GROUP

(in millions of euros)	2013	2012	Change 2013/2012	Change 2013/2012 like for like*
Backlog	**9,602**	**12,036**	**-20.2%**	**-**
Contribution to consolidated revenue	**1,756**	**1,360**	**29.1%**	**40.6%**
EBITDA	**655**	**425**	**+54.2%**	**-**
Percentage of contribution to consolidated revenue	*37.3%*	*31.2%*	*6.1pts.*	-
Operating income	**509**	**134**	**+280.1%**	**-**
Percentage of contribution to consolidated revenue	*29.0%*	*9.8%*	*19.2pt.*	-

** At constant exchange rate and consolidation scope.*

2013 performance

The Mining Business Group had 9.602 billion euros in backlog at December 31, 2013. The order uptake was limited in 2013 due to an uncertain market environment for uranium.

For the full year of 2013, the Mining Business Group posted revenue of 1.756 billion euros, an increase of 29.1% on a reported basis and of 40.6% like for like. Foreign exchange had a negative impact of 18 million euros. Changes in consolidation scope had a negative impact of 94 million euros and mainly reflect the deconsolidation of La Mancha Resources Inc. following the disposal of that business in late August 2012.

Revenue was driven by a sharp increase in volumes delivered in 2013 (+42%). Despite a slight decrease in production and lower average sales prices under long-term contracts over the period due to currently unfavorable natural uranium market conditions, the exceptionally high volumes delivered this year reflect the dilution of Russian defense inventories (under the "HEU" agreements ending on December 31, 2013) and the reduction of inventories contemplated in the Action 2016 plan.

Restated [1] EBITDA in the Mining BG was 655 million euros in 2013, compared with 425 million euros in 2012. Revenue was driven by a sharp increase in volumes sold this year (+42%) due to the dilution of Russian defense inventories (under the "HEU" agreements ending on December 31, 2013) and to the reduction of inventories carried out as part of the Action 2016 plan. This performance also reflects a favorable resources mix and a good management of production costs.

The change in operating WCR in the Mining BG was positive by 216 million euros, compared with a positive contribution of 261 million euros in 2012, primarily due to the decrease in inventories.

Restated net operating capital expenditure [1] for the Mining BG came to 335 million euros in 2013, compared with 497 million euros in 2012. This drop is the result of the mothballing of the Trekkopje mine in Namibia. In 2013, the group focused its capital expenditure program on the development of mining projects in Canada (Cigar Lake) and Niger (Imouraren) and on maintaining capital expenditure at production sites in Kazakhstan, Canada and Niger.

Restated operating income [1] for the Mining BG came to 509 million euros, compared with 134 million euros in 2012, when it included impairment of mining assets in the total amount of 165 million euros.

9.2.8.2. FRONT END BUSINESS GROUP

(in millions of euros)	2013	2012	Change 2013/2012	Change 2013/2012 like for like *
Backlog	**16,770**	**18,047**	**-7.1%**	**-**
Contribution to consolidated revenue	**2,188**	**2,049**	**+6.8%**	**+7.5%**
Chemistry	234	264	-11.1%	-10.6%
Enrichment	660	612	+7.8%	+8.5%
Fuel	1,294	1,173	+10.3%	+11.0%
EBITDA	**328**	**294**	**+11.5%**	**-**
Percentage of contribution to consolidated revenue	*15.0%*	*14.3%*	*+0.7pt.*	-
Operating income	**21**	**145**	**-85.5%**	**-**
Percentage of contribution to consolidated revenue	*1.0%*	*7.1%*	*-6.1pt.*	-

** At constant exchange rate and consolidation scope.*

2013 performance

The Front End Business Group had 16.770 billion euros in backlog at December 31, 2013. The main new orders in 2013 were as follows:

- a nuclear fuel supply contract in the amount of 73 million US dollars with the US utility Dominion for unit 2 of the Millstone nuclear power plant in Connecticut;
- a contract with an Asian utility for the supply of enriched uranium (integrated offer);
- enrichment contracts, most notably with US and European utilities;
- fuel assembly supply contracts with European utilities.

For the full year of 2013, the Front End Business Group posted revenue of 2.188 billion euros, an increase of 6.8% on a reported basis and of 7.5% like for like. Foreign exchange had a negative impact of 13 million euros.

- Volumes rose in the Chemistry-Enrichment business as enrichment services for France picked up, offsetting the downturn in conversion volumes in Japan.
- Revenue in the Fuel business rose on a favorable product mix, despite a less favorable delivery schedule in France over the period.

EBITDA in the Front End BG was 328 million euros in 2013, compared with 294 million euros in 2012, which included a gain on the sale of fixed assets in the amount of 77 million euros. This performance reflects:

- ramp-up of the Georges Besse II enrichment plant;
- the positive impact of performance improvement plans across all Front End BG businesses;

(1) Restated for the impacts of the asset disposal plan in 2012.

- this in spite of the disbursements related to operations carried out prior to shutting down industrial facility operations, for which provisions were set up in previous years.

The change in the Front End BG's operating WCR was positive by 207 million euros, 7 million euros in 2012, mainly due to better management of trade accounts payable.

Net operating capital expenditure in the Front End BG came to 727 million euros, down from 1.182 billion euros in 2012, reflecting a decrease in capital spending related to the construction of conversion and enrichment facilities (the Georges Besse II plant had reached 74% of its nominal capacity by the end of 2013).

Operating income in the Front End BG was 21 million euros, compared with 145 million euros in 2012, a decrease of 124 million euros. In 2012, operating income had included a gain on the disposal of fixed assets in the amount of 77 million euros. It includes in 2013 a total of 120 million euros in impairment (compared with 143 million euros in 2012) for:

- intangible assets corresponding to studies to prepare for the construction of the EREF uranium enrichment plant in the United States in light of unfavorable changes regarding long-term prices for uranium enrichment services and the average cost of capital used to calculate the value in use, and the lack of identified financial partner for the project;
- tangible assets of the ETC joint venture, whose industrial prospects are affected by postponements of several projects to expand or build enrichment plants.

9.2.8.3. REACTORS & SERVICES BUSINESS GROUP

(in millions of euros)	2013	2012	Change 2013/2012	Change 2013/2012 like for like*
Backlog	**9,111**	**8,314**	**+9.6%**	**-**
Contribution to consolidated revenue	**3,324**	**3,452**	**-3.7%**	**-1.5%**
New Builds	649	722	-10.0%	-9.9%
Installed Base	1,625	1,735	-6.3%	-4.2%
Equipment	407	329	+23.8%	+23.9%
Products & Technology	43	33	+32.6%	+33.0%
Nuclear Measurements	179	233	-23%	-15.6%
Propulsion & Research Reactors	420	401	+4.6%	+9.2%
EBITDA	**(264)**	**98**	**-369.1%**	**-**
Percentage of contribution to consolidated revenue	*-8.0%*	*2.8%*	*-10.8pt.*	-
Operating income	**(535)**	**(410)**	**+30.4%**	**-**
Percentage of contribution to consolidated revenue	*-16.1%*	*-11.9%*		-

** At constant exchange rate and consolidation scope.*

2013 performance

The Reactors & Services Business Group had 9.111 billion euros at December 31, 2013. The main new orders in 2013 were as follows:

- a contract valued at 1.25 billion euros with Brazilian utility Eletrobras Eletronuclear for the supply of equipment, the instrumentation and control system, and support services to complete the construction of the Angra 3 reactor in the State of Rio de Janeiro;
- a series of long-term services contracts with the US utility PSEG Nuclear for outage services concerning three reactors at the Salem and Hope Creek power plants in New Jersey;
- an amendment to the Flamanville 3 EPR™ project in France with EDF covering all of the tasks remaining to be performed by AREVA until project completion;
- in a consortium with Siemens, a contract with CNNC to supply instrumentation and control systems for units 5 and 6 of the Fuqing power plant in China;
- several Safety Alliance contracts for supplementary safety assessments and to provide post-Fukushima solutions to various power companies in Europe, the United States, Latin America and Asia.

The Reactors & Services Business Group reported 3.324 billion euros in revenue for 2013, a decrease of 3.7% (-1.5% like for like). Foreign exchange had a negative impact of 47 million euros while changes in consolidation scope and accounting method had a negative impact of 31 million euros.

- The New Builds business was down, in line with the completion of EPR™ projects. No revenue was recognized for the OL3 project in the second half of the year.
- Installed Base services were down in relation to 2012, which had benefited from a high level of business associated with outage campaigns in the United States. However, the lower activity in the United States was partially offset by more buoyant business in the European markets.
- Revenue rose sharply in the Equipment business on a high level of business with EDF in France.

EBITDA in the Reactors & Services BG was -264 million euros in 2013, down compared to 2012 (98 million euros), which included 300 million euros from the insurance indemnity received for the OL3 project. Excluding this insurance indemnity, EBIDTA was down 63 million euros, mainly due to the burden of the Olkiluoto 3 EPR™ project and a power plant modernization project.

The change in operating WCR in the Reactors & Services BG was 166 million euros, compared with 44 million euros in 2012, reflecting cash provided by customer prepayments.

The Reactors & Services BG posted net operating capital expenditure of 147 million euros in 2013, down from 198 million euros in 2012. This amount mainly includes development expenses for the group's range of reactors and production capital expenditure in the Equipment business, most notably for a new press at the Creusot Forge site.

The Reactors & Services BG reported an operating loss of 535 million euros, compared with a loss of 410 million euros in 2012. It was impacted by 566 million euros in provisions for losses at completion of projects launched in the previous decade:

- 425 million euros for the Olkiluoto 3 EPR™ reactor in Finland. The accounting scheme applied to the project was modified. In conformity with Paragraph 32 of IAS 11, AREVA stopped recognizing contract costs based on the project's percentage of completion in the second half of 2013; incurred costs are now directly recognized as expenses. Only "definable" costs that have effectively contributed to the physical completion of the reactor lead to utilization of the provision for losses to completion. 275 million euros were added to the provision for losses to completion at December 31, 2013 (in addition to the 150 million euros recognized at June 30, 2013), resulting in a deterioration of its financial position for which AREVA will seek compensation against TVO. 140 million euros were directly recognized as expenses in the second half of the year either as not contributing to project completion due to insufficient efficiency, attributable to TVO, in the completion of residual construction (in particular finishing works) or in relation to the continuation of engineering activities required to validate the detailed architecture of the instrumentation and control system (non definable" costs).
- 141 million euros for a reactor modernization contract in Europe, where outage campaigns began in mid-2013.

9.2.8.4. BACK END BUSINESS GROUP

(in millions of euros)	2013	2012	Change 2013/2012	Change 2013/2012 like for like *
Backlog	**5,884**	**6,030**	**-2.4%**	**-**
Contribution to consolidated revenue	**1,736**	**1,732**	**+0.2%**	**-0.6%**
Recycling	1,030	1,039	-0.9%	-1.1%
D&D	181	195	-6.8%	-8.4%
Logistics	278	268	+3.5%	4.0%
Cleanup	128	121	+6.4%	13.5%
International Projects	119	109	+9.0%	-6.6%
EBITDA	**531**	**417**	**+27.2%**	**-**
Percentage of contribution to consolidated revenue	*30.6%*	*24.1%*	*6.5pt.*	-
Operating income	**308**	**438**	**-29.6%**	**-**
Percentage of contribution to consolidated revenue	*17.8%*	*25.3%*	*-7.5pt.*	-

** At constant exchange rate and consolidation scope.*

2013 performance

The Back End Business Group had 5.884 billion euros at December 31, 2013. The main new orders in 2013 were as follows:

- a contract for services and solutions to support EDF in the maintenance and operation of eight nuclear reactors;
- contracts for the production of MOX fuel for German utilities and for EPZ of the Netherlands;
- a contract for the delivery of ten dry storage casks to Synatom in Belgium;
- two contracts to supply casks and services to US customers;
- a contract in Germany valued at a total of more than 100 million euros to supply TN24E casks;
- a multi-million dollar contract to supply 46 NUHOMS® dry storage systems to a US utility for its used nuclear fuel.

In addition, EDF and AREVA continue to discuss the economic terms and conditions of the multiyear treatment and recycling contract for the 2013-2017 period.

The Back End Business Group reported revenue of 1.736 billion euros in 2013, essentially unchanged from 2012 (+0.2% in reported data and -0.6% like for like). Foreign exchange had a negative impact of 7 million euros while changes in the consolidation scope had a positive impact of 22 million euros.

- Revenue in the Recycling business unit was stable over the period, boosted by a high level of activity at La Hague and, as in 2012, by a significant contribution from non-recurring foreign contracts.
- The Dismantling & Decommissioning business, which had still benefitted in 2012 from the contract to recycle contaminated water at the Fukushima Daiichi site, was down.
- Revenue in the Logistics business unit was led by the cask supply business in Germany and by dry storage solutions in the United States.
- Revenue was up in the Cleanup business unit thanks to continued growth in all segments, in particular onsite assistance and nuclear maintenance in France.

EBITDA for the Back End BG was 531 million euros in 2013, compared with 417 million euros in 2012. This increase reflects in particular the contribution of non-recurring foreign contracts.

The change in the Back End BG's operating WCR was positive by 68 million euros, compared with a negative contribution of 9 million euros in 2012, due to the receipt of prepayments and to the contribution from non-recurring foreign contracts.

Net operating capital expenditure for the Back End BG remained stable in 2013 at 115 million euros, compared with 115 million euros in 2012. The capital expenditure increases in the Recycling business was offset by the decrease in the Logistics business.

Operating income for the Back End BG was 308 million euros in 2013, down compared to 2012 (438 million euros).

9.2.8.5. RENEWABLE ENERGIES BUSINESS GROUP

(in millions of euros)	2013	2012	Change 2013/2012	Change 2013/2012 like for like *
Backlog	**69**	**76**	**-9.2%**	**-**
Contribution to consolidated revenue	**69**	**117**	**-41.2%**	**-35.7%**
Bioenergy	68	117	-41.4%	-35.9%
Energy Storage and Transport	-	-	ns	ns
EBITDA	(33)	(14)	-135.7%	-
Percentage of contribution to consolidated revenue	-48.0%	-12.0%	-36.0pt.	-
Operating income	**(39)**	**(20)**	**-95.0%**	**-**
Percentage of contribution to consolidated revenue	*-55.6%*	*-16.9%*	*-40.2pt.*	-

** At constant exchange rate and consolidation scope.*

2013 performance

As a reminder, and as required under IFRS 5, revenue in the Renewable Energies Business Group is now limited to the Solar, Bioenergy and Energy Storage businesses.

The Renewable Energies Business Group had 69 million euros in backlog at December 31, 2013, in line with the performance of existing contracts and in the absence of significant new orders. In 2013, the main new orders involved contracts to supply biomass plants in Thailand, in France (for Neoen) and in the Philippines.

The Renewable Energies Business Group reported revenue of 69 million euros for 2013, down 41.2% on a reported basis and down 35.7% like for like compared with 2012. Revenue in the Bioenergy business unit fell 41.4% (-35.9% like for like) due to lower volumes in Brazil.

Based on the 2012 consolidation scope, the Business Group's revenue would be 389 million euros.

EBITDA in the Renewable Energies BG was -33 million euros in 2013, down from -14 million euros in 2012. The negative contribution of the BG's EBITDA comes from a drop in Bioenergy operations in Brazil.

The change in the Renewable Energies BG's operating WCR was favorable by 2 million euros, compared with a negative contribution of 46 million euros in 2012.

Net operating capital expenditure in the Renewable Energies BG came to 12 million euros, up from 3 million euros in 2012. Capital spending focused on the development of the torrefaction process.

The Renewable Energies BG had an operating loss of 39 million euros in 2013, compared with an operating loss of 20 million euros in 2012.

9.2.8.6. CORPORATE, SHARED SERVICES AND ENGINEERING

(in millions of euros)	2013	2012	Change 2013/2012	Change 2013/2012 like for like *
Contribution to consolidated revenue	**167**	**176**	**-5.3%**	**-4.7%**
EBITDA	**-174**	**-169**	**ns**	**-**
Operating income	**-254**	**-200**	**ns**	**-**

** At constant exchange rate and consolidation scope.*

9.3. Significant events between the date of closing and the date of preparation of the management report

- On January 10, 2014, at a meeting with economic and political figures in the Pays de la Loire and Brittany regions of France, GDF Suez, EDP Renewables, Neoen Marine and AREVA reaffirmed their goal of developing innovative, concerted and environmentally friendly offshore wind projects off of Le Tréport in Normandy (500 MWe) and the Yeu and Noirmoutier islands in the Pays de la Loire region (500 MWe).

  On January 20, 2014, AREVA and Gamesa announced that they had begun exclusive negotiations to create a 50/50 joint venture in the offshore wind field. By uniting their strengths, AREVA and Gamesa will enable the joint venture to become a leading player in the global offshore wind market and will contribute to the development of this fast growing segment by:
  - providing expertise, innovation and R&D funding to develop competitive and reliable technologies for the future;
  - offering their capacity for industrialization and their expertise in the development of and internal and external supply chain;
  - applying best practices developed onshore wind to the offshore segment.
- On January 31, 2014, AREVA celebrated the inauguration of the Bio Golden Raand biomass power plant built in partnership with the Dutch civil engineering company Ballast Nedam Industriebouw and the Finnish company and boiler supplier Metso Power Oy. The facility was commissioned on November 1, 2013 and was successfully turned over to the operator Eneco, a major Dutch power company.
- On February 6, 2014, AREVA and Schneider Electric announced the signature of a strategic partnership agreement to develop energy storage and energy management solutions based on hydrogen production and fuel cells.
- On March 12, 2014, AREVA launched a nine-year bond issue in the total amount of 750 million euros, maturing on March 20, 2023.
- On March 13, 2014, the Cigar Lake mine in Canada began producing uranium ore.
- On March 26, 2014, AREVA signed a series of agreements with its Chinese partner CNNC to continue the strategic Franco-Chinese partnership in civilian nuclear power.

10

Capital resources

For information on cash flow and equity, please refer to Section 9.2.6. *Cash flow* and Section 9.2.7 *Statement of financial position*.

Research and Development programs, patents and licenses

11

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11.1. Research and Development

11.1.1. KEY FIGURES

Research and Development expenses are capitalized if they meet the capitalization criteria established by IAS 38 and are recognized as Research and Development expenses if they do not. Research and Development expenses not eligible for capitalization are reported under gross margin in the statement of income 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 Research and Development expenditure.

The group's Research and Development expenses, excluding mineral exploration and mining study expenses, represented 242 million euros in 2013, or 2.5% of the contribution to revenue. This indicator is down compared with 2012, when Research and Development expenses excluding mineral exploration and mining studies were 270 million euros, or 2.9% of revenue.

(in millions of euros)	2013	% of sales	2012	% of sales
Research and Development recognized as expenses under gross margin, after RTC (1)	**293**	**3.2%**	**311**	**3.5%**
Of which expenses for mineral exploration and mining studies	51		41	
Research and Development recognized as expenses under gross margin, excluding expenses for mineral exploration and mining studies, after RTC (1)	**242**	**2.6%**	**270**	**3.0%**
RTC (1)	50		48	
Research and Development recognized as expenses under gross margin, excluding expenses for mineral exploration and mining studies, before RTC (1)	**293**	**3.2%**	**319**	**3.6%**
Capitalized development costs	112	1.2%	121	1.4%
TOTAL	**405**	**4.4%**	**440**	**4.9%**
Number of registered patents	**117**		**113**	

(1) Research tax credit.

Taking into account capitalized development costs, the total Research and Development expenditure was 405 million euros in 2013, or 4.4% of revenue for the period, down from 2012, when it represented 4.9% of revenue.

This amount reflects ongoing long-term projects, including:

- the development and modernization of production capabilities in the front end of the cycle and the development of advanced fuel;
- optimization of the EPR™ reactor and the continuation of licensing activities in the United States and the United Kingdom;
- generic detailed designs for the ATMEA1 reactor;
- the development of tools, methods and products to support the design and services provided to operators;
- the evaluation of advanced concepts such as fast neutron reactors and small modular reactors;
- performance improvement in equipment manufacturing;
- preliminary design of future treatment and recycling plant processes;
- the development of renewable energy solutions, including solar, wind, bioenergy and energy storage.

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 and recognize major intellectual assets, maintain its strong technological lead and bolster its international positions. AREVA has pooled its Research and Development functions to tap into the synergies inherent in the group 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 the effectiveness of Research and Development 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 ultimately manage and fund projects at the corporate level when they serve several group subsidiaries or are longer term.

In 2013, the Research and Development Department focused on establishing technological roadmaps, which will help to:

- ensure that commercial and technological development actions within AREVA are well coordinated;
- upstream, identify the divergences between market expectations and the group's technical and technological capacities; and
- organize the integration of new technologies and technical resources within the group, to support the development of key products when necessary and set up a ranking system for the group's R&D programs to reinforce its growth strategy.

The R&D project portfolio is a key element in controlling operational performance, as it facilitates investment management, the allocation of resources, and planning. Management of the overall R&D project portfolio was redefined to meet the following goals:

- align the projects with the strategy defined by the group;

- rank the R&D projects to facilitate arbitration and decision making;
- achieve efficient overall budget control and allocate resources based on priorities;
- provide a full view of the R&D project portfolio to facilitate internal and external communications.

The R&D projects cover a broad spectrum of technological fields, from uranium ore extraction to renewable energy production. All of these R&D projects help to improve existing products, services and processes, or to create new ones.

AREVA'S INNOVATION INITIATIVE

The InnovAction2016 project

Under its Action 2016 strategic action plan, the group launched an internal project called InnovAction2016. The project relies on an extensive network of contacts within the operational and functional entities to achieve a common goal: transform our employees' innovative ideas into drivers for performance and differentiation, to catalyze new activities for AREVA.

InnovAction2016 is organized around five major goals:

- reinforce our culture of innovation;
- encourage employees to propose innovative ideas and help them to develop them;
- speed up the time-to-market for innovative technical and non-technical solutions to boost development and ensure business continuation;
- help develop disruptive technological solutions and new businesses for AREVA;
- strengthen AREVA's ties with external partners – laboratories, small businesses, start-ups, venture capital funds, etc. – to develop innovative solutions.

The project's main actions are:

- involving our customers more in our innovation processes (e.g. customer workshops on their unmet needs);
- networking for innovative employees (network coordination, collaborative platforms, etc.);
- reinforcing the processes for generating and capturing innovative ideas (training sessions, suggestion boxes, etc.);
- fostering the incubation of ideas through to their implementation (business incubators);
- deploying tools to forge ties with external partners (AREVA Small Business Innovation, venture capital funds, etc.).

Many examples of AREVA's strong innovation potential

Each year, thanks to the ideas submitted by AREVA employees, several thousand innovations are implemented in the field, improving our operational performance. Some examples: the innovative solution for centralized mask and dosimeter management that was implemented at the Tricastin site, the solution to reduce consumption of sulfuric acid by optimizing injection points at the Cominak mine in Niger, or the new water-based lubrication system for fuel cladding in France.

The group's experts are also working on setting up new solutions for our customers: the system to inject an anticorrosion film into a reactor's secondary cooling system in Germany and innovative contaminated water treatment solutions.

The group also explores new ground and develops disruptive innovations, as illustrated by the AREVA Med project, where AREVA has been working with the Roche laboratory to develop a new alpha radio-immunotherapy treatment for cancer that uses lead-212. The treatment targets and destroys cancerous cells while minimizing the damage to healthy cells.

11.1.3. PARTNERSHIPS

On the strength of some thirty years of commercial as well as technology successes, AREVA is positioned as an international group and one of the world leaders in the nuclear industry. 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.

The External Partnerships Department of the Corporate Research and Development Department works closely with the regional Research and Development centers in Germany and the United States on the following main tasks:

- developing and managing long-term partnerships with major research organizations such as the French atomic energy commission (CEA), the French national scientific research center (CNRS) and the French institute for nuclear safety and radiological protection (IRSN), finding the best external partners for the group's Research and Development projects, and drawing up cooperative programs;
- providing support for the group's internal Research and Development initiatives by identifying additional appropriate external partners;
- reviewing external Research and Development capabilities and the possibilities for participating in externally funded cooperative projects (government agencies, European Commission, etc.).

AREVA already has a broad network of partnerships with the world's leading research laboratories, in particular:

- in France: the CEA's research centers at Saclay, Cadarache, Grenoble and Marcoule, EDF's Research and Development laboratories, the CNRS, IRSN, and engineering schools and universities (Chimie Paris,

Mines Paritech, the Ecoles Centrales, the University of Montpellier, INSA Lyon, etc.);

- in Germany: the University of Zittau and the Karlsruhe, Rossendorf and Julich research centers;
- in the United States: the Massachusetts Institute of Technology (MIT), the California Institute of Technology (CalTech), the Universities of Florida (Center for Advanced Engineering and Research), Idaho, Texas and Virginia, and the Department of Energy's national laboratories (Sandia, Idaho, etc.);
- in China: Tsinghua University in Beijing and Xi'An Jiaotong University;
- in Russia: the Kurchatov, VNIINM and Khlopin research institutes;
- in Australia: the Ian Wark Research Institute and the University of South Australia;
- in India: IIT Bombay and the University of Jadavpur in Calcutta.

AREVA is a participant, through the CEA (representing the French parties), in the generation IV International Forum (GIF), a US initiative. The multilateral agreement signed by several countries in 2005 provides a framework for international collaboration on Research and Development 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.

11.1.4. FUTURE DIRECTIONS IN TECHNOLOGY

The AREVA group's Research and Development programs focus on developing technologies with low CO_2 emissions that meet our customers' requirements. Key program goals are continuous safety improvement and the reduction of operating costs and environmental impacts. Reducing environmental impacts includes responsible waste management, natural resource conservation, and the development of new generations of technologies for both nuclear power and renewable energies, and finding ways to maximize the complementarity between these energies.

A summary of 2013 Research and Development projects and results is presented below. It confirms the value of an integrated approach to Research and Development requirements centered on sustainable energies with low CO_2 emissions, together with the related products and services.

RESEARCH AND DEVELOPMENT ACTIVITIES FOR THE MINING BUSINESS GROUP

R&D in the mining operations covers all four main areas: geological prospecting, mining techniques, ore processing, and the environment. In ore processing, for example, R&D covers all of the techniques that AREVA uses for dynamic ore processing, heap leaching, and in-situ leaching.

The Mining Business Group also carries out research programs in partnership with other companies to assess the technical feasibility of extracting uranium from so-called "non-conventional" resources, such as polymetallic ores or phosphates.

Mineral exploration and outlook

AREVA has continuously invested in its mineral exploration for the past 20 years, with approximately 3.5% of its current revenue from the Mining business allocated to these efforts, representing a budget of close to 45 million euros in 2013. Due to deteriorating market conditions, AREVA will concentrate on targets with the most potential over the next few years.

Near term

The first action items are to accelerate development work near active mining sites, conduct exploration for projects under development, and prepare new exploration campaigns in uranium-rich provinces identified by the group.

In addition to Canada (particularly the Athabasca basin) historical uranium-producing region that is still among the most promising, AREVA is pursuing exploration programs on countries in which the group is already a producer (Canada, Niger and Kazakhstan) as well as on Mongolia, Gabon and Australia.

Medium and long-term outlook

Teams of geologists, mining engineers, chemists and economists are working on selecting, developing and carrying out emerging and previously identified projects, particularly in Africa, North America, Central Asia and Australia. These projects will be launched when the technical, economic and commercial conditions are right.

RESEARCH AND DEVELOPMENT ACTIVITIES FOR THE FRONT END BUSINESS GROUP

Research and Development efforts for the Front End Business Group focus in particular on upgrading industrial tools in the conversion and enrichment businesses by improving safety and productivity and by reducing the environmental footprint of the processes, and on optimizing nuclear fuel performance.

DEVELOPMENT AND MODERNIZATION OF PRODUCTION MEANS IN THE FRONT END OF THE FUEL CYCLE

Natural uranium conversion facilities that have been operating for several decades now will probably be subject over the short term to higher maintenance costs and to availability problems. To guarantee conversion services to its current and future customers under enhanced control conditions, AREVA is the only converter to have invested in a

new plant, Comurhex II. To improve the profitability of conversion operations, Research and Development efforts concentrate on improving the performance of existing processes, in particular through modeling and industrial testing. Processes for technology breakthroughs are also being studied with three main concerns in mind: reliability, cost and the environmental footprint.

New developments within the scope of Enrichment Technology Company (ETC), the AREVA-Urenco joint venture, have moved centrifugation enrichment technology forward. In an approach rooted in sustainable development, technology solutions have been found to facilitate future stages of dismantling.

IMPROVING NUCLEAR FUEL PERFORMANCE

AREVA has ongoing, ambitious Research and Development programs to adapt its products to its customers' requirements in the areas of mechanical, thermal-hydraulic and thermo-mechanical performance at all burnup levels. At the same time, the group continues to improve fuel reliability and to guarantee the highest level of safety. Research and Development involves:

- adapting to changes in operating conditions, both in terms of cladding or structural materials (new alloys for better resistance to corrosion and deformation) and the fuel itself (advanced microstructures to reduce the release of fission gases at high burnups);
- developing new fuel assemblies and, in particular, study new, more accident-tolerant fuel concepts;
- responding to questions from safety authorities about fuel performance in accidental situations, keeping in mind the changing post-Fukushima nuclear safety benchmarks;
- working with scientific partners, in particular the CEA, to improve the modeling of physical phenomena occurring in the fuel when it is irradiated.

AREVA continues to develop a new generation of more robust fuel assemblies with enhanced performance and safety margins for boiling water reactors (BWR) and pressurized water reactors (PWR), called Atrium™11 and Gaia respectively:

- after the first ATRIUM™11 test assemblies started their second irradiation cycle in the core of the German reactor at Gundremmingen (RWE AG), other demonstration assemblies were loaded into the Swiss reactor at Leibstadt (AXPO) in 2013;
- the first Gaia test assemblies delivered to the Vattenfall electric utility in Sweden completed their first irradiation cycle in the Ringhals 3 reactor core. Other irradiation tests in other European electric utilities are scheduled to start soon;
- the Gaia and ATRIUM™11 technologies are expected to be deployed in the United States starting in 2015.

RESEARCH AND DEVELOPMENT ACTIVITIES FOR THE REACTORS & SERVICES BUSINESS GROUP

WIDENING THE RANGE OF LIGHT WATER REACTORS AND SUPPORTING THEIR DEPLOYMENT

EPR™ reactor

A special effort was made based on operating experience (OPEX) from ongoing projects (Olkiluoto 3, Flamanville 3, Taishan 1 and 2) and projects undergoing certification (US EPR™, UK EPR™) to define an optimized reference design ("Standard EPR™") for which proposal and project teams may define the adaptations required to meet customer specifications. In addition to the simplified OPEX-based design, this takes the form of a 3D CAD model that incorporates all optimizations and the instructions from the supplementary safety assessments performed after the Fukushima accident or the reviews by the nuclear safety authorities in the countries that have evaluated the EPR™ reactor.

On December 13, 2012, the British Health and Safety Executive (HSE) issued the Design Acceptance Confirmation (DAC) for the EPR™ licensing process in the United Kingdom and a framework agreement in principle was signed in October 2013 to finance the Hinkley Point power plant.

In the United States, the certification process with the Nuclear Regulatory Commission (NRC) continued. In May 2013, Phase 3 was completed and the NRC accepted in October 2013 the aircraft impact assessment without reservations, a first in the United States. In early 2014, AREVA will give the NRC a revised schedule to complete the actions identified as part of the phase 4 review.

The Research and Development teams are also very active in providing support to the projects, particularly as concerns experimental validation of certain components or in response to specific requirements:

- Olkiluoto 3 in Finland, which AREVA is building for TVO;
- Flamanville 3, where AREVA is delivering the reactor to EDF; and
- Taishan 1 and 2 in China built for CGNPC.

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 (PWR) that combines the know-how of both companies. ATMEA1 is designed for medium capacity power grids. Following the French nuclear safety authority ASN's validation of the baseline options for this reactor in 2012, the detailed generic design was launched jointly by both companies to provide a model ready for construction in 2015, consistent with the outlook for projects (see Sinop site in Turkey).

KERENA reactor

The design package for this 1,250 MWe BWR has been finalized in partnership with the electricity company E.ON and with Alstom for the balance of plant. Testing of the innovative safety systems was completed with positive results, enabling AREVA to put its experience to good use on

BWR reactors, in particular with a view to service activities or participating in future projects in this field.

Small Modular Reactor (SMR)

AREVA launched the pre-conceptual design of a small capacity power reactor. This modular, integrated reactor is in the 100-150 MWe range. The ongoing design combines solutions used for high capacity PWRs and innovative design bases in terms of technologies, industrial optimization, construction and operating flexibility. A technical and economic study aimed at specifying conditions for the market development of such a reactor has been begun with AREVA's habitual partners. Potential partnerships in countries likely to be interested in this technology were reviewed.

Research reactor

With support from the CEA's operators, AREVA revisited the design bases of a research reactor in the 2-10 MWth range capable of meeting the needs of countries interested in investing in Research and Development or nuclear training.

Generation IV sodium-cooled fast reactors (SFR)

In connection with the international generation IV reactor initiative, and with sustainable development objectives in mind, AREVA launched an innovation phase in 2006 designed to overcome the technology hurdles presented by sodium-cooled fast neutron reactors. The innovation phase is being carried out as part of a cooperative program with the CEA and the EDF group and is focusing primarily on core safety issues and in-service inspection and repairs. In the fall of 2010, AREVA and the CEA also signed a cooperation agreement for part of the design studies of the ASTRID generation IV demonstrator (Advanced Sodium Technological Reactor for Industrial Demonstration), a sodium-cooled fast reactor (SFR) that will be used for technology and industrial demonstrations.

The second preliminary design phase (AVP2) for the Astrid reactor started in 2013, with the preliminary design report and the nuclear safety review scheduled to be handed over in late 2015.

High temperature reactor (HTR)

AREVA is validating of its experience with this type of reactor by participating in the US Department of Energy's Next Generation Nuclear Plant (NGNP) project. The goal of that project is to design a commercial high temperature reactor to be used for the co-generation of industrial process heat and electricity. AREVA also continues to follow through with its commitments with regard to European HTR projects.

International Thermonuclear Experimental Reactor (ITER)

AREVA also participated in the studies on the experimental fusion facility ITER, in particular in the area of primary equipment (primary wall, vacuum vessel, remote handling systems for Tokamak components, etc. – see *Glossary*) and the circuits, and is now supplying some of this equipment (e.g. the Tokamak cooling circuit).

INCREASING THE COST-COMPETITIVENESS OF OUR PRODUCTS AND METHODS AND MATCHING THEM TO OPERATOR REQUIREMENTS

AREVA continues to improve products and services for operators of all types of nuclear power plants (PWRs as well as BWRs, VVERs and Candu reactors), particularly in the following areas:

- safety control and instrumentation systems (TELEPERM® XS), measurement and diagnostic products, and electrical systems:
- services to operators to extend the operating period (diagnostics and demonstration of component operating periods, component maintenance or replacement, etc.): Forward Alliance program;
- safety reassessments (10-year reassessments, supplementary safety assessments), and products to improve nuclear safety (containment filters, hydrogen risk management, improving cooling process safety for the core or the used fuel storage pools, passive containment systems for primary coolant pump seal units): Safety Alliance program;
- creating value for reactor operators: increasing availability, maintenance automation and efficiency, increasing power, new products giving customers increased operational savings and performance measures as well as enhanced worker safety: "Value Alliance" program;
- increasing performance for non-destructive examinations and *in situ* repairs;
- optimizing the design, manufacturing and assembly of replacement components, *e.g.* in particular in 2013 redefinition of the processes for the new Creusot forge in conjunction with the investment in a new forge and a remote ingot manipulator system;
- products providing customers with increased measurement performance and operational savings, as well as enhanced worker safety;
- developing new radiation monitoring systems (RMS) providing comprehensive control around the reactor designed to monitor effluents and to make power plant operation safer.

PARTICIPATING IN ADVANCED RESEARCH PROGRAMS

AREVA has undertaken the development of nuclear power systems for European missions to explore the solar system, in partnership with the European Space Agency and the French space agency CNES.

AREVA's nuclear measurement subsidiary Canberra develops products and provides expertise by participating in major international research projects: detecting and measuring weak nuclear particle interaction to better understand the fundamental matter model.

RESEARCH AND DEVELOPMENT ACTIVITIES FOR THE BACK END BUSINESS GROUP

DEVELOPING SUSTAINABLE SOLUTIONS FOR THE BACK END OF THE FUEL CYCLE

Supporting and adapting manufacturing and production facilities

The La Hague industrial platform consisting of the La Hague and MELOX plants is the culmination of more than 30 years of industrial Research and Development. It attains the highest levels of performance for treatment and recycling facilities worldwide. The Research and Development programs are defined based on the design of these facilities and operating experience from the daily operation of these plants, with the goal of continuously improving the platform's performance and flexibility.

Programs are in progress to anticipate plant aging (corrosion, plugging), meet new post-Fukushima regulatory requirements, and optimize intervention means for hostile environments in order to increase the effective production time of the plants.

Equipment and process studies and development continue, in particular to adapt the facilities for the treatment of new types of fuel (high-burnup UOx fuels, MOX fuels, fuels from research reactors, etc.). This technology development will enable AREVA to expand its commercial offering and further broaden the range of products that may be treated.

Optimizing fuel treatment and reducing final waste volumes

This research focuses on reducing final waste volumes, on packaging technology, and on work supporting ANDRA demonstrations of the performance of the geological repository under construction. The behavior model for vitrified waste containers was finalized and handed over to ANDRA. The CSD-B package for vitrified effluents from plant rinsing operations received acceptance in Belgium this year.

An ambitious program to increase the vitrification facility's capacity and productivity culminated with the development of the cold crucible technology in collaboration with the CEA. The corresponding installation was inaugurated in 2010. The first canisters of vitrified UMo fission product solutions from the treatment of the first fuel elements from the NUGG nuclear-power reactor systems at La Hague were produced. In addition, a program to develop a thermal treatment technology for organic waste is ongoing, in line with the recommendations of the national plan on radioactive materials and waste management (PNGMDR).

In parallel, work continued on programs to further reduce environmental impacts by improving existing effluent treatment processes or by developing new solutions.

Improving used fuel shipping and storage

AREVA is developing casks for the shipment of nuclear materials and waste. The development work keeps up with changes in regulations and in the materials being shipped (higher burnups, new designs, etc.). The new products are also designed to improve and reinforce services relating to the shipment and storage of radioactive materials and waste.

The TN®G3 is still under development and will eventually replace the current TN®12/13 shipping casks. These new casks will ship used fuel that has higher burnup and a shorter cooling time, giving our customers greater flexibility. The German Federal Office for Radiation Protection recently approved the use of the TN24E cask, for the first time giving a foreign company access to the German used fuel management market. These steel casks are dedicated to the shipment and interim storage of used nuclear fuel (uranium oxide or MOX), and were designed to withstand extreme conditions, providing customers with a high level of performance and flexibility. This performance was made possible in particular by the development of a criticality calculation method that was qualified based on specific tests performed in partnership with the CEA and IRSN.

These new product designs are based on the development and qualification of new materials and their implementation to fulfill the functions of containment, neutron and radiation protection, heat dissipation and protection against the risk of cask drops.

Proposing management solutions for nuclear facilities at the end of their operating lives – Cleanup, Dismantling and Decommissioning (D&D)

Research and Development programs in this field are designed to come up with performance-enhancing solutions and to improve nuclear and occupational safety at every stage of a project, from initial characterization to facility decommissioning, both at AREVA's own facilities and at those of its customers. They also seek to secure an edge over the competition, which is strong in this sector, whether in France or internationally.

CROSSCUTTING RESEARCH AND DEVELOPMENT ACTIVITIES

IMPROVING FUEL AND REACTOR DESIGN TOOLS

AREVA puts considerable effort into its modeling tools and design codes, both on its own and in collaboration with the CEA. These projects prioritize the development of advanced physical models that make use of expanding computer modeling capabilities. They are designed to cover the state of the art in terms of knowledge on PWR and BWR extended validity ranges, to broaden the architectures for modular applications, and to develop the human-engineered graphical interfaces used. Such evolutions help to improve the accuracy of code-based predictions, reduce cask and reload design costs, and improve design quality. The ultimate goal of this research is to design and validate fuels and reactors that deliver even better performance. The NRC certified the ARCADIA™ advanced core simulation software in 2013. The Galileo

advanced software to analyze fuel rod behavior was also submitted to the NRC for review in 2013.

Understanding and forestalling aging

AREVA carries out large-scale Research and Development programs with the CEA and the EDF group to gain a better understanding of and greater control over the aging of equipment and materials in the reactor environment, where radiation, pressure, high temperature and mechanical loads are factors. The end result will be more accurate predictions on materials capabilities and solutions for extending the operating period of reactors and reactor components that meet the needs of power generation companies.

RESEARCH AND DEVELOPMENT ACTIVITIES FOR THE RENEWABLE ENERGIES BUSINESS GROUP

Wind energy

In offshore wind energy, AREVA's R&D focused on innovation with the M5000 model by seeking to increase performance at lower cost, of course while maintaining the high level of safety achieved at the Alpha Ventus site.

In 2013, several milestones were met with the construction of a prototype that includes a new set of blades for the M5000-135 turbine featuring a rotor diameter of 135 meters.

AREVA also proposed an 8MW turbine for the second round of bids in France. The project is under development and will be unveiled more officially sometime in 2014. The new turbine will be one of the most powerful in the world and is expected to significantly reduce power generation costs in the offshore wind sector.

Solar energy

In 2010, AREVA Solar significantly improved its CLFR-DSG direct steam generation technology, giving it an edge over its competitors with its superheated steam production. At this level of performance and thanks to the low intrinsic cost of the CLFR system (compact linear Fresnel reflectors), this technology is currently considered to be the most competitive in terms of levelized electricity cost for steam generation and ancillary applications. To go even further, AREVA is focusing its development efforts on thermal energy storage to increase the technology's competitiveness. Making solar energy distributable would add real value to concentrated solar power.

Bioenergy

In 2012, the Bioenergy Business Unit accelerated the transformation of its economic model to shift its supply services from engineering, procurement and construction (EPC) to technology solutions. The acquisition of Thermya in 2012 is a first step in this transformation. In 2013, the business unit's Technical Center in Bordeaux coordinated all of its Research and Development activities. Optimizing the torrefaction process was given priority. This unique process for producing green coal from biomass allows the Bioenergy business unit to expand its portfolio if technologies and position itself directly in coal co-combustion, a new industrial segment with high growth potential. In 2013, the industrialization process led to the finalization of a prototype green coal fabrication unit with a capacity of 2.5 metric tons per hour in collaboration with a French manufacturer. The first tests took place end of 2013 and should enable the Bioenergy Business Unit to start producing the first 5-metric-ton-per-hour industrial units (40 kilotons per year of capacity) as early as 2014.

Energy storage

The Energy Storage Business Unit continues to operate the Myrte platform in Corsica (electrolyzer, hydrogen and oxygen storage, and a 100 kWe fuel cell).

Procedures were established to fully integrate operating experience into product design. The main challenge is to gather the data on operating and maintenance constraints and on the sustainability of the systems. A battery of laboratory and test bench experiments was developed to elucidate the parameters that affect the operating period of fuel cell assemblies.

A strategic partnership with the CEA's technology innovation laboratory Liten was set up to accelerate progress on assembly performance and reliability. A lot of effort was also devoted to cost reduction programs. Reductions of around 30% were already achieved in 2012 and continued in 2013. AREVA has set out on a bolder, more comprehensive industrialization plan for the coming years.

RESEARCH AND DEVELOPMENT ACTIVITIES BY ENGINEERING & PROJECTS: SUPPORTING THE RESEARCH AND DEVELOPMENT ACTIVITIES OF AREVA'S BUSINESS GROUPS

Engineering & Projects (E&P) is a key partner in the Business Groups' Research and Development programs. Specifically, E&P brings in the expertise and engineering skills that are needed in the phases that precede the industrial roll-out of the processes and products resulting from the Business Groups' R&D: feasibility and preliminary studies for innovative installations, final development and qualification of simulation tools and of processes, products and equipment for use in AREVA's facilities or its customers' facilities, and operational support.

The Beaumont-Hague development and testing laboratory (HRB), an E&P technical center located near the La Hague recycling plant, houses the activities for the two main divisions Technology, which develops specific tools and response scenarios and also develops and qualifies mechanical equipment; and Chemistry, which deals with a broad range of topics, including the development and qualification of chemical engineering equipment and of waste treatment/packaging processes (cementation, vitrification, drying, etc.), for the Front End and Back End Business Groups and for the Renewable Energies Business Group. The development and testing lab also houses many pilot projects for the applications of the different Business Groups.

11.2. Intellectual property

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 technology assets. This is also the key to negotiating successful technology transfer and process license agreements, now standard practice for large-scale international projects.

11.2.1. 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 1,300 inventions pertaining to the nuclear fuel cycle, nuclear reactors, renewable energies and related services. In 2013, the AREVA group filed 117 new patent applications, about as many as in 2012.

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 contributes to AREVA's leadership in its businesses and bolsters the group's technical and commercial offering.

11.2.2. BRANDS

The AREVA group owns several brands. The best known are the AREVA brand name, the figurative mark and the semi-figurative mark .

These brand names designate all the group's operations and are protected in all countries in which the group conducts its operations.

As the group's activities develop, it files for new trademarks.

The communication program undertaken to support and accompany the group's development is based on deployment of the AREVA brands and .

Actions taken in this regard – advertising, websites, brochures, sponsorships and press relations – help strengthen the group's brand awareness in France and abroad and position AREVA as a leading brand in the energy sector. With respect to the trademark defense policy, in particular on the Internet, the Arbitration and Mediation Center of the World Intellectual Property Organization (WIPO) has emphasized the well-known nature of the AREVA brand.

The AREVA group identifies its products and protects them with registered trademarks (e.g. the mark).

11.2.3. LEGAL ACTIVITIES

In 2013, the AREVA group entered into several Research and Development and partnership agreements in 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.

To protect its industrial property rights, the AREVA group's policy is both proactive and reactive.

11.2.4. IN 2014

The AREVA group intends to pursue, strengthen and organize its intellectual property initiative to support the growth of its Research and Development efforts 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.

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→ 12.1. Current situation

Please refer to Section 6.1. *The markets for nuclear power and renewable energies*, which deals in particular with the current economic situation and how it affects the group's operations.

The difficulties of the nuclear market have persisted since the Fukushima accident and the short-term outlook is uncertain due to the following:

- the restart of the Japanese reactors is slower than anticipated;
- market prices in the front end of the cycle are lower than those of 2011;
- four reactors were shut down in a difficult economic environment in the United States;
- the financial situation of Western utilities has deteriorated.

However, the market fundamentals for energy, and in particular the growth of demand for electricity, are unchanged from pre-Fukushima scenarios. In its *World Energy Outlook 2013*, the International Energy Agency forecasts annual growth in installed capacity of about 2%, in line with projections of other energy agencies. Current developments confirm this trend:

- expected growth in the global installed base: 4 new reactors were connected to the grid in 2013 and 72 are under construction;
- announcements of new nuclear programs in countries such as Turkey, Poland, Vietnam and Saudi Arabia;
- confirmation of nuclear programs via replacements or extensions of the nuclear fleets in some countries, such as the United Kingdom and Brazil.

In this environment, AREVA is positioning itself to take advantage of future market growth, both in the installed base business and in new builds, while adjusting to the short-term market configuration.

→ 12.2. Financial objectives

For 2014, AREVA has set the following targets:

- a drop in organic revenue on the order of 2% to 5% (it should be noted that, until December 31, 2013, revenue reflects uranium deliveries under «HEU» agreements, and that these sales represented 4% of the group's revenue) in 2013;
- a slight increase in the ratio of EBITDA to revenue;
- gross Capex of 1.3 billion euros;
- positive free operating cash flow before tax.

For the 2015-2016 period, AREVA has set the following targets:

- organic revenue growth averaging 4 to 5 per year;
- EBITDA margin growth averaging about 2 percentage points per year;
- gross Capex brought back to an average of 1.1 billion euros per year;
- significant growth of positive free operating cash flow before tax.

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Profit forecasts or estimates

Not applicable.

14 Management and supervisory bodies

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14.1. Composition of the Executive Board

The Executive Board consists of at least two members and at most seven members named by the Supervisory Board, which appoints the Chairman of the Executive Board from among its members.

The members of the Executive Board must be natural persons. They need not be shareholders and may be AREVA employees, except for the Chairman of the Executive Board.

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.

The company's Executive Board as of December 31, 2013 is as follows:

LUC OURSEL (AGE 54)

On the recommendation of the Compensation and Nominating Committee, the Supervisory Board renewed the term of Mr. Luc Oursel as member of the Executive Board on June 21, 2011, effective June 30, 2011. The Supervisory Board appointed Mr. Oursel Chief Executive Officer on June 30, 2011. His term will expire at the first meeting of the Supervisory Board held after June 30, 2016.

Mr. Oursel is a graduate of the École nationale supérieure des mines of Paris and is *ingénieur en chef* in the Corps des mines.

Before joining AREVA, Mr. Oursel was a senior civil servant until 1993 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. 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 General Manager of Geodis.

A member of the AREVA Executive Board since March 22, 2007, Mr. Oursel served as AREVA Executive Officer in charge of nuclear operations. He was named Chief Operating Officer of AREVA, International Marketing and Projects, in January 2011.

Other offices held

- Chairman of the Board of Directors of AREVA NC SA.
- Chairman of the Board of Directors of Fondation d'Entreprise AREVA.
- Chairman of the Association Nationale de la Recherche et de la Technologie (ANRT).
- Chairman of the Fondation Besse.
- Member of the Board of Directors of the Institut des hautes études de défense nationale (IHEDN).

Other offices held during the past five years

- Member of the Supervisory Board of AREVA GmbH until December 13, 2011.
- President of AREVA Mines SAS until May 9, 2012.
- Chairman of the Board of AREVA Inc. until July 11, 2011.
- Member of the Supervisory Board of Souriau and Souriau Technologies Holding SAS until October 25, 2011.
- Member of the Management Committee of ATMEA until September 12, 2011.
- Chairman of the Board of AREVA NP USA Inc. until July 8, 2011.
- President of AREVA NP SAS until July 8, 2011.
- Member of the Management Committee of AREVA NP SAS until March 18, 2011.

- Permanent representative of AREVA to the Supervisory Board of Safran until April 21, 2011.

PHILIPPE KNOCHE (AGE 44)

On the recommendation of the Compensation and Nominating Committee, the Supervisory Board appointed Mr. Philippe Knoche to the Executive Board and named him Chief Operating Officer on June 21, 2011, effective June 30, 2011. Mr. Knoche's term will expire at the first meeting of the Supervisory Board held after June 30, 2016.

Mr. Knoche is a graduate of École Polytechnique and of the École des mines. He began his career in 1995 as an anti-dumping case reporter for the European Commission. In 2000, he joined Cogema (which later became AREVA NC) as Director of Industrial Holdings. He joined AREVA in 2001 as Senior Vice President of Corporate Strategy. In 2004, he was named Director of the Treatment Business Unit. In 2006, he took over as Project Director for the OL3 EPR™ project in Finland. Mr. Knoche was appointed Senior Executive Vice President of the Reactors & Services Business Group in 2010.

Other offices held

- CEO of AREVA NC SA.
- President of AREVA NP SAS.
- Member of the Supervisory Board of AREVA GmbH.
- Chairman of the Board of AREVA Inc. (1)

Other offices held during the past five years

None.

PIERRE AUBOUIN (AGE 43)

After approval to join the AREVA group by the Business Ethics Commission (2), on July 12, 2011, the Supervisory Board appointed Mr. Pierre Aubouin to the Executive Board and named him Chief Financial Officer on July 27, 2011. Mr. Aubouin's term will expire at the first meeting of the Supervisory Board held after June 30, 2016.

Mr. Aubouin is a graduate of the ESSEC Business School. He also holds an advanced degree in accounting and finance (DESCF). He began his career as an auditor with KPMG in 1992. Promoted to manager in 1997, he was responsible for a large portfolio of French and foreign industrial customers, particularly in the high-tech sector. From 2000 to 2006, he was consultant, project manager and later project director for McKinsey & Company, where he was a member of the corporate finance and strategy, high technology and media expertise groups. In late 2006, Pierre Aubouin joined Agence des participations de l'État (APE, the French government shareholding agency) as Head of the Aeronautics and Defense unit. In 2008, he was named division director for Services, Aeronautics and Defense shareholdings.

Other offices held

- CEO of AREVA Business Support SAS.

Other offices held during the past five years

- Director of Safran SA, DCNS, Sogepa SA, Sogeade Gérance SAS, SNPE SA, Imprimerie Nationale SA and EPFR (a government-owned agency) until July 2011.

OLIVIER WANTZ (AGE 53)

The Supervisory Board appointed Mr. Olivier Wantz to the Executive Board and named him Senior Executive Vice President, Operations Support, on June 30, 2011. Mr. Wantz was appointed Senior Executive Vice President, Mining Business Group on March 31, 2012. Mr. Wantz's term as a member of the Executive Board will expire at the first meeting of the Supervisory Board held after June 30, 2016.

Mr. Wantz holds an advanced graduate diploma from the Institut d'administration des entreprises (IAE) of Paris and is a graduate of the Chamber of Commerce and Industry of Nuremberg, Germany. In 1983, in joined Siemens, where he served in different functions in the medical engineering division and, starting in 1995, in the Australian subsidiary of the telecommunications division. In 2000, he was named Administrative and Financial Director of Siemens Transportation Systems. Mr. Wantz joined the AREVA group in 2005 as Chief Financial Officer of AREVA NP. In 2010, he was appointed Senior Executive Vice President of Engineering & Projects at AREVA.

Other offices held

- CEO of AREVA Mines SAS.
- CEO of CFMM SA.
- Member of the Board of AREVA CANADA Inc.
- Member of the Supervisory Board of AREVA GmbH.
- Vice Chairman of the Board of WECAN.
- Member of the Board of AREVA Beijing Consulting.
- Member of the Supervisory Board of AREVA Med LLC.

Other offices held during the past five years

- Chairman of the Supervisory Board of AREVA GmbH until October 16, 2012.
- Member of the Board of Directors of La Mancha Resources Inc. until August 28, 2012.
- Member of the Board of Directors of AREVA Federal Services LLC until April 11, 2012.
- Member of the Board of Directors of AREVA Inc. until March 16, 2012.
- Chairman of the Board of Directors of SGN SA until July 1, 2013.

The members of the Executive Board may be contacted at the head office located at Tour AREVA, 1 place Jean-Millier, 92400 Courbevoie, France.

(1) AREVA NP Inc. was renamed AREVA Inc. on January 1, 2014.

(2) The role of the Business Ethics Committee (Commission de déontologie de la fonction publique), a French independent public institution, is to control the departure of civil servants and certain employees of the private sector, who plan to exercise an activity in the private sector and in the competitive public sector. It examines whether or not the private activities they plan to exercise are compatible with their previous functions.

14.2. Composition of the Supervisory Board

The information concerning the composition of the Supervisory Board appears in Section 3.1. *Report of the Supervisory Board Chairman on the preparation and organization of the Boards' activities and internal control procedures* (Appendix 1 of this Reference Document).

14.3. Legal information, conflicts of interest and service contracts

Apace 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 of 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 of 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.

15

Compensation and benefits

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15.1. Compensation of members of the Executive Board and Supervisory Board

The compensation of AREVA's officers and directors is set in accordance with the French Commercial Code.

On the recommendation of the Compensation and Nominating Committee: (i) the Supervisory Board sets compensation for the Chief Executive Officer and members of the Executive Board, and (ii) the Shareholders set the total amount of directors' fees paid to members of the Supervisory Board, which is divided among its members by the Supervisory Board.

The components of compensation are approved by the Minister of Economy pursuant to the decree no. 53–707 of August 9, 1953, as amended, on government control of national public sector companies and certain organizations serving an economic or social purpose.

In addition, in application of the decree no. 2012-915 of July 26, 2012 on government control of the compensation of executives of public sector companies, the maximum gross annual compensation for company officers is 450,000 euros.

Lastly, the AREVA group defers to the AFEP-MEDEF Code of Corporate Governance for publicly traded companies as revised in June 2013 (see Appendix 1 to this Reference Document).

In accordance with applicable regulations, the tables below include the compensation and benefits of any kind paid to officers and directors in 2012 and 2013. No compensation or benefits are paid to these individuals by companies controlled by AREVA SA.

15.1.1. COMPENSATION OF MEMBERS OF THE EXECUTIVE BOARD

The compensation of the members of the Executive Board consists of a fixed component and, for some members, a variable component.

For 2013, fixed annual gross compensation was 450,000 euros for Mr. Luc Oursel, 420,000 euros for Mr. Philippe Knoche, 360,000 euros for Mr. Olivier Wantz, and 300,000 euros for Mr. Pierre Aubouin. Only Messrs. Olivier Wantz and Pierre Aubouin receive variable compensation, capped at 60,000 euros for Mr. Wantz and at 120,000 euros for Mr. Aubouin.

The variable component is subject to quantitative and qualitative objectives, set at 65% and 35% respectively for 2013.

For 2013, the quantitative objectives to be achieved are a function of revenue (15%), backlog (10%), operating margin (20%) and the ratio of operating cash flow to net debt (20%). Trigger points were set for each quantitative objective along with a stretch goal allowing those objectives to be exceeded, recognizing that the variable share granted at the rate of 100% corresponds to an achievement rate of 105%. The qualitative objectives are not reported for reasons of individual and commercial confidentiality.

AREVA does not have any system for performance-based share allotments, or any stock option or stock purchase plan, either for employees or for officers.

Messrs. Luc Oursel, Philippe Knoche and Pierre Aubouin do not have employment contracts. Mr. Olivier Wantz elected to have his employment contract suspended while he serves as a member of the Executive Board. Mr. Knoche will be offered an employment contract with similar responsibilities if his position as a member of the Executive Board is terminated before its current term or is not renewed.

15.1.1.1. SUMMARY OF COMPENSATION AND BENEFITS OF EXECUTIVE BOARD MEMBERS

(in euros) **AREVA members of the Executive Board**	**Compensation due in 2012**	**Compensation paid in 2012**	**Compensation due in 2013 (2)**	**Compensation paid in 2013 (3)**
Anne Lauvergeon	314,099 (1)	1,981,610 (1)	NA	NA
Gérald Arbola	NA	863,552 (1)	NA	NA
Sébastien de Montessus	57,696	57,696	NA	NA
Luc Oursel, Chief Executive Officer	972,012	575,640	450,000	846,372
Philippe Knoche, Chief Operating Officer	674,940	422,940	420,000	671,265
Olivier Wantz, Senior Executive Vice President, Mining Business Group	459,390	335,640	415,650	504,840
Pierre Aubouin, Chief Executive Financial Officer	445,800	303,300	411,960	441,925

(1) Compensation and benefits, including severance pay (ministerial approval given on March 20, 2012).
(2) Sum total of compensation due for the year, including the variable component, if applicable.
(3) Sum total of compensation paid during the year, including the variable component for the previous year, if applicable, paid in the first quarter of 2013.

15.1.1.2. SUMMARY OF COMPENSATION AND BENEFITS PAID TO EACH MEMBER OF THE EXECUTIVE BOARD DURING THE YEAR (FIXED COMPENSATION, VARIABLE COMPENSATION [BASED ON THE PREVIOUS YEAR] AND NON-CASH BENEFITS)

➜ **MEMBERS OF THE EXECUTIVE BOARD WHOSE TERM ENDED IN 2011**

(in euros)	**Summary of compensation and benefits for Anne Lauvergeon**			
	2012		**2013**	
AREVA members of the Executive Board	**Amount due**	**Amount paid (1)**	**Amount due**	**Amount paid**
Fixed compensation	NA	NA	NA	NA
Variable compensation calculated on the previous year	NA	NA	NA	NA
Amount	NA	167,511	NA	NA
Exceptional compensation	NA	NA	NA	NA
Attendance fees	NA	NA	NA	NA
Secretary, bodyguard and security officer (1st half 2012) (2)	314,099	314,099	NA	NA
Severance and non-competition payment (2)	NA	1,500,000	NA	NA
TOTAL	**314,099**	**1,981,610**	**NA**	**NA**

(1) Sum total of compensation paid during the fiscal year, including that paid for the previous year.
(2) Ministerial approval of March 20, 2012.

(in euros) **Summary of compensation and benefits for Gérald Arbola**

	2012		2013	
AREVA member of the Executive Board	**Amount due**	**Amount paid (1)**	**Amount due**	**Amount paid**
Fixed compensation	NA	NA	NA	NA
Variable compensation	NA	NA	NA	NA
Amount	NA	103,552	NA	NA
Exceptional compensation	NA	NA	NA	NA
Attendance fees	NA	NA	NA	NA
Non-cash benefits (company car)	NA	NA	NA	NA
Severance pay (2)	NA	760,000	NA	NA
TOTAL	**NA**	**863,552**	**NA**	**NA**

(1) Sum total of compensation paid during the fiscal year, including that paid for the previous year.
(2) Ministerial approval on March 20, 2012.

➔ MEMBER OF THE EXECUTIVE BOARD WHOSE TERM ENDED IN 2012

(in euros) **Summary of compensation and benefits for Sébastien de Montessus**

	2012		2013	
AREVA member of the Executive Board	**Amount due**	**Amount paid (1)**	**Amount due**	**Amount paid**
Fixed compensation	56,667	56,667	NA	NA
Variable compensation	Maximum theoretical rate: 50%	-	NA	NA
Amount	0	0 (2)		
Exceptional compensation	NA	NA	NA	NA
Attendance fees	NA	NA	NA	NA
Benefits in kind (company car)	1,029	1,029	NA	NA
Severance pay	NA	NA	NA	NA
TOTAL	**57,696**	**57,696**	**NA**	**NA**

(1) Sum total of compensation paid during the fiscal year, including that paid for the previous year.
(2) Mr. de Montessus waived his right to variable compensation for the second half of 2011.

➔ MEMBER OF THE EXECUTIVE BOARD WHOSE TERM WAS RENEWED IN 2011

(in euros) **Summary of compensation and benefits for Luc Oursel**

	2012		2013	
AREVA member of the Executive Board	**Amount due (1)**	**Amount paid (2)**	**Amount due (1)**	**Amount paid (2)**
Fixed compensation	540,000	571,128	445,488	414,360
Variable compensation	Maximum theoretical rate: 100%	-	NA	
Amount	427,500 (3)	0 (4)	NA	427,500 (4)
Exceptional compensation	NA	NA	NA	NA
Attendance fees	NA	NA	NA	NA
Benefits in kind (company car)	4,512	4,512	4,512	4,512
TOTAL	**972,012**	**575,640**	**450,000**	**846,372**

(1) Compensation paid for the reporting year, irrespective of the date of payment.
(2) Sum total of compensation paid during the fiscal year, including that paid for the previous year.
(3) Amount of variable compensation until September 30, 2012 paid in 2013. Mr. Oursel is no longer eligible for variable compensation, as from October 1, 2012.
(4) Mr. Oursel waived his right to variable compensation for 2011.

➜ MEMBERS OF THE EXECUTIVE BOARD APPOINTED IN 2011

(in euros) **Summary of compensation and benefits for Philippe Knoche**

	2012		2013	
AREVA member of the Executive Board	**Amount due [1]**	**Amount paid [2]**	**Amount due [1]**	**Amount paid [2]**
Fixed compensation	420,000	420,000	417,060	416,325
Variable compensation	Maximum theoretical rate: 80%	-	NA	
Amount	252,000 [3]	0 [4]	NA	252,000 [4]
Exceptional compensation	NA	NA	NA	NA
Attendance fees	NA	NA	NA	NA
Benefits in kind (company car)	2,940	2,940	2,940	2,940
TOTAL	**674,940**	**422,940**	**420,000**	**671,265**

(1) Compensation paid for the reporting year, irrespective of the date of payment.
(2) Sum total of compensation paid during the fiscal year, including that paid for the previous year.
(3) Amount of variable compensation until September 30, 2012 paid in 2013. Mr. Knoche is no longer eligible for variable compensation, as from October 1, 2012.
(4) Mr. Knoche waived his right to variable compensation for the second half of 2011.

(in euros) **Summary of compensation and benefits for Olivier Wantz**

	2012		2013	
AREVA member of the Executive Board	**Amount due [1]**	**Amount paid [2]**	**Amount due [1]**	**Amount paid [2]**
Fixed compensation	330,000	330,000	354,360	375,450
Variable compensation	Maximum theoretical rate: 50%		Maximum theoretical amount [3]: 60,000	
Amount	123,750 [4]	0 [5]	55,650	123,750 [4]
Exceptional compensation	NA	NA	NA	NA
Attendance fees	NA	NA	NA	NA
Benefits in kind (company car)	5,640	5,640	5,640	5,640
TOTAL	**459,390**	**335,640**	**415,650**	**504,840**

(1) Compensation paid for the reporting year, irrespective of the date of payment.
(2) Sum total of compensation paid during the fiscal year, including that paid for the previous year.
(3) The variable component was capped at 60,000 euros (replacing the percentage approach with a maximum amount approach).
(4) Amount of variable compensation until September 30, 2012 paid in 2013. Mr. Wantz did not receive variable compensation for the fourth quarter of 2012.
(5) Mr. Wantz waived his right to variable compensation for the second half of 2011.

(in euros) **Summary of compensation and benefits for Pierre Aubouin**

AREVA member of the Executive Board	2012		2013	
	Amount due [1]	Amount paid [2]	Amount due [1]	Amount paid [2]
Fixed compensation	330,000	300,000	296,400	325,875
Variable compensation %	Maximum theoretical rate: 50%		Maximum theoretical amount [3]: 120,000	
Amount	112,500 [4]	0 [5]	111,960	112,500 [4]
Exceptional compensation	NA	NA	NA	NA
Attendance fees	NA	NA	NA	NA
Benefits in kind (company car)	3,300	3,300	3,600	3,600
TOTAL	**445,800**	**303,300**	**411,960**	**441,925**

(1) Compensation paid for the reporting year, irrespective of the date of payment.
(2) Sum total of compensation paid during the fiscal year, including that paid for the previous year.
(3) The variable component was capped at 120,000 euros (replacing the percentage approach with a maximum amount approach).
(4) Amount of variable compensation until September 30, 2012 paid in 2013. Mr. Aubouin did not receive variable compensation for the fourth quarter of 2012.
(5) Mr. Aubouin waived his right to variable compensation for the second half of 2011.

15.1.1.3. SEVERANCE AND NON-COMPETITION PAYMENTS

Severance pay

The Supervisory Board adopted the following rules, which are consistent with the recommendations of the AFEP-MEDEF code of governance as revised in June 2013:

- Members of the AREVA Executive Board without an employment contract – Messrs. Luc Oursel, Philippe Knoche (who waived his employment contract) and Pierre Aubouin – may have the benefit of severance pay in the maximum amount of twice the cumulative total of their annual compensation on the date of termination of their duties. Severance pay will be based on the latest fixed compensation for Messrs. Luc Oursel and Philippe Knoche and, in the case of Mr. Pierre Aubouin, the cumulative total of his latest fixed compensation and the average of his variable compensation for the last three fiscal years. Mr. Olivier Wantz elected to have his employment contract suspended while he serves as a member of the Executive Board; he is therefore not subject to the above provisions.
- Members of the Executive Board are not entitled to severance pay in the following circumstances: (i) if they elect to retire, or are required to do so, for any reason shortly after the end of their term, or (ii) if their term expires prematurely because of the transformation of the company into a *société anonyme* with a Board of Directors, or (iii) if they are appointed to another function within the AREVA group.
- The aforesaid severance payment shall be made only if a member of the Executive Board is dismissed, except in the event of dismissal for just cause, such as in the event of a change in control or strategy, and shall be subject to performance conditions, according to the following:

For Messrs. Luc Oursel and Philippe Knoche:

- Severance compensation will be paid automatically if the rate of achievement of quantitative and qualitative objectives was more than 60% on average for the periods ended the two previous years.
- If the rate of achievement of quantitative and qualitative objectives was less than 60% on average for the periods ended the two previous years, the Supervisory Board will assess the performance based on circumstances impacting the company's business during the year currently ended.

For Mr. Pierre Aubouin:

- Severance compensation shall be paid automatically if more than 70% of the maximum variable component of compensation (based on quantitative and qualitative objectives) was paid for two of the three previous years.
- Severance compensation shall not be paid if less than 60% of the maximum amount of the variable component of compensation has been paid for two of the last three years.
- The Supervisory Board shall decide whether or not to grant all or part of the severance pay if 70% or less of the maximum amount of the variable component has been paid for two of the three previous years and 60% to 70% of the maximum amount of the variable component has been paid for at least one year.

If the termination or forced departure of Mr. Pierre Aubouin occurs before the completion of three years of service following his appointment, the severance pay will be subject to performance-based conditions as follows:

- Severance pay shall be paid if the average variable component paid during his term (prorated for partial years) is greater than 70% of the maximum amount of the variable component of compensation.

- Severance pay shall not be paid if the average variable component paid during his term (prorated for partial years) is less than 60% of the maximum amount of the variable component of compensation.
- The Supervisory Board shall decide whether or not to grant all or part of the severance pay if 60% to 70% of the average maximum amount of the variable component has been paid during his term (prorated for partial years).

- Mr. Philippe Knoche will be offered an employment contract with similar responsibilities if his position as a member of the Executive Board is terminated before its current term or is not renewed. Such a contract may not be in addition to the payment of severance pay at the end of his term.
- All severance payments shall first be approved by the Supervisory Board in accordance with article L.225-90-1, Paragraph 5 of the French Commercial Code and approved by the minister of the Economy in application of the above-mentioned decree no. 53–707 of August 9, 1953.

	Employment contract		Supplemental retirement benefits		Compensation or benefits due or that may be due in the event of a change of control or a change in position	
Executive officers	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**
Luc Oursel, CEO		X		X	X	
Philippe Knoche, COO		X		X		X (2)
Olivier Wantz, SEVP, Mining	X (1)			X		X
Pierre Aubouin, SEVP Finance		X		X	X	

(1) Employment contract suspended during his term.
(2) No severance pay if an employment contract with similar responsibilities is offered.

Non-competition payments

The Supervisory Board may decide to grant severance pay to the member of the Executive Board in consideration for an agreement not to compete. The Supervisory Board will determine the amount of the non-compete payment in accordance with industry practices and may decide to offset the payment against severance pay as provided above.

All non-competition payments shall first be approved by the Supervisory Board in accordance with article L. 225-90-1, Paragraph 5 of the French Commercial Code and approved by the minister of the Economy in application of decree no. 53–707 of August 9, 1953.

15.1.1.4. PENSIONS AND RETIREMENT BENEFITS

The company did not subscribe to any supplemental retirement plan for the benefit of the members of the Executive Board. They participate in the supplemental retirement programs applicable to company employees.

15.1.1.5. UNEMPLOYMENT INSURANCE

Effective December 1, 2011, the company subscribed to an unemployment insurance plan sponsored by MEDEF and underwritten by Garantie Sociale des Chefs et Dirigeants d'Entreprise (GSC) in favor of members of the Executive Board without an employment contract. Membership guarantees twelve months of severance payments to the officers, with a payment level of 70% of net revenue from employment received for the calendar year preceding the membership in the case of tax brackets A and B, and 55% for tax bracket C. Insurance coverage is subject to a waiting period of twelve months. Premiums for this insurance are paid 65% by AREVA and 35% by the beneficiary.

15.1.2. COMPENSATION OF MEMBERS OF THE SUPERVISORY BOARD

The members of the Supervisory Board receive attendance fees during their terms, except for the Chairman of the Supervisory Board, the representatives of the French State, and Messrs. Béhar, Bigot and Gégout, who waived them.

In addition, the Chairman of the Supervisory Board receives an annual allowance of 120,000 euros for these duties.

On May 7, 2013, the shareholders set the total amount of directors' fees at 400,000 euros.

The distribution of directors' fees was done according to the following rules:

- A fixed annual sum of 16,000 euros is allocated to each eligible member of the Supervisory Board. This sum may be withheld if the member is systematically absent.
- A sum of 2,000 euros is allocated for each meeting of the Supervisory Board. This payment is subject to effective presence.

- A sum of 1,600 euros is allocated to committee Chairmen for each committee meeting. This payment is subject to effective presence.
- A fee of 1,200 euros is allocated to committee members for each committee meeting. This payment is subject to effective presence.

On the recommendation of the Compensation and Nominating Committee, in particular to compensate the members of the Supervisory Board for the time spent in travel and to facilitate the recruitment of directors from abroad in the future, the Supervisory Board increased the compensation of directors residing outside Europe as follows: 4,000 euros per meeting of the Supervisory Board, 3,200 euros per meeting to the Chairman of a specialized Committee, and 2,400 euros for each Committee member in attendance.

15.1.2.1. SUMMARY OF ATTENDANCE FEES ALLOCATED DURING THE YEAR

Members of the Supervisory Board (1)	2012 (2)	2013 (3)
François David (4)	58,900	45,600
Sophie Boissard (4)	50,000	48,000
Agnès Lemarchand (4)	58,500	42,800
Guylaine Saucier	62,100	80,800
Jean-Claude Bertrand (5)	19,600	NA
Gérard Melet (5)	15,200	NA
Alain Vivier-Merle (5)	20,900	NA
Françoise Pieri	18,000	46,000
Jean-Michel Lang	19,200	43,200
Philippe Pinson	18,000	42,000
TOTAL	**340,400**	**348,400**

(1) List of members of the Supervisory Board who receive or have received attendance fees.
(2) Attendance fees allocated in 2012, including the balance for December 2011.
(3) Attendance fees allocated in 2013, including the balance for December 2012.
(4) Mrs. Boissard, Mrs. Lemarchand and Mr. David were appointed by the Supervisory Board to lead the ad-hoc committee on the UraMin case. Each of them received 10,000 euros for serving on the committee.
(5) Members of the Supervisory Board whose term ended on June 20, 2012; compensation received in the first half of 2012.

15.1.2.2. SUMMARY OF COMPENSATION PAID TO MEMBERS OF THE SUPERVISORY BOARD DURING THE YEAR (GROSS COMPENSATION AND ATTENDANCE FEES)

Pursuant to applicable regulations, the following information is provided:

- The total gross compensation paid to Jean-Cyril Spinetta and Pierre Blayau by AREVA corresponds to their annual compensation as Chairman of the Supervisory Board, prorated for the year. Neither of them received attendance fees.
- The total gross compensation paid to Bernard Bigot, Christophe Béhar and Christophe Gégout (CEA) corresponds to their compensation (including bonuses and exceptional payments) paid by the CEA for their services with the CEA, which controls AREVA. They receive no attendance fees from AREVA for their services as members of the Supervisory Board. Bernard Bigot receives no compensation from AREVA for his duties as Vice Chairman of the Supervisory Board.
- The total gross compensation paid to Françoise Pierri, Jean-Michel Lang and Philippe Pinson, who are members of the Supervisory Board elected by company personnel in 2012, corresponds to the compensation (including profit-sharing) paid by the AREVA subsidiary that employs them and to the attendance fees paid for their terms as members of the Supervisory Board. At their request, their attendance fees may be paid by AREVA to the labor organization to which they belong.

(in euros)	2012			2013		
Supervisory Board	**Gross compensation**	**Attendance fees**	**Total gross compensation**	**Gross compensation**	**Attendance fees**	**Total gross compensation**
	(a)	**(b)**	**(c = a + b)**	**(a)**	**(b)**	**(c = a + b)**
Jean-Cyril Spinetta [1]	225,000	-	225,000	112,500	-	112,500
Pierre Blayau	-	-	-	62,234	-	62,234
Bernard Bigot	229,255	-	229,255	235,334	-	235,334
Christophe Béhar	161,600	-	161,600	166,211	-	166,211
Sophie Boissard	-	50,000	50,000	-	48,000	48,000
François David	-	58,900	58,900	-	45,600	45,600
Christophe Gégout	158,366	-	158,366	163,729	-	163,729
Agnès Lemarchand	-	58,500	58,500	-	42,800	42,800
Guylaine Saucier	-	62,100	62,100	-	80,800	80,800
Jean-Claude Bertrand	43,415 [2]	19,600	63,015	-	-	-
Gérard Melet	40,507 [2]	15,200	55,707	-	-	-
Alain Vivier-Merle	55,699 [2]	20,900	76,599	-	-	-
Françoise Pieri	20,409 [3]	18,000	38,409	45,104	46,000	91,104
Jean-Michel Lang	26,302 [3]	19,200	45,502	45,300	43,200	88,500
Philippe Pinson	49,649 [3]	18,000	67,649	127,419	42,000	169,419

(1) Left June 24, 2013.

(2) Members of the Supervisory Board whose terms expired on June 20, 2012: compensation allocated during the first half of 2012.

(3) Members of the Supervisory Board designated by the electoral college whose terms began on June 21, 2012: compensation allocated during the second half of 2012.

15.2. Stock owned by members of the Executive Board and Supervisory Board

Members of the AREVA Supervisory Board appointed by the Annual General Meeting of Shareholders each own 10 shares of stock, except for the CEA, which holds 61.52% of the share capital.

Among the members of the Executive Board, Messrs. Philippe Knoche and Pierre Aubouin each hold 1,000 AREVA shares.

Stock options allowing subscription or acquisition of shares for no consideration

The AREVA group does not presently have a stock option plan. No bonus issue of shares was undertaken or authorized.

15.3. Audit fees

The fees listed in the table below include the fees related to discontinued operations and exclude the fees related to companies consolidated using the proportionate consolidation method.

	2013 Fees				2012 Fees			
(in thousands of euros)	Ernst&Young Audit	Mazars	Other	Total	Deloitte	Mazars	Other	Total
Statutory Auditors								
Issuer	483	431	0	**914**	586	444	0	**1,030**
Subsidiaries	1,502	1,968	1,771	**5,241**	2,602	2,073	1,058	**5,732**
Other reviews and services directly linked to the Statutory Auditors' mission								
Issuer	54	0	0	**54**	79	278	0	**357**
Subsidiaries	121	345	39	**505**	16	66		**82**
Sub-total	**2,160**	**2,744**	**1,810**	**6,714**	**3,283**	**2,861**	**1,058**	**7,201**
Other services rendered by the networks to fully consolidated subsidiaries								
Legal, tax, labor	636	30	0	**666**	260	10	100	**370**
Other	639	0	0	**639**			225	**225**
Sub-total	**1,275**	**30**	**0**	**1,305**	**260**	**10**	**325**	**595**
TOTAL	**3,435**	**2,774**	**1,810**	**8,019**	**3,543**	**2 ,871**	**1,383**	**7,796**

The other services provided in 2013 concern work performed abroad by members of the Statutory Auditors network related to 1) the preparation of income tax returns and 2) critical reviews of information systems in connection with proposed disposals of subsidiaries and analyses of a foreign subsidiary's process for developing forecast information.

Functioning of the management and supervisory bodies

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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 relies on six coordination and steering committees (see Appendix 1, Section 4.2.1. *Organization of the AREVA group*).

The Executive Board convenes the General Meetings of shareholders.

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.

In 2013, the Executive Board met 23 times 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 the members present or represented.

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.

For example, Mr. Luc Oursel, Chief Executive Officer and Chairman of the Executive Board, is in charge of the group's General Management and represents AREVA in its relations with third parties. The Renewable Energies Business Group, the North America Region, and the functional departments of Marketing and Sales, Communications, Executives Career and Organization, Human Resources, General Counsel, and Strategy, Mergers and Acquisitions report to him.

Mr. Philippe Knoche is Chief Operating Officer. The Front End, Reactors & Services and Back End Business Groups report to him, as do the Engineering & Projects organization, the Safety, Security and Operations Department, the Research and Development Department and the Germany Region. He reports to Mr. Luc Oursel.

Mr. Olivier Wantz is Senior Executive Vice President of the Mining Business Group. He reports to Mr. Luc Oursel.

Mr. Pierre Aubouin is Chief Executive Financial Officer. The Audit and Mergers & Acquisitions Departments report to him. He reports to Mr. Luc Oursel.

16.2. Functioning of the Supervisory Board

Information concerning the functioning and activities of the Supervisory Board in 2013 appears in Sections 3.2 and 3.3 respectively of the report of the Supervisory Board Chairman on the preparation and organization of the Board's activities and internal control procedures (Appendix 1 of this Reference Document).

16.3. Functioning of the five committees established by the Supervisory Board

Information on the functioning and work in 2013 of the five committees instituted by the Supervisory Board – the Strategy and Investments Committee, the Audit Committee, the Compensation and Nominating Committee, the End-of-Lifecycle Obligations Monitoring Committee and the Ethics Committee – is presented in Section 3.4 of the report of the Supervisory Board Chairman on the preparation and organization of the Board's activities and internal control procedures (Appendix 1 of this Reference Document).

16.4. Observations by the Supervisory Board on the Executive Board's management report and on the financial statements for the year ended december 31, 2013

Ladies and Gentlemen,

In accordance with article L. 225-68 of the French Commercial Code, the Supervisory Board must present its observations on the Executive Board's report and on the financial statements for the year to the Annual General Meeting of Shareholders.

The Executive Board sent the annual financial statements, the consolidated financial statements, and its report to the Supervisory Board within three months of year-end closing.

After verifying and auditing the corporate and consolidated financial statements for the year ended December 31, 2013 approved by the Executive Board, and after review by the Audit Committee at its February 21, 2014 meeting, the Supervisory Board hereby informs the Shareholders that it has no observation to make on these financial statements.

The Supervisory Board also has no observation to make on the Executive Board's management report, of which it examined the draft during its meeting of February 26, 2014.

For the Supervisory Board,

The Chairman,

Pierre Blayau

16.5. Report of the Supervisory Board Chairman on the preparation and organization of the Board's activities and internal control procedures

In accordance with article L. 225-68 of the French Commercial Code, *"in publicly traded companies, the Chairman of the Supervisory Board shall submit a report on the composition of the Board and of application of the principle of balanced representation of its men and women members, 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."*

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. Report of the Statutory Auditors prepared in application of article L. 225-235 of the French Commercial Code (1)

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*.

(1) 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.

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In order to monitor group employees' commitment to the "ACTION 2016" performance improvement and strategic action plan, the AREVA group carried out the second edition of its internal survey, Voice of Employees. The survey is sent to all of the group's employees worldwide. It is translated into 12 languages. Forty-eight percent of all employees participated in the survey, an additional two percentage points compared with the 2012 survey. Generally speaking, all indicators are up compared with 2012. They are a sign of employee mobilization at a time of transformation for the group. The involvement of everyone was illustrated by the increased number of employees who recommended the group to their friends and by the affirmation of their commitment to meeting the group's objectives. The results were shared with all employees in July 2013.

17.1. Employment

17.1.1. TOTAL WORKFORCE AND DISTRIBUTION BY GENDER, AGE AND GEOGRAPHICAL AREA

The AREVA group had 45,340 employees at December 31, 2013, versus 45,542 employees at the end of December 2012.

Distribution of employees by businesses within the group's consolidation scope	2013	2012
Mining	4,463	4,601
Front End	8,555	8,727
Reactors & Services	15,592	16,113
Back End	11,583	11,095
Corporate, Shared Services and Engineering	4,697	4,484
Renewable Energies	451	522
TOTAL	**45,340**	**45,542**

The following data is based on a larger workforce, including in particular companies in which AREVA holds a minority interest.

The five most important countries for the group represent more than 95% of the global workforce: France, Germany, the United States, Niger and Kazakhstan.

Engineers and managers represent more than one third of the workforce (40.38%), while technical and administrative personnel account for a little less than half (44%). Blue collar workers represented 15.62% of the workforce at December 31, 2013. At the end of December 2013, 20.72% of the group's worldwide management personnel were women, essentially unchanged from the previous year.

Distribution of employees by gender *Percentage calculated based on active permanent employees*	**2013**	**2012**
Women (global)	20.5%	19.8%
Men (global)	79.5%	80.2%
Women in executive positions*	15.4%	14.2%
Women in governance bodies (Executive Board and Supervisory Board)	31%	26.3%
Women in management positions	20.7%	20.7%
Women in non-management positions	20.3%	20.1%
Distribution of employees by age group		
Less than age 21	0.2%	0.1%
Age 21 to 30	16.7%	14.4%
Age 31 to 40	25.6%	24.5%
Age 41 to 50	27.1%	27.2%
Age 51 to 60	27.3%	29.9%
More than age 60	3.1%	3.8%
Distribution of employees by geographical area		
France	64.8%	63.1%
Europe (excluding France)	14.3%	18.8%
North and South America	10.7%	12%
Africa and Middle East	6.2%	4.9%
Asia-Pacific	3.9%	1.2%
Distribution of employees by occupational category		
Engineers and management staff	40.4%	38.0%
Technical and administrative personnel	44%	46.15%
Skilled workers	15.6%	15.8%

* *Percentage of women with "executive manager" contracts worldwide.*

17.1.2. STAFFING AND LAYOFFS

The analyses of the Jobs Observatory for 2012-2015 guide the group's human resources policies and provide background for strategic management decisions. The analyses concerned all of the entities in the European footprint and were performed in the first quarter of 2013. They show that 9,000 employees will leave the group, change position or be hired over the next three years. This translates into opportunities offered by the group to employees while helping them to build motivating career paths.

Throughout the year, the group continued to promote and reward internal mobility with a communication campaign directed at employees and mobility forums everywhere in France showing the diversity of career paths and employees supported within the group.

In addition to internal mobility, and to meet the group's skills requirements, employees are also hired outside the group.

Over the course of 2013, AREVA recruited 5,445 employees externally (open-ended and fixed-term employment contracts), essentially the same as in 2012. In general, the majority of new employees were hired to replace departing workers. The group terminated 568 employees out of a total of 45,723 employees. With an employee turnover rate of 5.83% at December 31, AREVA has a good level of talent retention and is securing its know-how.

In France, AREVA held a spring campaign dedicated to work-study opportunities consisting of more than ten forums in every region of France from March to May. This effort kept the number of work-study trainees at the group's target level 1,500, i.e. 5% of the workforce (vs. a legal requirement of 4%).

	2013	2012
Number of external hires (total external hires of permanent and temporary staff)	5,445	4,677
Number of layoffs	568	641

17.1.3. COMPENSATION AND TRENDS

The compensation policy aims to attract, retain and reward employees around the world, based on their collective and individual performance. This policy is founded on four pillars: rewarding performance, remaining on budget, ensuring that all employees are compensated according to the same principles, and reflecting going rates.

In France, total compensation is broken down into:

- fixed compensation: base salary, seniority benefits, etc.;
- variable compensation: linked to specific jobs (hardship allowances, on-call pay, etc.) or to individual performance (bonus/variable component or allowance);
- benefits: health and insurance benefits that are identical for all companies in France;
- mandatory and optional profit-sharing: based on criteria for rewarding collective performance.

Compensation is based on industry agreements and collective bargaining agreements. Every year, the budget for wage increases is negotiated with the labor organizations.

In Germany, the compensation of "tariff" employees is negotiated at the regional level. Fixed compensation for tariff employees consists of the base salary and variable components linked to performance.

In the United States, compensation is regulated by several State and Federal laws. The most important is the Fair Labor Standards Act (FLSA), which defines employee classifications, eligibility for overtime pay, and the minimum wage. Compensation is pegged to the market, including bonuses and variable compensation, which vary as a function of the employee's position in the organization. Collective bargaining negotiations resulted in the signature of an agreement on compensation and benefits in three entities based in Washington State and California, where labor organization representation is strong and influential.

In China, compensation is based on market conditions. Every year, AREVA China participates in a wage review organized by a local consulting firm, which examines compensation levels for different positions in the organization. AREVA also signed a collective bargaining agreement on equal compensation for women and men.

17.1.3.1. BONUSES AND VARIABLE COMPENSATION

The group's variable compensation program, based on both collective financial performance and individual objectives, is gradually being brought into alignment and expanded to include all of the group's entities around the world. The target percentages for variable compensation depend on local practices and are structured by level of responsibility.

An HR information system tool interfaced with the annual performance interview is used to collect individual objectives. It is used by the majority of the group's entities in Canada, France, Germany, India, the United Kingdom and the United States.

In Germany, non-tariff employees are eligible to participate in the group's variable compensation program. Tariff employees receive variable pay based on the AREVA group's financial objectives.

In the United States, all employees (except for those of a few entities) participate in the group's financial performance under the All Employee Incentive Program (AEIP). Profits generated by the group at the regional level are redistributed to the employees if objectives are met. Since 2011, the amount of this incentive varies according to a regional and collective safety objective and based on each individual's performance.

In China, since early 2013, employees are eligible to participate in the group's variable compensation program. The variable compensation system connects team objectives to individual objectives.

17.1.3.2. EMPLOYEE SAVINGS PLANS AND COLLECTIVE PERFORMANCE

The group establishes collective compensation systems based on economic indicators and entity-specific criteria, according to local practices and regulations.

In France, compensation based on collective performance takes the form of performance-related plans and of profit-sharing plans applicable to AREVA group companies. In 2013, a total of close to 116 million euros was distributed for the group as a whole in respect of performance for 2012. Employees elected to invest 73% of the incentive remuneration and 81% of the profit-sharing paid in 2013 in the Group Savings Plan.

17.1.3.3. CORPORATE SAVINGS PLANS AND INVESTMENT VEHICLES

In France, a Group Savings Plan (GSP) common to all of the group's French entities was created in 2005. The AREVA GSP consists of a complete range of funds covering all asset categories. It includes a money market fund, a bond fund, an equity fund, a socially responsible fund and three diversified funds. A diversified pool of fund managers was sought to optimize investor returns. At December 31, 2013, the funds managed in the AREVA GSP represent more than 836.4 million euros.

In Germany, a retirement plan including an employer fund and an employee fund is offered to employees. In addition, the group's employees in Germany may save their variable compensation in a dedicated fund.

In the United States, a 401(K) retirement plan is offered to employees who wish to save for their retirement. The company also matches 100% of the employee's contributions up to 5% of the employee's base pay. In addition, each employee receives a contribution equivalent to 3% of his or her salary, even if the employee chooses not to contribute to the plan. Close to 90% of AREVA's employees in the United States decided to contribute in 2012. This percentage is higher than the national average for all employers in the United States, which is 80%.

17.1.3.4. EMPLOYEE SHAREHOLDING

For the first time in its history, the AREVA group offered shares to its employees. This operation involved three countries (France, Germany and the United States) and 86% of the group's employees. The offer was identical in all three countries, with a built-in financial advantage of 20%. The subscription period was open from May 16th to June 2nd, 2013.

Nearly 14,700 employees subscribed, which was almost 36% of those eligible. Employee participation by country was as follows:

- France: 39%
- Germany: 34%
- United States: 17%

The total amount subscribed was close to 45 million euros, representing a subscription rate of 84%.

In connection with the share issue, the first International Savings Plan was established in Germany and the United States to receive the shares subscribed by German and American employees. The employee shareholding offer was customized to meet the tax and legal requirements of each country.

In France, the Group Savings Plan was modified to create a new investment fund dedicated to employee shareholding and to set up, for the first time, a single formula for calculating the employer's matching contribution in all legal entities. These modifications concerned 40 companies in France.

17.2. Organization of work

Continuing the reforms initiated in 2012, the group further simplified its legal and organizational structure in 2013.

Simplification of the group's legal structure, which began in 2010, continued with groupings of several of the group's subsidiaries in AREVA NC SA and AREVA NP SAS.

Those groupings included the mergers of JSPM and SGN with AREVA NP SAS on June 30, 2013 and of Comurhex and MELOX with AREVA NC SA on December 31, 2013.

On January 1, 2013, the employees of the support functions in the Paris area sites and the management committees of the Business Groups and the Engineering & Projects organization were brought into a single legal entity called AREVA Business Support. Henceforth, 19,053 of the group's employees belong to one of the group's six main companies, i.e. AREVA NP SAS, AREVA NC SA, AREVA TA, AREVA Business Support, AREVA Mines or AREVA Renouvelables.

17.2.1. ORGANIZATION OF WORKING HOURS

In the countries in which the group is based, the average number of working hours per week is usually set by law.

Several counties have established or improved initiatives to promote a better work-life balance or have set up a flex-time system or telecommuting program.

For instance:

- in Germany, full-time tariff employees work between 35 and 40 hours per week. A local company-wide agreement governs the work of tariff employees, who have flexible working hours;
- in France, on July 4, 2013, AREVA signed a telecommuting addendum to the group agreement on the Quality of Working Life of May 31, 2012. This addendum frames the use of telecommuting and promotes work-life balance. It helps improve the quality of working life and keep employees on therapeutic part-time and disabled employees at work.

17.2.2. ABSENTEEISM

For the first time in 2013, a method to collect and calculate absenteeism was deployed in the group's largest entities, representing 86% of AREVA's global workforce.

The average number of days of absence per employee per year in the AREVA group in France is noticeably lower than the national average, which is 11.2 days of absence *(Source: European household panel, S. Chaubain-Guillot and O. Guillot - 2007)*.

	2013
France	8.4
Germany	12.1
United States	4.7
Rest of World	4.2

The calculation method used is the average number of calendar days of absence per year due to sickness (including pathological pregnancy and therapeutic part-time, but excluding maternity leave and occupational injuries or commuting accidents) or to care for a sick child, per permanent employee. The definitions reflect the variety of local practices.

17.3. Labor relations

17.3.1. ORGANIZATION OF SOCIAL DIALOGUE, IN PARTICULAR PROCEDURES FOR INFORMATION, CONSULTATION AND NEGOTIATION WITH PERSONNEL

The group's labor relations are based on mutual respect and dialogue. In this spirit, management and labor partners meet regularly to discuss, negotiate and enter into agreements and to monitor their implementation.

The three countries of France, Germany and the United States represent 86% of the group's workforce at December 31, 2013 and form a representative sample in this respect. Social dialogue is not organized the same way in these different countries. Local requirements, and in particular national legislation, call for a customized approach. Social dialogue may take place at the national, regional company level, whether for information, consultation or negotiation purposes. Social dialogue may be informal or institutionalized, or a combination of both.

SOCIAL DIALOGUE IN EUROPE

AREVA's European Works Council (EWC) is comprised of 22 members and one observer from Kazakhstan. The EWC represents active employees in the seven European Union countries in which the AREVA group is based: Belgium, England, France, Germany, Slovakia, Spain and Sweden.

In 2013, the EWC met in May, June and November. The meetings concerned the group's strategic directions, financial results and development outlook for the different businesses. In addition, regular information is provided on important matters such as the development prospects and strategy in China, progress on the group's Strategic Action Plan and performance indicators, the status of employment in Europe based on Jobs Observatory data, and updates on proposals and major projects.

In addition, the EWC receives regular and emerging information on the group's news during interim meetings with the EWC board, eight of which were held in 2013.

SOCIAL DIALOGUE IN GERMANY

In Germany, management and labor organizations meet regularly to talk about the group's operations and outlook.

AREVA negotiated and signed nine collective bargaining agreements in 2013. Most of these agreements were made necessary by legal requirements on the use of personal data in Germany.

SOCIAL DIALOGUE IN FRANCE

The French Works Council (FWC), set up in 2011 when the group's new organization was put in place, is a body for information, exchange and dialogue that has a comprehensive, crosscutting view of all of the group's activities and strategy as concerns employment.

After the Strategic Action Plan and the group's reorganization projects were launched, the FWC monitored these issues with the support of its experts. It is, therefore, a favorite forum for dialogue with employee representatives on the deployment of these projects.

The FWC is comprised of 30 permanent members, 5 members from representative labor organizations at the group level, and the group's 5 labor organization coordinators. In 2013, the FWC met in March, June, September, November and December and its Orientation and Coordination College met in February, April, July, September and October.

In 2013, AREVA confirmed the social dialogue development approach deployed since the group was established.

The commitment to social cooperation between the group and its labor organizations led to the negotiation and signature of several fundamental agreements:

- a third agreement in favor of employment of the Disabled in the AREVA group for the 2013-2016 period was signed on July 4, 2013 (see Paragraph 6.2 below);
- in France, the AREVA group "generations" agreement signed on August 30, 2013, which formalizes the group's HR policies concerning young employees and work-study trainees, career development for senior employees and the transmission of their knowledge, job retention, the prevention of physically demanding work, and career wind-down management;
- the telecommuting amendment to the agreement on the Quality of Working Life in the AREVA group in France, signed on July 4, 2013, to allow group employees to telecommute under certain conditions;
- 7 "bridging" agreements and 18 site agreements to facilitate the integration of nearly 4,000 employees in AREVA NC SA, AREVA NP SAS and AREVA Business Support, as part of the Phileas project.

Also in 2013, the national deployment of group agreements signed in late 2012 on gender equality (with 14 agreements signed in the subsidiaries to implement this agreement), mobility, and health, occupational safety and working conditions.

More specifically, 2013 was the year in which the group's Health, Occupational Safety and Working Conditions Committee (CHSCT) was established, as per the agreement of October 18, 2012.

The group's CHSCT is a body created by a collective bargaining agreement for information-sharing, review and discussion of subjects related to health, occupational safety, radiation protection, nuclear safety and working conditions. It is comprised of 30 permanent members, including 5 members from representative, group-level labor organizations.

Lastly, in September 2013, the French Ministry of Labor and Employment approved the group's new independent health department established in the October 18, 2012 agreement.

17.3.2. STATUS OF COLLECTIVE BARGAINING AGREEMENTS

Please refer to Paragraph 17.3.1.

➜ 17.4. Health and safety

17.4.1. HEALTH AND OCCUPATIONAL SAFETY CONDITIONS

The health and occupational safety policy sets three priorities for action:

- improving occupational health and safety for all AREVA employees and workers through an initiative to assess and prevent occupational hazards and prevent heavy work;
- improving the quality of working life according to the terms of the group agreement signed on May 31, 2012;
- monitoring the impact of our activities on the health of local populations.

AREVA aims for excellence in occupational safety in all of its activities. This objective is one of the five pillars of AREVA's ACTION 2016 strategic action plan. The group is now channeling its efforts into strengthening a group culture focused on achieving the highest level of safety and involving all employees and subcontractors.

For this purpose, the group launched the Safe Together! initiative for occupational safety in March 2013. Supported at the highest level of the AREVA organization, this plan is deployed in all of the group's entities and at every level of the organization with strong commitment and involvement by management.

It stresses shared safety objectives that promote the achievement of zero accidents, compliance with safety standards applicable to all of the sites, a safety culture shared by managers and their teams on a daily basis, and the recognition and promotion of appropriate behaviors and good collective results.

In June 2013, all of the sites around the world dedicated a day to the topic of safety as part of our "safety month". Kicked off by the group's top management, safety day brought together employees and subcontractors at the industrial sites as well as in its offices. The sites supplemented the managerial presentations with proactive workshops on protective equipment, transportation safety, etc.

In France, AREVA signed a group agreement on October 31, 2012 that restructures the occupational health service. It was approved by the administrative authorities on September 24, 2013. Deployment of the new organization started in 2013 and will continue until 2015, in three successive phases. With the creation of a single occupational health department (supported by regional offices), all of the group's employees in France will benefit from universal health services with consistent quality.

HISTORICAL HEALTH DATA

The risks associated with radiation and AREVA's proactive radiation protection policy are outlined in Chapter 4.3.1 on nuclear risk. The average radiation exposure of AREVA employees remained very low and was comparable to the maximum dose to the general public. It went from 1.22 mSv in 2008 to 1.03 mSv in 2012 and 1.04 mSv in 2013.

Consistent with the group's objective, no AREVA employee received an individual dose of more than 20 mSv. The highest dose recorded was 16.02 mSv. In mid-2013, 83.1% of AREVA's employees had received a dose of 0 to 2 mSv and 52.9% had received a dose of less than the level of recording set by regulation. It should be noted that, in France, the average annual exposure to naturally occurring radiation is approximately 2.4 mSv (source: IRSN).

Occupational safety and radiation protection data	2013	2012
Average employee dose from radiation exposure (mSv)	1,00	1,03
Total individual external dose to AREVA group employees over 12 consecutive months (man-millisievert)	16,667	17,333
Total individual internal dose to AREVA group employees over 12 consecutive months (man-millisievert)	5,268	5,660
Average subcontractor dose from radiation exposure (mSv)	0,56	0,52

17.4.2. STATUS OF AGREEMENTS ON HEALTH AND OCCUPATIONAL SAFETY SIGNED WITH LABOR ORGANIZATIONS OR EMPLOYEE REPRESENTATIVES

In France, AREVA signed an agreement on the development of the Quality of Working Life on May 31, 2012. This agreement is monitored jointly by the Safety, Health, Security and Sustainable Development Department and the Human Resources Department through quarterly Steering Committee meetings on occupational risk prevention and the Quality of Working Life. For the past two years, during the Committee's confidential meetings with coordinating physicians for the group's four regions in France, occupational risk prevention and measures taken by the sites in France are discussed in qualitative terms, and the strength and relevance of the group's Quality of Working Life initiatives are reviewed in order to support and assess the occupational risk prevention policy.

As part of its occupational risk prevention policy, the group set up 30 programs to listen to and counsel 90% of its employees in France and performed 23 surveys in France covering almost 80% of the workforce enabling it to identify risk factors and propose occupational risk prevention actions.

In addition, the group trained 130 managers in the Management Committees and 500 line managers in occupational risk prevention.

Lastly, as part of the deployment of the Quality of Working Life agreement, a chart of the "human impacts of change and reorganizations" was established. The chart was used more than fifty times since September 2012 in connection with various projects at the group level and at the sites (Convergence, Phileas, Tricastin Platform).

In Germany, telecommuting was expanded to ensure that the work environment is respectful of employees' personal and family commitments.

As part of the group's health policy, an agreement was signed on the reintegration of employees who have been on sick leave for more than six weeks.

In the United States, several programs were set up to ensure that the work environment is respectful of employees' personal and family commitments. This is the case, for example, for different forms of part time work (alternative classifications), telecommuting, flex schedules, and vacation arrangements (compensated time off and unpaid leave).

The Employee Assistance Program (EAP) provides support to employees in all matters related to work-life balance. In the same spirit, an Employee Concerns Program (ECP) dedicated to the quality of working life was deployed to prevent and fight discrimination.

Employees were invited to answer questionnaires about their overall health and well-being and to identify their problems. Support programs designed to improve their situation are set up as appropriate and are monitored.

17.4.3. FREQUENCY AND SEVERITY RATES OF OCCUPATIONAL INJURIES AND ACCOUNTING OF OCCUPATIONAL DISEASES

AREVA's occupational safety record has improved considerably over the past six years, with the accident frequency rate (FR) per million hours worked cut in half. The group's rate went from 3.4 in 2008 (392 accidents) to 1.72 at the end of 2013 (132 accidents).

This improvement is the consequence of an active occupational safety policy and a prevention approach that draws on principles of organization, management systems, the sharing of best practices among entities, the skills of all specialists and the behavior of each employee.

In 2013, the group reported five fatal commuting or on-the-job accidents involving subcontractor personnel.

The group received a limited number of claims for occupational diseases concerning various disorders in 2013, mostly for musculoskeletal disorders.

Occupational safety and radiation protection data	2013	2012
Accident frequency rate with lost time (excluding commuting accidents)	1.72	1.92
Accident severity rate (excluding commuting accidents)	0.05	0.08
Number of fatal accidents	0	1
Occupational diseases	ND	ND

17.5. Training

17.5.1. TRAINING POLICIES

In France, optimization of training management continued in 2013 with the creation of three new Common Services Centers (CSC): the Southeast Training CSC, the Cotentin Training CSC, and the Paris-area Training CSC. The goal is to continue to invest in employee training, to streamline training costs and to offer training in major employment areas.

In Germany, a training program for experienced managers was established this year. This two-year program consists of five training modules. It offers a variety of training options to support managers in governance and networking management between the regions, whether for operational or for non-operational activities.

In the United States, a regional coaching and training program for managers called the Executive Development Assessment Program continues. The goal is to strengthen their management skills and to design a personal development plan.

17.5.2. TOTAL HOURS OF TRAINING

In France, more than 933,000 hours of training were dispensed in 2012 for an average of 34 hours of training per employee (to be compared with the objective of 30 hours in the group-wide agreement for France), an increase of 8% compared with 2011.

Number of hours of training per permanent employee per year	2013	2012
France	ND	34 hrs.
Germany	23 h	19 hrs.

The 2013 data for France will be available in April 2014.

17.6. Equal treatment

In Germany, AREVA took part in the first Diversity Day to promote diversity and equal opportunities in the workplace. The day was organized by Charta der Vielfalt (the Diversity Charter) signed by AREVA Germany and supported by the German government.

In the United States, AREVA is recognized as an Equal Opportunity Employer (EEO). It expresses its commitment to minorities, women, seniors and people with disabilities through various measures, such as partnerships with subcontractors committed to diversity, membership in Direct Employers (an employment agency dedicated to minorities), and participation in training and employment initiatives.

In France, the equal opportunity policy implemented since AREVA's creation in 2001 is founded on the European Agreement on Equal Opportunities signed in November 2006 with the European Metalworkers' Federation and its 2010 amendment. This agreement is embodied in days organized each year at all of the group's sites in Europe, whether on gender equality or on the integration of persons with disabilities. This year, the fifth edition of these days was held on May 28th and November 2, 2013 respectively.

In France, this policy translated into the signature in 2010 and 2012 of group agreements on the development of the Quality of Working Life, gender equality, the integration of persons with disabilities and "generation" contracts.

17.6.1. MEASURES IN FAVOR OF GENDER EQUALITY

In France, AREVA signed its first group agreement on gender equality on December 12, 2012. This three-year agreement addresses all of the themes covered by the French law of November 9, 2010: promoting gender equality in hiring and employment, guaranteeing equivalent career paths to men and women, guaranteeing equivalent compensation and promotions, ensuring equal access to training, improving work-life balance, increasing employee awareness, and communicating with employees.

The agreement provides for an equal opportunity budget, the possibility for employees on parental leave to contribute to their retirement, and the establishment of an annualized part-time program.

The group agreement was implemented in 2013 in its individual subsidiaries through 14 company-wide agreements.

AREVA sets a particularly high value on women's career development. The percentage of women in the group's Management Committees (22.2% in 2012) is comparable to the percentage of women in AREVA's workforce (19.8% in 2012 - data for 2013 will be available in April). In recognition of the group's proactive policy, the French Ministry of Women's Rights ranked AREVA twelfth for the participation of women in the governance bodies of SBF 120 companies (120 largest publicly-traded companies in France). On April 9, 2013, the group and 16 other major employers signed an agreement on gender equality with the Minister of Women's Rights.

17.6.2. MEASURES IN FAVOR OF THE EMPLOYMENT AND INTEGRATION OF PERSONS WITH DISABILITIES

Since 2006, AREVA has led a group policy for the development of all talent and for openness to difference in the workplace.

This proactive policy was launched in 2007 with a first agreement on the employment of persons with disabilities. As a result, the rate of employment of persons with disabilities rose from 2.93% in 2007 to 4.57% in 2012.

A third group agreement for France on the employment of persons with disabilities was signed on July 4, 2013 for the 2013-2016 period. It addresses the topics of recruitment, integration and training of persons with disabilities, support to companies in the protected and adapted sector, awareness activities, and job retention.

Several commitments were made for the duration of the agreement: an objective 3.3% of all hires should involve disabled workers, with a minimum of 120 disabled persons employed, 120 work-study positions for the disabled, and 180 internship positions. The agreement also provides that 20 million euros should be dedicated to purchases from companies in the protected sector.

(in millions of euros)	2013	2012
Disabled workers in France	NA	4.57%
Disabled workers in Germany	3.19%	2.95%

The 2013 data for France will be available in April 2014.

17.6.3. THE FIGHT AGAINST DISCRIMINATION

In the fight against discrimination in France, management was alerted to 23 instances of discrimination or alleged discriminatory behaviors. Eight cases proved justified after examination. Corrective measures have been taken.

17.7. Promotion and compliance with the stipulations of fundamental agreements of the International Labor Organization

Together with its Values Charter, AREVA has and implements a process for business ethics and respect for human rights and the fundamental conventions of the ILO. The Values Charter is updated regularly (the fourth edition was published in the first half of 2012) to include best practices in light of changes in the group's national and international environment. Individual behaviors and management activities may be audited for compliance with the Charter, which serves as a set of standards and a code of conduct in this regard.

In its preamble, AREVA's Values Charter reiterates the group's commitment to compliance with the UN Global Compact, as the group does for other major international standards.

17.7.1. RESPECT FOR FREEDOM OF ASSOCIATION AND THE RIGHT TO COLLECTIVE BARGAINING

In its reference to the ten principles of the UN Global Compact, AREVA states that its commitment includes compliance with the International Labor Organization Declaration on fundamental Principles and Rights at Work.

The third principle is explicitly quoted: "Businesses are asked to uphold the freedom of association and the effective recognition of the right to collective bargaining."

17.7.2. ELIMINATION OF DISCRIMINATION RELATED TO EMPLOYMENT AND OCCUPATION

AREVA's action principles for stakeholder relations state, as regards employees, that "AREVA's workforce is constituted without discrimination". To facilitate the reporting of any discrimination and to comply with the obligations conferred by the Diversity Label, AREVA's HR Department deployed a system to deal with complaints and notices in France. This system supplements other internal, centralized systems to actual or alleged discrimination in the group. Its rules and processes were developed in cooperation with the group's business ethics advisor.

17.7.3. ELIMINATION OF FORCED OR COMPULSORY LABOR

In accordance with the principles of the UN Global Compact, AREVA works for "the elimination of all forms of forced or compulsory labor."

17.7.4. EFFECTIVE ABOLITION OF CHILD LABOR

In accordance with the principles of the UN Global Compact, AREVA works for "the effective abolition of child labor."

By explicitly reiterating these tenets, AREVA underscores its commitment to these international values and principles, which every employee is expected to uphold. AREVA's rules of conduct state that each employee must alert the group in full confidentiality and may refrain from executing any instruction in patent conflict with the Charter, without any risk of retaliation when acting in good faith. By itself, this commitment is a major guarantee of compliance with the values, principles and rules of AREVA's Values Charter.

18

Principal shareholders

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→ 18.1. Distribution of capital and voting rights

As of the date of this Reference Document, the share capital of AREVA is as follows:

- 383,204,852 common shares with a single voting right each.

To AREVA's knowledge, no person that is not a member of an executive or supervisory body of the issuer holds, directly or indirectly, a percentage of AREVA's share capital or voting rights that would be subject to disclosure in accordance with the national law applicable to AREVA.

AREVA's shareholders for the last three years were as follows:

	December 31, 2013	December 31, 2012	December 31, 2011
	% of voting rights and % of share capital	% of voting rights and % of share capital	% of voting rights and % of share capital
CEA	61.52% representing 235,762,158 shares	68.88%	73.03%
French State	21.68% representing 83,074,461 shares (1)	14.33%	10.17%
Kuwait Investment Authority (KIA)	4.82% representing 18,461,538 shares	4.82%	4.82%
Bpifrance Participations SA (2)	3.32% representing 12,712,910 shares	3.32%	3.32%
EDF	2.24% representing 8,571,120 shares	2.24%	2.24%
Total group	0.95% representing 3,640,200 shares	0.95%	0.95%
FCPE AREVA France actions salariés, FCPE AREVA International actions salariés & US-Employee Stock Purchase Plan	0.937% representing 3,586,981 shares (3)	-	-
Framépargne (employees)	0.226% representing 866,000 shares	0.23%	0.24%
CA CIB (4)	-	-	0.89%
Public	4.11% representing 15,757,059 shares	4.04%	4.04%
Members of the Supervisory Board (5)	n.s.	n.s.	n.s.
Treasury shares (6)	0.19% representing 740,490 shares	1.20%	0.31%
Liquidity contract (6)	0.01% representing 31,835 shares	0%	0%

(1) On September 19, 2013, the CEA sold 28,179,453 shares representing 7.35% of AREVA's share capital to the French State for the amount of 357,400,002.40 euros.

(2) On July 12, 2013, the CDC transferred its entire interest in AREVA's share capital to Bpifrance Participations SA.

(3) AREVA's offer of shares to the group's employees in May 2013 was implemented through a disposal of existing treasury shares bought previously by AREVA for a share purchase program authorized by the Shareholders on May 10, 2012 in application of article L. 225-209 of the French Commercial Code.

(4) Crédit Agricole Corporate and Investment Bank (CA CIB) entered into a liquidity guarantee with Framépargne by 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, CA CIB purchased some AREVA shares beginning in July 2002. The liquidity of the shares was then ensured by AREVA itself as provided by the law of December 30, 2006 and the implementing decree of October 24, 2007, until the shares were traded on the NYSE Euronext Paris regulated market on May 30, 2011. On September 17, 2012, AREVA bought back all the shares held until then by CA CIB.

(5) The members of the Supervisory Board appointed by the Shareholders (other than the CEA) each hold 10 shares.

(6) Shares held directly by the company or through a person acting in his or her own name do not carry voting rights, as provided in article L. 225-210 of the French Commercial Code.

18.2. Absence of different voting rights

As of the date of this Reference Document, AREVA's share capital consists exclusively of common shares, each with one voting right. Consequently, the shareholders do not have different voting rights.

18.3. Control of the issuer

AREVA is subject to French decree no. 53–707 of August 9, 1953, amended, related to State control of national government-owned companies. This decree provides that a certain number of basic decisions are subject to the approval of the Minister of the Economy, who may delegate the signature of these decisions to the members of the general economic and financial control mission and to the relevant Government Commissioners.

The order no. 83-1116 of December 21, 1983, as amended, provides that (i) the Government Commissioner and the member of the general economic and financial control corps shall attend meetings of AREVA's Supervisory Board, and that (ii) the Government Commission may attend meetings of the Board of Directors of first-tier subsidiaries of the company. He or she may also attend meetings of the committees attached to these boards. The deliberations of the Supervisory Board become ipso facto enforceable if the Government Commissioner or the member of the general economic and financial control mission does not oppose them in the five days that follow the Supervisory Board meeting, if he or she attended it, or the receipt of the minutes of the meeting.

The order also provides that the CEA shall hold more than half of AREVA's share capital.

The French decree no. 2004-963 of September 9, 2004 creating the Agence des participations de l'État (APE, the agency that holds the government's equity interests) stipulates that AREVA is one of the entities that falls within the scope of the APE. For more information on the control exercised by the issuer, see Section 21.2. *Establishing Decree*.

18.4. Agreements known to the issuer that could, if implemented, result in a change in control of the issuer

On October 19, 2010, the French State and the CEA signed a framework agreement aimed at defining the State's financial contribution to the fund earmarked for the dismantling of the CEA's nuclear facilities through a budget allocation and/or by purchasing AREVA shares from the CEA. The latter mode of financing through reclassification of AREVA shares is implemented based on financial conditions established within the framework of triennial agreements.

In application of this agreement, the CEA sold 28,179,453 shares representing 7.35% of AREVA's share capital to the French State for the amount of 357,400,002.40 euros on September 19, 2013. At the conclusion of this transaction reclassifying them in the public sector, the CEA holds 61.52% and the French State holds 21.68% of AREVA's capital.

19 Transactions with related parties

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19.3. RELATIONS WITH GOVERNMENT-OWNED COMPANIES 186

In this section, significant transactions with related parties are described. This information is also the subject of Note 29. *Related party transactions*, in Section 20.

19.1. Relations with the French State

At December 31, 2013, the French State and the CEA jointly held 83.21% of AREVA's share capital and voting rights.

As the majority shareholder, the State has the power to control corporate decisions requiring the approval of the shareholders. In application of the order no. 2004-963 of September 9, 2004, the Agence des participations de l'État (APE, the state shareholding agency) exercises the responsibilities of the State as shareholder under the leadership of the Commissioner for State shareholdings. Reporting to the Minister Delegate of the Economy, the latter leads the State's shareholding policy from an economic, industrial and social perspective. The APE makes proposals to the Minister Delegate of the Economy on to the State's position, as shareholder, on the company's strategy, and examines in particular the company's main financing and capital expenditures programs as well as proposed acquisitions or disposals.

For example, 4 of the Supervisory Board's 15 members represent the French State, and are appointed by ministerial order in application of the French decree no. 96-1054 of December 5, 1996, as amended.

Control by the French State is also provided by the presence on the Supervisory Board of an economic and financial general comptroller of the AREVA group and a government commissioner consisting of the Director General of Energy and Climate and the Ministry of Energy, both of whom are designated by ministerial order.

For more information, please refer to Section 4. *Risk factors*, Section 5. *Information about the issuer*, and Section 14. *Management and supervisory bodies*.

AREVA is also subject to the control of the French Cour des Comptes (government accounting office), 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

At December 31, 2013, the CEA, a public scientific, technical and industrial organization, held a 61.52% interest in AREVA's share capital and voting rights. In application of the order no. 83-1116 of December 21, 1983, as amended, the CEA is obliged to keep more than half of AREVA's share capital. Three members of the AREVA Supervisory Board are from the CEA, including the Chairman of the CEA and the CEA itself as a body corporate.

The transactions between the AREVA group and the CEA are described in Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2013*, Note 29. *Related party transactions* (including the compensation of executive officers). The CEA and AREVA also have a partnership relationship concerning research and development for the nuclear operations. For more information, please refer to Section 11. *Research and Development programs, patents and licenses*, and to Section 18. *Principle shareholders*.

19.3. Relations with government-owned companies

The group has business relationships with government-owned companies, in particular EDF.

The nature of the relations with the EDF group and the transactions concluded between the two groups are explained in Section 4.4. *Operational risk* of Section 4, in the *Notes to the consolidated financial statements for the year ended December 31, 2013*, Note 29. *Related party transactions* of Section 20, in Section 6. *Business overview*, and in Section 22. *Major contracts*. Those concerning BpiFrance Participations (formerly the FSI) appear in Note 29. *Transactions with related parties* of Section 20.

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20.1. 2013 Consolidated financial statements

20.1.1 STATUTORY AUDITORS' REPORT ON THE CONSOLIDATED FINANCIAL STATEMENTS

To the Shareholders,

In compliance with the assignment entrusted to us by your annual general meeting, we hereby report to you, for the year ended 31 December 2013, on:

- the audit of the accompanying consolidated financial statements of Areva;
- the justification of our assessments;
- the specific verification required by law.

These consolidated financial statements have been approved by the Executive Board. Our role is to express an opinion on these consolidated financial statements based on our audit.

I. OPINION ON THE CONSOLIDATED FINANCIAL STATEMENTS

We 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 consolidated financial statements are free of material misstatement. An audit involves performing procedures, using sampling techniques or other methods of selection, to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made, as well as the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit 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 at 31 December 2013 and of the results of its operations for the year then ended in accordance with International Financial Reporting Standards as adopted by the European Union.

Without qualifying our opinion, we draw your attention to the following matters set out in the notes to the consolidated financial statements:

- Note 24 describes the difficulties in the performance of the contract for the study and building of components for an experimental reactor prototype, and the additional costs amounting to between 120 and 200 million euros resulting from the time lag in the project schedule not taken into account in the loss at completion of this contract. This note also describes the discussions in progress with the client in order to continue the project without having to bear these additional costs. The failure of these negotiations could lead to a significant increase in the provisions recognized;
- Note 24 describes the reasons that led Areva to apply paragraph 32 of IAS 11 as from the second half of 2013 and the methods of recognition applicable to the OL3 contract. In addition, this note specifies the conditions of completion of this contract and the sensitivity of the income at completion to legal risks, as well as to the operational conditions for the end of construction and testing until the reactor is put into service;
- Notes 1.2.5 and 9 describe the treatment and impact on the consolidated financial statements of the discontinued operations (wind power and solar energy activities, as well as a subsidiary specialized in IT services);
- Notes 1.18 and 13 describe the procedures for measuring the provisions for end-of-lifecycle operations, and their sensitivity to the assumptions used in terms of technical processes, costs, disbursement schedules and inflation and discount rates.

II. JUSTIFICATION OF OUR ASSESSMENTS

In accordance with the requirements of article L. 823-9 of the French Commercial Code (Code de commerce) relating to the justification of our assessments, we bring to your attention the following matters:

- Areva recognizes the profit or loss on long-term contracts according to the methods described in Notes 1.8 and 24 to the consolidated financial statements. We assessed the data and assumptions on which the estimated income at completion and changes therein are based. We examined the procedures for management's approval of these estimates and reviewed the calculations made;
- Provisions for end-of-lifecycle operations have been measured according to the methods described in Note 1.18 to the consolidated financial statements. We reviewed the implementation of these methods, the assumptions used and the cost estimates obtained. Offsetting these provisions, Areva recognizes financial assets to cover the end-of-lifecycle operations, which include a dedicated portfolio composed of directly held shares and units of equity and bond mutual funds. The portfolio management objectives and measurement principles are described in Notes 13, 1.13.1, 1.13.3 and 1.13.8 to the consolidated financial statements. We assessed the appropriateness of the methods used and the measurement of the provisions for impairment of the financial assets.

- Goodwill, intangible assets, and property, plant and equipment have been tested for impairment according to the principles and assumptions described in Notes 1.10, 10, 11 and 12 to the consolidated financial statements. We examined the methods used to perform these tests, and assessed the consistency of the assumptions adopted with the forecast data from Areva's strategic action plan, and the approach used to estimate the fair value of certain mining assets. We also verified that Notes 1.10, 10, 11 and 12 of the notes to the consolidated financial statements provide appropriate disclosures.
- The principles for the recognition of deferred tax assets are described in Notes 1.23 and 8 to the consolidated financial statements. We examined the methods used to make these estimates, verified the consistency of the forecast taxable income with the strategic action plan and assessed the timeframes taken into consideration against the tax loss carryforward time limitations and the specific position of each tax consolidation group.
- The accounting principles relating to employee benefits are described in Notes 1, 1.1, 1.16 and 23 to the consolidated financial statements. We assessed the appropriateness of the methods used and reviewed the measurement of the hedging assets at market value.
- We examined the existing procedures for the identification, evaluation and presentation in the accounts of Areva's risks, litigation and contingent liabilities. We also verified that the main disputes identified during the implementation of these procedures are described appropriately in the financial statements, and in Notes 24 and 34 to the consolidated financial statements in particular.
- These assessments were made as part of our audit of the consolidated financial statements taken as a whole, and therefore contributed to the opinion we formed which is expressed in the first part of this report.

III. SPECIFIC VERIFICATION

As required by law we have also verified in accordance with professional standards applicable in France the information presented in the Group's management report.

With the exception of the matters described in the first part of this report, we have no matters to report as to its fair presentation and its consistency with the consolidated financial statements.

Paris-La Défense, February 26, 2014

The Statutory Auditors

MAZARS		ERNST & YOUNG Audit	
Juliette Decoux	Jean-Louis Simon	Aymeric de La Morandière	Jean Bouquot

20.1.2. CONSOLIDATED STATEMENT OF INCOME

(in millions of euros)	Note	2013	2012*
REVENUE	**3**	**9,240**	**8,886**
Other income from operations		49	63
Cost of sales		(7,990)	(7,955)
Gross margin		**1,299**	**994**
Research and Development expenses		(293)	(311)
Marketing and sales expenses		(215)	(221)
General and administrative expenses		(390)	(406)
Other operating expenses	6	(481)	(432)
Other operating income	6	92	683
OPERATING INCOME		**11**	**306**
Income from cash and cash equivalents		44	51
Gross borrowing costs		(258)	(232)
Net borrowing costs		**(214)**	**(181)**
Other financial expenses		(459)	(535)
Other financial income		424	398
Other financial income and expenses		**(34)**	**(137)**
NET FINANCIAL INCOME	**7**	**(248)**	**(318)**
Income tax	**8**	**62**	**152**
NET INCOME OF CONSOLIDATED BUSINESSES		**(175)**	**140**
Share in net income of associates	14	-	11
NET INCOME FROM CONTINUING OPERATIONS		**(175)**	**151**
Net income from discontinued operations	9	(248)	(226)
NET INCOME FOR THE PERIOD		**(423)**	**(74)**
Including:			
Group:			
Net income from continuing operations		(255)	115
Net income from discontinued operations		(238)	(214)
NET INCOME ATTRIBUTABLE TO EQUITY OWNERS OF THE PARENT		**(494)**	**(99)**
Minority interests:			
Net income from continuing operations		80	36
Net income from discontinued operations		(9)	(12)
NET INCOME ATTRIBUTABLE TO MINORITY INTERESTS		**71**	**24**
Number of shares outstanding		383,204,852	383,204,852
Average number of shares outstanding		383,204,852	383,204,852
Average number of treasury shares		2,614,543	2,182,826
Average number of shares outstanding, excluding treasury shares		380,590,309	381,022,026
Earnings per share from continuing operations		-0.67	0.30
Basic earnings per share		-1.30	- 0.26
Consolidated net income per diluted share [1]		-1.30	- 0.26

(1) AREVA has not issued any instruments with a dilutive impact on share capital.

** : In application of IFRS 5, the 2012 financial statements were restated in relation to the data published the previous year. The impacts of these restatements are detailed in Note 37.*

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

(in millions of euros)	2013	2012*
Net income	**(423)**	**(74)**
Other comprehensive income items		
Items not recyclable to the income statement	**71**	**(299)**
Actuarial gains and losses on employee benefits	91	(324)
Income tax related to non-recyclable items	(20)	26
Items recyclable to the income statement	**(152)**	**178**
Currency translation adjustments on consolidated companies and other	(181)	(33)
Change in value of available-for-sale financial assets	108	294
Change in value of cash flow hedges	(15)	1
Income tax related to recyclable items	(56)	(68)
Other comprehensive income items from discontinued operations	21	5
Share in other net comprehensive income items from associates	(29)	(18)
Non-current assets held for sale	-	(3)
Total other comprehensive income items (net of income tax)	**(81)**	**(121)**
COMPREHENSIVE INCOME	**(504)**	**(195)**
• Group share	(562)	(217)
• Minority interests	58	22

** : In application of IFRS 5, the 2012 financial statements were restated in relation to the data published the previous year. The impacts of these restatements are detailed in Note 37.*

20.1.3. CONSOLIDATED STATEMENT OF FINANCIAL POSITION

ASSETS

(in millions of euros)	Note	December 31, 2013	December 31, 2012
NON-CURRENT ASSETS		**23 052**	**22 107**
Goodwill	10	3,864	3,998
Intangible assets	11	2,641	2,961
Property, plant and equipment	12	8,731	7,738
End-of-lifecycle assets (third party share)	13	199	217
Assets earmarked for end-of-lifecycle operations	13	6,057	5,695
Investments in associates	14	145	175
Other non-current financial assets	15	262	294
Deferred tax assets	8	1,153	1,029
CURRENT ASSETS		**9,038**	**9,148**
Inventories and work-in-process	16	2,331	2,608
Trade accounts receivable and related accounts	17	2,067	2,130
Other operating receivables	18	1,962	2,079
Current tax assets	8	80	92
Other non-operating receivables		106	113
Cash and cash equivalents	19	1,761	1,543
Other current financial assets	20	88	358
Non-current assets held for sale and assets from discontinued operations	9	643	225
TOTAL ASSETS		**32,090**	**31,255**

LIABILITIES AND EQUITY

(in millions of euros)	Note	December 31, 2013	December 31, 2012
EQUITY AND MINORITY INTERESTS		**5,082**	**5,556**
Share capital	21	1,456	1,456
Consolidated premiums and reserves		3,298	3,759
Actuarial gains and losses on employee benefits		(317)	(385)
Deferred unrealized gains and losses on financial instruments		330	286
Currency translation reserves		(94)	57
Equity attributable to owners of the parent		**4,673**	**5,174**
Minority interests	22	408	382
NON-CURRENT LIABILITIES		**14,284**	**14,107**
Employee benefits	23	1,958	2,026
Provisions for end-of-lifecycle operations	13	6,437	6,331
Other non-current provisions	24	199	163
Long-term borrowings	25	5,659	5,564
Deferred tax liabilities	8	31	23
CURRENT LIABILITIES		**12,725**	**11,593**
Current provisions	24	2,724	2,562
Short-term borrowings	25	517	286
Advances and prepayments received	26	4,545	4,004
Trade accounts payable and related accounts		1,817	1,928
Other operating liabilities	27	2,582	2,581
Current tax liabilities	8	80	72
Other non-operating liabilities	27	70	87
Liabilities of discontinued operations	9	389	73
TOTAL LIABILITIES AND EQUITY		**32,090**	**31,255**

20.1.4. CONSOLIDATED STATEMENT OF CASH FLOWS

(in millions of euros)	Note	2013	2012*
Net income for the period		**(423)**	**(74)**
Minus: income from discontinued operations		248	226
Net income from continuing operations		**(175)**	**151**
Share in net income of associates		-	(11)
Net amortization, depreciation and impairment of PP&E and intangible assets and marketable securities maturing in more than 3 months		756	950
Goodwill impairment losses		4	-
Net increase in (reversal of) provisions		81	(179)
Net effect of reverse discounting of assets and provisions		339	432
Income tax expense (current and deferred)		(62)	(153)
Net interest included in borrowing costs		216	184
Loss (gain) on disposals of fixed assets and marketable securities maturing in more than 3 months; change in fair value		(227)	(388)
Other non-cash items		(54)	(152)
Cash flow from operations before interest and taxes		**877**	**836**
Net interest received (paid)		(201)	(181)
Income tax paid		(143)	(219)
Cash flow from operations after interest and tax		**534**	**436**
Change in working capital requirement	28	518	310
NET CASH FLOW FROM OPERATING ACTIVITIES		**1,052**	**746**
Investment in PP&E and intangible assets		(1,422)	(2,021)
Loans granted and acquisitions of non-current financial assets		(1,934)	(3,425)
Acquisitions of shares of consolidated companies, net of acquired cash		4	(5)
Disposals of PP&E and intangible assets		7	128
Loan repayments and disposals of non-current financial assets		1,976	3,510
Disposals of shares of consolidated companies, net of disposed cash		5	754
Dividends from equity associates		1	2
NET CASH FLOW FROM INVESTING ACTIVITIES		**(1,364)**	**(1,056)**
Share issues in the parent company and share issues subscribed by minority shareholders in consolidated subsidiaries		-	4
Treasury shares acquired		44	(46)
Transactions with minority interests		37	0
Dividends paid to shareholders of the parent company		-	-
Dividends paid to minority shareholders of consolidated companies		(33)	(112)
Increase in borrowings		224	(254)
NET CASH FLOW FROM FINANCING ACTIVITIES		**272**	**(406)**
Increase (decrease) in securities recognized at fair value through profit and loss		211	(179)
Impact of foreign exchange movements		(17)	(13)
NET CASH FROM DISCONTINUED OPERATIONS	9	**28**	**126**
INCREASE (DECREASE) IN NET CASH		**181**	**(784)**
NET CASH AT THE BEGINNING OF THE YEAR		**1,489**	**2,273**
Cash at the end of the year	19	1,761	1,543
Minus: short-term bank facilities and non-trade current accounts (credit balances)	25	(87)	(60)
Net cash from discontinued operations		(4)	5
NET CASH AT THE END OF THE YEAR		**1,670**	**1,489**

** : In application of IFRS 5, the 2012 financial statements were restated in relation to the data published the previous year. The impacts of these restatements are detailed in Note 37.*

"Net Cash" taken into account in establishing the Statement of Cash Flows consists of:

- "cash and cash equivalents" (see Note 19), 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);
- the two preceding items from operations held for sale.

20.1.5. CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

(in millions of euros)	Number of shares and investment certificates	Share capital	Consolidated premiums and reserves	Actuarial gains and losses on employee benefits	Deferred unrealized gains and losses on financial instruments	Currency translation reserves	Equity attributable to equity holders of the parent	Minority interests	Total shareholders' equity and minority interests
JANUARY 1, 2012	**381,999,602**	**1,456**	**3,916**	**(99)**	**71**	**104**	**5,449**	**514**	**5,963**
Net income for 2012			(99)				(99)	24	(74)
Other comprehensive income items				(286)	214	(46)	(118)	(3)	(121)
Comprehensive income			**(99)**	**(286)**	**214**	**(46)**	**(217)**	**22**	**(195)**
Dividends paid**								(112)	(112)
Treasury shares acquired	(3,398,240)		(46)				(46)		(46)
Share issue									
Other transactions with shareholders			(13)				(13)	(42)	(55)
DECEMBER 31, 2012	**378,601,362**	**1,456**	**3,759**	**(385)**	**286**	**57**	**5,174**	**382**	**5,556**
Net income for 2013			(494)				(494)	71	(423)
Other comprehensive income items (see Note 21)				69	44	(181)	(68)	(13)	(81)
Comprehensive income			**(494)**	**69**	**44**	**(181)**	**(562)**	**58**	**(504)**
Dividends paid**								(33)	(33)
Treasury shares sold/ (acquired)	3,831,165		44				44		44
Other transactions with shareholders			(12)			29	17	1	18
DECEMBER 31, 2013	**382,432,527**	**1,456**	**3,298**	**(317)**	**330**	**(94)**	**4,673**	**408**	**5,082**
** *Dividend paid per share (in euros):*									
• in 2012 from 2011 net income			-						
• in 2013 from 2012 net income			-						

20.1.6. OPERATING SEGMENTS

For all reporting periods, income items from discontinued operations are presented in the statement of income on a separate line, "net income from discontinued operations". Accordingly, data from discontinued operations do not appear in the business segment information below.

Definition of EBITA

EBITDA is equal to operating income plus net amortization, depreciation and operating provisions (except for provisions for impairment of working capital items) included in operating income. EBITDA excludes the cost of end-of-lifecycle operations performed in nuclear facilities during the year (facility dismantling, waste retrieval and packaging).

BY BUSINESS SEGMENT

2013

Results

(in millions of euros)	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Corporate, Shared Services and Engineering and Eliminations	Group total
Gross revenue	**1,839**	**2,344**	**3,391**	**2,163**	**69**	**(566)**	**9,240**
Inter-segment sales	(83)	(155)	(67)	(427)	-	733	-
Contribution to consolidated revenue	1,756	2,188	3,324	1,736	69	167	9,240
Contribution to operating income	**509**	**21**	**(535)**	**308**	**(39)**	**(254)**	**11**
% of gross revenue	27.7%	0.9%	(15.8)%	14.3%	(56.8)%	n.a.	0.1%
EBITDA	**655**	**328**	**(264)**	**531**	**(33)**	**(174)**	**1 043**
Depreciation and amortization of PP&E and intangible assets	(136)	(160)	(110)	(92)	(2)	(63)	(563)
Impairment of property, plant and equipment, intangible assets and goodwill	(3)	(149)	(4)	-	-	(21)	(178)
Reversal (increase) in provisions	(7)	22	(157)	62	(4)	3	(80)
Gain (loss) on asset disposals recognized in operating income (see Note 6)	12	(1)	19	-	(1)	(22)	7

Balance sheet

(in millions of euros, except workforce data)	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Corporate, Shared Services and Engineering and Eliminations	Group total
PP&E and intangible assets (including goodwill)	4,018	6,033	2,840	2,204	63	78	15,236
Assets earmarked for end-of-lifecycle operations	-	1,503	61	4,693	-	-	6,257
Other non-current assets						1,560	1,560
Subtotal: Non-current assets	**4,018**	**7,536**	**2,901**	**6,897**	**63**	**1,638**	**23,052**
Inventories and receivables (excluding tax receivables)	634	2,178	1,896	1,560	87	111	6,465
Other current assets						1,929	1,929
Subtotal: Current assets	**634**	**2,178**	**1,896**	**1,560**	**87**	**2,040**	**8,394**
Discontinued operations					576	68	643
TOTAL ASSETS	**4,652**	**9,713**	**4,797**	**8,457**	**725**	**3,746**	**32,090**
Workforce	4,463	8,555	15,592	11,583	451	4,697	45,340

About 30% of the group's consolidated revenue is with EDF.

2012

Results

(in millions of euros)	Mining	Front End	Reactors & Services	Back End	Renewable Energies*	Corporate, Shared Services and Engineering and Eliminations	Group total*
Gross revenue	**1,452**	**2,176**	**3,527**	**2,054**	**117**	**(441)**	**8,886**
Inter-segment sales	(92)	(127)	(75)	(322)	(1)	617	0
Contribution to consolidated revenue	1,360	2,049	3,452	1,732	117	176	8,886
Contribution to operating income	**352**	**145**	**(410)**	**438**	**(20)**	**(200)**	**306**
% of gross revenue	24.2%	6.7%	(11.6)%	21.3%	(16.8)%	n.a.	3.4%
EBITDA	**643**	**294**	**98**	**417**	**(14)**	**(169)**	**1 270**
Depreciation and amortization of PP&E and intangible assets	(129)	(132)	(118)	(178)	(2)	(62)	(621)
Impairment of property, plant and equipment and intangible assets	(167)	(143)	(6)	(3)	-	-	(319)
Reversal (increase) in provisions	6	141	(384)	390	(4)	31	179
Gain (loss) on asset disposals recognized in operating income (see Note 6)	217	77	-	0	141	(145)	290

** : In application of IFRS 5, the 2012 financial statements were restated in relation to the data published the previous year.*

Balance sheet

(in millions of euros, except workforce data)	Mining	Front End	Reactors & Services	Back End	Renewable Energies*	Corporate, Shared Services and Engineering and Eliminations	Group total*
PP&E and intangible assets (including goodwill)	3,789	5,496	2,719	2,145	452	97	14,698
Assets earmarked for end-of-lifecycle operations		1,322	57	4,534			5,912
Other non-current assets						1,498	1,498
Subtotal: Non-current assets	**3,789**	**6,817**	**2,776**	**6,678**	**452**	**1,595**	**22,107**
Inventories and receivables (excluding tax receivables)	831	2,104	2,132	1,279	412	173	6,929
Other current assets						1,993	1,993
Subtotal: Current assets	**831**	**2,104**	**2,132**	**1,279**	**412**	**2,166**	**8,923**
Discontinued operations			225				225
TOTAL ASSETS	**4,620**	**8,921**	**5,132**	**7,957**	**864**	**3,761**	**31,255**
Workforce	4,601	8,727	16,113	11,095	522	4,484	45,542

** : In application of IFRS 5, the 2012 financial statements were restated in relation to the data published the previous year.*

Nearly 30% of the group's consolidated revenue is with EDF.

BY GEOGRAPHICAL AREA

2013

Contribution to consolidated revenue by business segment and customer location

(in millions of euros)	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Corporate, Shared Services and Engineering	Group total
France	383	783	1,510	932	7	133	3,748
Europe (excluding France)	124	686	645	510	28	26	2,020
North & South America	316	356	581	213	25	-	1,490
Asia-Pacific	869	349	551	78	9	7	1,863
Africa and Middle East	64	14	37	3	-	1	118
TOTAL	**1,756**	**2,188**	**3,324**	**1,736**	**69**	**167**	**9,240**

Closing balances of net property, plant and equipment and intangible assets (excluding goodwill) at December 31, 2013 by business segment and by the geographic area of the units

(in millions of euros)	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Corporate, Shared Services and Engineering	Group total
France	50	4,606	892	1,905	9	177	7,639
Europe (excluding France)	322	96	94	2	6	23	543
North & South America	1,459	60	308	26	4	18	1,874
Asia-Pacific	5	14	11	0	1	1	32
Africa and Middle East	1,285		0	0	-	0	1,285
TOTAL	**3,121**	**4,775**	**1,305**	**1,933**	**20**	**218**	**11,373**

Acquisitions of property, plant and equipment and intangible assets (excluding goodwill) at December 31, 2013 by business segment and by the geographical area of the units

(in millions of euros)	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Corporate, Shared Services and Engineering	Group total
France	15	671	121	131	4	45	986
Europe (excluding France)	93	9	10	1	8	5	125
North & South America	221	24	42	5	1	5	298
Asia-Pacific	1	6	0	0	-	0	8
Africa and Middle East	243	0	0	0	-	0	243
TOTAL	**573**	**710**	**172**	**138**	**13**	**55**	**1,661**

Additional information on Germany and Japan at December 31, 2013

(in millions of euros)	Revenue by customer location	Closing balance of net property, plant and equipment and intangible assets (excluding goodwill)
Germany	670	163
Japan	341	-

2012

Contribution to consolidated revenue by business segment and customer location

(in millions of euros)	Mining	Front End	Reactors & Services	Back End	Renewable Energies*	Corporate, Shared Services and Engineering	Group total*
France	330	612	1,262	930	15	138	3,286
Europe (excluding France)	93	751	613	494	19	28	1,997
North & South America	340	383	804	200	77	7	1,812
Asia-Pacific	517	285	701	104	5	3	1,616
Africa and Middle East	81	18	72	3	0	0	175
TOTAL	**1,360**	**2,049**	**3,452**	**1,732**	**117**	**176**	**8,886**

** : In application of IFRS 5, the 2012 financial statements were restated in relation to the data published the previous year.*

Closing balances of net property, plant and equipment and intangible assets (excluding goodwill) at December 31, 2012 by business segment and by the geographic area of the units

(in millions of euros)	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Corporate, Shared Services and Engineering	Group total
France	37	3,911	852	1,877	7	201	6,885
Europe (excluding France)	318	133	92		178	25	746
North & South America	1,427	154	276	26	59	19	1,960
Asia-Pacific	5	8	11		24		49
Africa and Middle East	1,059						1,060
TOTAL	**2,847**	**4,206**	**1,231**	**1,903**	**268**	**245**	**10,699**

Acquisitions of property, plant and equipment and intangible assets (excluding goodwill) at December 31, 2012 by business segment and by the geographical area of the units

(in millions of euros)	Mining	Front End	Reactors & Services	Back End	Renewable Energies*	Corporate, Shared Services and Engineering	Group total*
France	14	1,035	158	117	2	32	1,356
Europe (excluding France)	95	21	16		1	3	135
North & South America	218	35	36	4	1	3	298
Asia-Pacific	14	4	1		0		19
Africa and Middle East	325				0		326
TOTAL	**666**	**1,095**	**211**	**121**	**4**	**38**	**2,134**

** : In application of IFRS 5, the 2012 financial statements were restated in relation to the data published the previous year.*

Additional information on Germany and Japan at December 31, 2012

(in millions of euros)	Revenue by customer location	Closing balance of net property, plant and equipment and intangible assets (excluding goodwill)
Germany	991	353
Japan	450	1

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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 through December 31, 2013 were approved by the Executive Board on February 25, 2014 and reviewed by the Supervisory Board on February 26, 2014. The financial statements will be presented to the Annual General Meeting of Shareholders for approval on May 20, 2014.

The AREVA group is fully consolidated by the Commissariat à l'énergie atomique et aux énergies alternatives (see Note 21).

Information for 2011 reported in the 2012 Reference Document filed with the Autorité des marchés financiers (AMF) on March 28, 2013, are incorporated by reference.

NOTE 1. ACCOUNTING PRINCIPLES

Pursuant to European Regulation 1606/2002 of July 19, 2002, AREVA's consolidated financial statements were prepared in accordance with International Financial Reporting Standards (IFRS), as adopted by the European Union as from December 31, 2013. They reflect International Accounting Standards (IAS) and IFRS standards and interpretations issued by the IFRS Interpretations Committee (IFRIC) and the former Standing Interpretation Committee (SIC). These financial statements are also consistent with IFRS standards established by the International Accounting Standards Board (IASB) to the extent that the mandatory date of adoption of the standards and amendments published by the IASB and not yet adopted by the European Union at December 31, 2013 is beyond that date, except for IFRS 10 - Consolidated Financial Statements, IFRS 11 - Joint Arrangements, IFRS 12 - Disclosure of Interests in Other Entities, and amended IAS 28 - Investments in Associates and Joint Ventures, for which the European Union has deferred mandatory adoption to financial years beginning on or after January 1, 2014, and which AREVA did not elect early adoption.

IFRS 13 - Fair Value Measurement, amendments to IAS 1 - Presentation of Financial Statements, and IFRIC 20 interpretation - Stripping Costs, are applicable as from January 1, 2013.

- IFRS 13 - Fair Value Measurement defines the concept of fair value, establishes rules for measurement and prescribes information to be provided in the notes to the financial statements. The application of this standard does not have a significant impact on the valuation of items reported on AREVA's balance sheet, which are stated at fair value; these are principally financial assets classified under "available-for-sale securities" and "securities held for trading", and derivative instruments. Information required under IFRS 13 should allow financial statement users to assess the methods and criteria used for fair value measurement of assets and liabilities after initial recognition, whether for recurring or non-recurring valuation, and the impact on income or other elements of comprehensive income of fair value measurements using mostly non-observable data.

  In application of that standard, the following information in particular is reported in Note 32 to the consolidated financial statements:

  - the fair value at the balance sheet date of all balance sheet items measured at fair value, except for retirement assets measured at fair value in application of IAS 19 - Employee Benefits, and assets whose recoverable value is the fair value less disposal costs, in accordance with IAS 36 - Impairment of Assets,
  - for all fair value measurements, the classification by level in the fair value hierarchy (level 1, 2, or 3) and the transfers between levels during the period, where:
    - level 1 corresponds to quoted prices for an organized market,
    - level 2 corresponds to data observed other than quoted prices for liquid, organized markets,
    - level 3 corresponds to valuations that do not rely on observed data but are based on valuation techniques;
  - specific information on level-3 items:
    - valuation techniques used,
    - reconciliation between opening and closing balances, showing the impacts on the income statement and in "Other comprehensive income items".
- The IAS 1 amendments concern the presentation of "Other Comprehensive Income" items. These items must be presented in two categories: first, items that may never be recycled through income and loss and, second, items that may eventually be recycled through income and loss. The tax impact must be presented separately for each of these two categories. At December 31, 2012 and December 31, 2013, actuarial differences recognized on retirement commitments and other long-term employee benefits are the only "Other comprehensive income items" that are not recyclable through income and loss in the AREVA group.

- IFRC interpretation 20, "Stripping costs" clarifies the accounting requirements for stripping expenses during the production phase of an open pit mine. It had no significant impact on the accounting treatment of the group's mining operations.

  IFRS 10 - Consolidated Financial Statements, IFRS 11 - Joint Arrangements, IFRS 12 - Disclosure of Interests in Other Entities, and amended IAS 28 - Investments in Associates and Joint Ventures, become effective on January 1, 2014:

  - IFRS 10, which replaces IAS 27, stipulates that exercise of control constitutes the sole criterion for consolidation of an entity, gives the definition of control and determines its constituent criteria,
  - IFRS 11, which replaces IAS 31, defines the concept of joint control and distinguishes between two categories of partnership agreements with joint control:
    - joint operations in which each partner holds rights in the assets and incurs obligations on the liabilities related to the business, and each partner recognizes the assets, liabilities, income and expenses relating to its interests in the joint operation,
    - joint ventures in which the parties exercise joint control of the operation and have rights in the net assets thereof, and each joint venture partner recognizes its interests in the joint venture according to the equity method.

    IFRS 11 therefore eliminates the option authorized by IAS 31 to consolidate joint ventures according to the proportionate consolidation method:
  - IFRS 12 combines all information to be provided by an entity concerning the equity interests it holds in other entities,
  - amended IAS 28 defines the equity method applicable to recognition of equity interests in associates and joint venture.

AREVA analyzed the consequences of the adoption of these new rules on its consolidated financial statements. Based on these analyses, adoption of IFRS 10 should not have a significant impact on the group's consolidation scope.

On the other hand, elimination of the proportionate consolidation method for joint ventures in application of IFRS 11 will have significant impacts on its consolidated financial statements. For purposes of information, entities currently consolidated using the proportionate method and which will be consolidated using the equity method as from January 1, 2014, contributed the following amounts to the AREVA group's consolidated data for the years ended December 31, 2012 and December 31, 2013:

(in millions of euros)	December 31, 2012	December 31, 2013
Revenue	303	177
Operating income	- 4	-14
EBITDA	76	72
Free operating cash flow before tax	55	47
Borrowings	23	16

To comply with recommendation 2013-03 of the French Accounting Standards Authority, AREVA will report the share in net income of associates and joint ventures in the statement of income under a heading immediately below operating income; a new subtotal will be presented for an amount equal to the total of operating income plus the share in net income of associates and joint ventures.

IFRIC interpretation 21 – Levies Charged by Public Authorities will also enter into force in 2014, subject to its adoption by the European Union. It concerns the taxes due by an entity to a public authority in application of the regulation, other than those entering into the scope of IAS 12 - Income Taxes. IFRIC 21 specifies that the obligating event for a tax consists of the last activity rendering it payable. Adoption of this interpretation will have the consequence of modifying the recognition method for certain taxes. In particular, taxes that become payable on a given date when certain conditions are met will be recognized in their full amount at that date and may not be spread out over time. However, AREVA does not think that the adoption of IFRIC 21 will have a significant impact on its annual financial statements.

In addition, the IASB published the hedge accounting provisions of IFRS 9 - Financial Instruments in 2013, and postponed the mandatory date for adoption to accounting years beginning on or after January 1, 2017, at the earliest. AREVA will analyze this standard in 2014 in order to prepare their implementation and to assess their impact on its financial statements.

1.1. ESTIMATES AND JUDGMENTS

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.

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 as regards:

- operating margins on contracts recognized according to the percentage of completion method (see Notes 1.8 and 24), which are estimated 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 Notes 1.10, 10 and 11);
- all assumptions used to assess the value of pension commitments and other employee benefits, including future payroll escalation and discount rates, retirement age and employee turnover (see Notes 1.16 and 23);
- all assumptions used to calculate provisions for end-of-lifecycle operations and the assets corresponding to the third party share, including:
  - the estimated costs of these operations,

- inflation and discount rates,
- the schedule of future disbursements,
- the operating life of the facilities (see Notes 1.18 and 13),
- the procedures for final shut-down of the facilities;

- estimates and judgments regarding the outcome of ongoing litigation and, more generally, estimates regarding all provisions and contingent liabilities of the AREVA group (see Notes 1.17, 24 and 34);
- estimates and judgments regarding the recoverable amount of trade accounts receivable and other accounts receivable (see Notes 1.12 and 1.13.3);
- estimates and judgments regarding the material or durable nature of the impairment of available-for-sale financial assets (see Notes 1.13, 13 and 15);
- estimates of future taxable income used to calculate deferred tax assets (see Notes 1.23 and 8);
- the share in equity and net income of equity associates that had not yet published their year-end financial statements at the date of year-end closing of AREVA's financial statements;
- the highly probability of loss of control of assets and operations classified as discontinued operations no later than 12 months from the date of closing, in accordance with IFRS 5 (see Notes 1.2.5 and 9).

1.2. PRESENTATION OF THE FINANCIAL STATEMENTS

AREVA's financial statements are presented in accordance with IAS 1.

1.2.1. Presentation of the statement of financial position

The statement of financial position 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 that are expected to be sold or settled within 12 months of the statement of financial position 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 statement of financial position, AREVA presents all headings relating to end-of-lifecycle operations, as defined in Note 13, on separate lines under non-current assets or liabilities, for their full amount. Thus, provisions for end-of-lifecycle operations are presented as non-current liabilities; the end-of-lifecycle 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 funds and bond funds held in the portfolio, together with cash held on a short-term basis.

Similarly, provisions for employee benefits are presented under non-current liabilities in their full amount.

Deferred tax assets and liabilities are reported as non-current.

1.2.2. Presentation of the statement of income

In the absence of detailed guidance in IAS 1, the statement of income is presented in accordance with recommendation 2013-03 of the Conseil national de la comptabilité (French national accounting board).

- Operating expenses are presented by function, 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 on disposals of property, plant and equipment and intangible assets;
    - income from the deconsolidation of subsidiaries (except when qualified as discontinued operations in accordance with IFRS 5, in which case they are presented on a separate line in the statement of income);
    - reversals of impairment of property, plant and equipment and intangible assets;
  - other operating expenses, mainly comprising the following items:
    - goodwill impairment;
    - impairment of and losses on disposals of property, plant and equipment and intangible assets;
    - losses from the deconsolidation of subsidiaries (except when they are qualified as discontinued operations in accordance with IFRS 5).

AREVA presents the income from the Research Tax Credit program in France as a reduction in Research and Development expenses and presents the income from the Competitiveness and Employment Tax Credit as a reduction in payroll expenses in each expense category by function.

- 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 of securities held for trading;
    - reverse discounting of provisions for end-of-lifecycle 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 of securities held for trading;
    - reverse discounting of end-of-lifecycle assets (third party share);
    - returns on retirement plan assets and other employee benefits.

1.2.3. Presentation of the statement of comprehensive income

The statement of comprehensive income explains the transition from net income to comprehensive income on a statement separate from the statement of income, in accordance with the election made by AREVA to apply amended IAS 1.

It presents "other comprehensive income items" as either recyclable or not recyclable to the income statement.

- Items recyclable to the income statement include:
  - currency translation adjustments on consolidated entities,
  - changes in the value of available-for-sale financial assets, and
  - changes in the value of cash flow hedging instruments.
- Items not recyclable to the income statement include actuarial gains and losses arising subsequent to January 1, 2011, the date of retroactive application of amended IAS 19 (see Note 1.16).

These items are presented before tax. The total tax impact of these items is presented on a separate line under "recyclable items" and "non-recyclable items".

The share of "Other Comprehensive Income" items relating to discontinued operations is presented on separate lines of that statement in their total amount after tax, separating items that are recyclable through profit and loss from items that are not recyclable.

The share of "Other Comprehensive Income" items relating to associates is presented on a separate line in the total amount after tax. However, items that are recyclable are not separated from items that are not recyclable, as the amounts are immaterial.

1.2.4. Presentation of the statement of cash flows

The statement of cash flows 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.

1.2.5. Non-current assets held for sale, discontinued operations

Non-current assets held for sale and discontinued operations are presented in the financial statements in accordance with IFRS 5:

- Non-current assets or groups of assets are considered held for sale if they are available for immediate sale in their current condition and their sale is highly probable during the 12-month period following the end of the accounting year. They are presented in their total amount under a specific heading of the balance sheet.
- Discontinued operations correspond to separate, leading business segments within the group for which management has initiated a plan to sell and an active search for buyers, and whose sale is highly probable within a maximum of 12 months from the end of the accounting year. Discontinued operations are presented as follows in the financial statements:
  - The assets and liabilities of discontinued operations are presented in their full amount under specific headings of the balance sheet.
  - Net income from discontinued operations, i.e. net income after tax from these operations until the date of their disposal and the net gain after tax on the disposal itself, is reported under a specific heading of the statement of income. The statement of income for the previous year is presented for comparison purposes, restated in identical manner.
  - Net cash flows from discontinued operations, which include cash flows generated by these operations until the date of their disposal and the net cash flow after tax generated on the disposal itself, are also reported on a separate line in the statement of cash flows. The statement of cash flows for the previous year presented for comparison is restated in identical manner.

1.3. CONSOLIDATION AND EQUITY METHODS

The consolidated financial statements combine the financial statements for the year ended December 31, 2013 of AREVA and of the subsidiaries that it controls or over which its exercises joint control.

- The companies controlled by AREVA are fully consolidated (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 over which AREVA exercises joint control are consolidated using the proportionate consolidation method.

The companies over which AREVA exercises a significant influence on management and financial policy ("equity associates") are accounted for using the equity method. Significant influence is deemed to exist if the group's investment is 20% or higher.

In accordance with IAS 28, accounting for an associate under the equity method is discontinued when the investment in the associate is recognized under "non-current assets held for sale" (see Section 1.2.5 above). The associate is then valued at the lowest of its carrying value or the probable net realizable value.

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;
- currency translation differences in respect of the net income and equity of these companies are recognized in "other comprehensive income items" and presented on the balance sheet under the equity heading "currency translation reserves". When a foreign company is sold, currency translation differences in respect of the company recorded after January 1, 2004 (date of first-time adoption of IFRS) are recognized in income.

1.5. OPERATING SEGMENTS

AREVA presents its business segment information by operating Business Group, which corresponds to the level at which performance is examined by the group's steering bodies, in accordance with the requirements of IFRS 8. The five operating segments presented are: Mining, Front End, Reactors & Services, Back End and Renewable Energies.

Information by business segment relates only to operating data included in the statement of income and the statement of financial position (revenue, operating income, EBITDA, goodwill, non-current property, plant and equipment and intangible assets, and other operating assets) and to the workforce. Financial assets and liabilities and the group's tax position are managed at the corporate level; the corresponding items in the statement of income and statement of financial position are not allocated to the operating segments.

In addition, AREVA reports data by geographical area: AREVA's consolidated revenue is allocated among five geographical areas based on the destination of goods and services, as follows: France, Europe excluding France, North and South America, Asia-Pacific, Africa and the Middle East.

1.6. BUSINESS COMBINATIONS – GOODWILL

Acquisitions of companies and operations are recognized at cost based on the "acquisition cost" method, as provided in IFRS 3 for business combinations subsequent to January 1, 2004 and prior to December 31, 2009, and in IFRS 3 revised for operations subsequent to January 1, 2010. In accordance with the option provided under IFRS 1 for the first-time adoption of IFRS, business combinations prior to December 31, 2003 were not restated.

Under the method required by this standard, 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, except for discontinued business segments of the acquired entity, as provided in IFRS 5, which 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 resulting from a current obligation on the date of acquisition are recognized as identifiable liabilities and recorded at fair value on that date.

AREVA did not apply the "total goodwill" method authorized by amended IFRS 3 for acquisitions subsequent to January 1, 2010, and continues to apply the "partial goodwill" method. In accordance with that method:

- the goodwill reported in assets corresponds to the difference between the acquisition price of the operations or shares of the company acquires and the fair value share of the corresponding assets, liabilities and contingent liabilities on the date of the acquisition;
- 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 on the acquisition date may be adjusted within twelve months of that date; this also applies to the valuation of the acquisition price if the contract contains conditional price adjustment clauses. The amount of goodwill may not be adjusted after the expiration of that period.

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 (the definition of a CGU 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 business, the amount of goodwill allocated to it is included in its net carrying amount of the business and taken into consideration to determine the gain or loss on disposal.

If an asset or group of assets is sold that constitutes part of a CGU to which goodwill is allocated, a share of this goodwill is assigned based on objective criteria to the asset or group of assets sold; the corresponding amount is used to determine the income from the sale.

1.7. REVENUE RECOGNITION

Revenue is recognized at the fair value of the consideration received or to be received, net of rebates and sales taxes.

Revenue includes:

- revenue from construction contracts and certain services recognized according to the percentage of completion method in accordance with IAS 11 (see Note 1.8 hereunder); and
- revenue from other sales of goods and services recognized when most of the risk and rewards are transferred to the customer in accordance with IAS 18.

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.

In application of this method, revenue and income from contracts are recognized over the period of performance of the contract. Depending on the type and complexity of the contracts, the group applies the percentage of completion method based on costs incurred or on the percentage of physical completion.

- Under the cost-based PCM formula, the percentage of completion is equal to the ratio of costs incurred (the costs of work or services performed and confirmed at 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 at the end of the accounting period.
- Under the physical 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 accounting period are equal to the percentage of anticipated 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.

AREVA had elected not to include financial expenses in the cost of contracts generating a cash loss, as previously allowed under IAS 11. This option is no longer applicable to contracts for which costs were incurred for the first time after January 1, 2009: the financial expenses generated by these contracts are included in the determination of the estimated income on completion of the project.

When a contract is expected to generate a losses at completion, the total projected loss is recorded immediately, after deduction of any already recognized partial loss, and a provision is set up accordingly.

When the gain or losses at completion cannot be estimated reliably, the costs are recorded as expenses for the period in which they are incurred and the revenue recognized may not exceed the costs incurred and recoverable. At December 31, 2013, this provision applies in particular to the EPR™ reactor construction contract in Finland (see Note 24).

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 property, plant and equipment 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. Inclusion of borrowing costs

Borrowing costs are not included in the valuation of property, plant and equipment and intangible assets:

- placed in service before January 1, 2009; or
- placed in service after that date but for which expenses had been incurred and recognized as assets in progress at December 31, 2008.

In accordance with the amended IAS 23 accounting standard, effective as from January 1, 2009, the borrowing costs related to investments in property, plant and equipment and intangible assets for projects initiated after that date and for which the period of construction or development is more than one year are included in the costs of these 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:

- technically feasible;
- intention of completing, using or selling the asset;
- ability to use or sell the asset;
- generation of future economic benefits (existence of a market or internal use);
- availability of adequate financial resources for completion; and
- reliability of measurement of costs attributable to the asset.

Capitalized development costs are then 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 and mining pre-development

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 were sales of rights corresponding to allowances allocated to it in excess of its actual carbon dioxide emissions. Proceeds from these sales are recognized in profit or loss under 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.

Depreciation of intangible assets is calculated using the most appropriate method for the asset category (straight-line depreciation or as a function of the production units), starting on the date they were placed in service and over the shorter of their probable period of use or, when applicable, the length of their legal protection.

An intangible asset whose useful life is not defined, such as a brand, is not amortized, but is subject to impairment tests (see Note 1.10).

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 the AREVA group's share of provisions for end-of-lifecycle operations, estimated at the date they are placed in service, termed "end-of-lifecycle assets – group share" (see Note 1.18). In accordance with IFRIC 1, changes in provisions for end-of-lifecycle operations coming from changes in estimates or calculation assumptions and relating to nuclear facilities in operation are offset by a change in the same amount of the assets to which these provisions relate.

Property, plant and equipment are depreciated based on the approach deemed most representative of the economic depreciation of the assets (straight line depreciation or as a function of the production units); each component is depreciated based on its own useful life.

Mining land is depreciated over the operating period 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.

Nuclear facilities are depreciated on a straight line over their useful life, measured by taking into account the durations of the portfolio of existing or reasonably foreseeable contracts performed in these facilities.

Depreciation periods are revised if the group's backlog changes significantly.

Changes in the asset value of these facilities, recognized to offset changes in the value of provisions for the corresponding end-of-lifecycle operations, as explained above, are depreciated prospectively over their remaining useful life.

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 statement of financial position as property, plant and equipment assets and depreciated as indicated above. Assets financed by customers are depreciated over the term of the corresponding contracts.

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 the group's 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; and
- its value in use, which is equal to the present value of the estimated future cash flows it generates, plus its "residual value", corresponding to the present value of cash flows for the "base" year, discounted to infinity, estimated at the end of the future cash flow period. However, some CGU have a defined lifecycle (by ore resources in Mining or by the duration of operating permits in the nuclear businesses); the cash flows taken into account to assess their value in use are not discounted to infinity but within the limit of their expected operating 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, the AREVA group's CGUs generally represent business units. A business unit is comprised of set of 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 when there is an indication of impairment of property, plant and equipment or intangible assets with finite useful lives.

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.

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, as is amortization of capitalized development expenditures.

The costs incurred to get a contract from a customer ("proposal costs") are recognized in work-in-process when there is a high probability on the date of year-end closing that the contract will be signed; in the opposite case, the proposal costs are recognized in profit and loss under "marketing and sales expenses".

1.12. ACCOUNTS RECEIVABLE

Accounts receivable, generally due in less than one year, are recognized at their nominal value.

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 for end-of-lifecycle operations;
- other available-for-sale securities;
- loans, advances and deposits;
- securities held for trading;
- put and call options on securities;
- derivatives used for hedging (see Note 1.22);
- cash and cash equivalents.

They are valued in accordance with IAS 39.

Regular purchases and sales of financial assets are recognized at the date of transaction.

1.13.1. Assets earmarked for end-of-lifecycle operations

This heading includes all investments dedicated by AREVA to the funding of its operations for future end-of-lifecycle operations in the nuclear business, including facility dismantling and waste retrieval and packaging. The portfolio includes directly-held publicly traded shares and bonds, dedicated equity mutual funds, dedicated bond and money market funds, and cash. It also includes receivables resulting from agreements with third parties liable for a share of the financing of end-of-lifecycle operations. These receivables are recognized at face value at amortized cost.

- Publicly traded shares are classified as "available-for-sale securities", as defined in IAS 39. They are recognized at fair value, corresponding to the last traded price of the year. Changes in value are under "other comprehensive income items" and are presented on the balance sheet under "deferred unrealized gains and losses on financial instruments" on an after-tax basis, except for lasting impairment, which is recognized in financial expenses 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. AREVA also complies with the conditions mentioned in the August 2005 interim report of the Conseil national de la comptabilité (French accounting board) on the recognition of dedicated mutual funds; this frame of reference was selected on December 31, 2011 and December 31, 2012.
  - AREVA does not control the mutual fund 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 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 in the balance sheet under a single heading corresponding to AREVA's share of their net asset value at the end of the year.

  Considering their long-term investment objective, the funds dedicated to financing end-of-lifecycle operations are classified as "available-for-sale securities". Accordingly, the accounting treatment of changes in fair value and the impairment measurement and recognition methods are identical to those applicable to traded shares held directly.
- As an exception to the rules described above, bonds held directly as well as certain dedicated mutual funds consisting exclusively of bonds held to maturity are recognized under "securities held to maturity" and valued at amortized cost.

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 under "other comprehensive income items", except for lasting impairment, which is recognized 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 securities are valued at their acquisition cost when the fair value cannot be estimated reliably. This is particularly the case for privately held companies.

1.13.3. Lasting impairment of assets earmarked for end-of-lifecycle operations and other available-for-sale securities

Lasting impairment is recognized in the event of a significant or lasting drop in the price or liquidation value of a line of securities below their initial value. The impairment is calculated as the difference between the prices traded on the stock market or the liquidation value of the securities on the last day of the period and the initial value of the securities, corresponding to their acquisition cost at inception.

AREVA determines the significant or lasting nature of a drop in the price or liquidation value of a line of securities using several criteria, depending on:

- the type of investments used, where the level of volatility and risk may vary substantially: money market funds, bond or equity funds; bonds or equities held directly;
- whether the assets are earmarked or not to finance end-of-lifecycle operations: assets earmarked for end-of-lifecycle operations must be held for very long periods of time, with expenses covered occurring after 2050.

AREVA has therefore established thresholds beyond which it considers that a drop in the price or liquidation value of a line of securities is significant or lasting and requires the recognition of a provision for lasting impairment. The impairment is measured for significance by comparing the drop in the price or liquidation value of the line of securities with the historical acquisition cost. The lasting nature of impairment is measured by observing the length of time during which the price or liquidation value of the line of securities remained consistently lower than the acquisition cost at inception.

The drop in value is always considered significant or lasting if it exceeds the following thresholds, which are objective indicators of impairment:

	Significant	Lasting
Assets earmarked for end-of-lifecycle operations		
• Money market funds	5%	1 year
• Bond funds and bonds held directly	25%	2 years
• Equity funds	50%	3 years
• Directly held shares	50%	3 years
Other available-for-sale securities		
• Directly held shares	50%	2 years

Securities that have dropped below these thresholds are not subject to lasting impairment unless other information on the issuer indicates that the drop is probably irreversible. In that case, AREVA uses its own judgment to determine whether lasting impairment should be recognized.

These thresholds are likely to be re-estimated over time as a function of changes in the economic and financial environment.

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 under "other comprehensive income items". Any additional loss of value affecting a line of previously impaired securities is recognized as additional impairment in net financial income for the year.

1.13.4. 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.

1.13.5. 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.

1.13.6. Put/call options on securities

Put and call options on traded securities are recognized at fair value on the date of closing using the Black-Scholes pricing model; changes in value are recorded under net financial income for the 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.

1.13.7. 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 in the balance sheet but deducted from equity, at their acquisition cost.

1.15. NON-CURRENT ASSETS HELD FOR SALE AND ASSETS RELATED TO DISCONTINUED OPERATIONS

Non-current assets held for sale and assets related to discontinued operations (see Note 1.2.5) are recognized at the lower of their net carrying amount before reclassification and their fair value, minus costs to sell. They are presented under a specific heading of the balance sheet; depreciation is discontinued upon transfer to this category.

1.16. EMPLOYEE BENEFITS

The group recognizes of its pension, early retirement, severance pay, medical insurance, long-service medals, accident and disability insurance, and other related commitments, whether for active personnel and for retired personnel, in application of the provisions of amended IAS 19.

For 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 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 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; or
- 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, since very few bonds have been issued since the second half of 2008 for a duration equivalent to the duration of AREVA's benefit liabilities, discount rates used at December 31, 2012 and 2013 were determined using data observed for bond issues with different maturities.

Actuarial gains and losses relating to post-employment benefits (change in the valuation of the commitment and financial assets due to changes in assumptions and experience differences) are recognized under "other comprehensive income items" and are presented on the balance sheet in their after-tax amount under the equity account "consolidated premiums and reserves"; they are not recyclable to the income statement.

On the other hand, actuarial gains and losses relating to benefits for currently employed employees (e.g. long-service medals) are recognized in the income statement.

The effects of plan changes (gains and losses) are recognized in the income statement under the heading "other operating income and expenses".

The costs relating to employee benefits (pensions and other similar benefits) are split into two categories:

- the discounting reversal expense for the provision, net of the expected yield on assets earmarked for retirement plans, are charged to net financial income; the expected yield of the assets is calculated using the same interest rate used to discount the provision;
- the current service cost is 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.

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-LIFECYCLE OPERATIONS

Provisions for end-of-lifecycle 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-lifecycle operations corresponding to funding expected from third parties is recognized in a non-current asset account, "end-of-lifecycle 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-lifecycle operations, estimated at the date the corresponding nuclear facilities are placed in service, is an integral part of the cost of those facilities, which are recognized in property, plant and equipment (see Note 1.9.4) as "end-of-lifecycle assets – group share".

The provisions for the retrieval and packaging of waste 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

The group's share of end-of-lifecycle assets is amortized over the same period as the facilities concerned.

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 cost of sales and thus deducted from gross margin.

Inflation and discount rates used to discount end-of-lifecycle operations

Inflation and discount rates used to discount end-of-lifecycle operations are determined as follows:

The inflation rate is set in accordance with the long-term inflation projections for the Eurozone and taking into account the European Central Bank's target rate.

The discount rate is determined taking into account:

- the moving four-year average of 30-year, constant maturity French treasury bonds (OATs); and
- the average of moving four-year averages of spreads applicable to AA, A and BBB rated corporate borrowers.

The ministerial order of March 21, 2007 set a cap that limits the applicable margin to 100 basis points.

For facilities in France, AREVA adopted an inflation rate of 1.9% and a discount rate of 4.75% at December 31, 2012 and December 31, 2013. The maximum discount rate defined by the ministerial order of March 21, 2007 was 4.55% at December 31, 2013. In January 2014, in view of ongoing discussions between the nuclear operators and the administrative authorities concerning a revision of the regulations, AREVA asked the ministers in charge of the Economy and Energy to waive the rate cap for the year ending December 31, 2013. The administration did not object.

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:

- if the facility is in operation, the shares of end-of-lifecycle assets of the group and third parties are corrected in the same amount as the provision; the group's share of end-of-lifecycle assets is amortized over the remaining life of the facilities;
- if the facility is no longer in operation, the impact is recognized during the year of the change. The impact of changes in cost estimates is recognized under operating income, while the impact of changes in discount rates and disbursement schedules is recognized under net financial income.

Provisions for waste retrieval and packaging funded by the group have no corresponding end-of-lifecycle 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

As provided in IAS 32, unconditional put options held by minority shareholders of AREVA group subsidiaries are recognized as borrowings.

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. Put options granted before December 31, 2009 are recognized in borrowings and offset as follows:

- 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.

Since AREVA did not grant new put options to minority shareholders in the group's subsidiaries after January 1, 2010, the accounting rules applicable to such operations remained without effect during the year.

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 (see Note 1.20);
- loans from financial institutions;
- bonds issued by AREVA;
- short-term bank facilities.

Interest-bearing debt is recognized at amortized cost based on the effective interest rate method.

Bond issues hedged with a rate swap (fixed rate / variable rate swap) qualified as fair value hedges are revalued in the same amount as the hedging derivative.

1.20. ADVANCES AND PREPAYMENTS RECEIVED

There are three types of advances and prepayments from customers:

- interest-bearing advances, which are presented as borrowings (see Note 1.19.3);
- customer advances and prepayments invested in non-current assets: this heading records the amounts received from customers and used to finance capital expenditures for the performance of long-term contracts to which they have subscribed;
- advances and prepayments on orders: this heading records advances and prepayments from customers that do not fall under the preceding two categories; they are reimbursed by charges to revenue earned from the contracts in question.

Only advances and prepayments effectively collected are recognized.

1.21. 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.

1.22. DERIVATIVES AND HEDGE ACCOUNTING

1.22.1. 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 derivatives used are mainly forward exchange contracts, currency and interest rate swaps, inflation 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.

1.22.2. Recognition of derivatives

As provided in IAS 39, derivatives are initially recognized at fair value and subsequently revalued at the end of each accounting period until settled.

Accounting methods for derivatives vary, depending on whether the derivatives are designated as fair value hedging items, cash flow hedging items, hedges of net investments in foreign operations, or do not qualify as hedging items.

Fair value hedges

This designation concerns hedges of firm commitments in foreign currencies: purchases, sales, receivables and debt. The hedged item and the derivative are revalued simultaneously and any changes in value are recorded in the income statement.

Cash flow hedges

This designation covers hedges of probable future cash flows: planned purchases and sales in foreign currencies, planned purchases of commodities, etc.

The highly probable hedged items are not valued in the balance sheet. Only the derivative hedges are revalued at the end of each accounting period. The portion of the gain or loss that is considered effective is recognized under “other comprehensive income items” and presented directly in equity under the balance sheet heading “deferred unrealized gains and losses on financial instruments”, on an after-tax basis. Only the ineffective portion of the hedge impacts income for the period.

The amounts recognized under “deferred unrealized gains and losses on financial instruments” are released to income when the hedged item impacts the income statement, i.e. when the hedged transaction is recognized in the financial statements.

Hedges of net investments in foreign operations

This heading relates to borrowings in a foreign currency and to borrowings in euros when the euro has been swapped into a foreign currency to finance the acquisition of a subsidiary using the same functional currency. Currency translation adjustments on these borrowings are recognized under “other comprehensive income items” and presented on the balance sheet under “currency translation reserves” in their net amount after tax; only the ineffective portion is recognized through profit and loss.

The amount accumulated in currency translation reserves is released to profit and loss when the subsidiary in question is sold.

Derivatives not qualifying as hedges

When derivatives do not qualify as hedging instruments, fair value gains and losses are recognized immediately in the income statement.

1.22.3. Presentation of derivatives in the statement of financial position and statement of income

Presentation in the statement of financial position

Derivatives used to hedge risks related to market transactions are reported under operating receivables and liabilities in the statement of financial position. Derivatives used to hedge risks related to loans, borrowings and current accounts are reported under financial assets or borrowings.

Presentation in the statement of income

The revaluation of derivatives and hedged items relating to market transactions affecting the statement of income is recognized under "other operating income and expenses", except for the component corresponding to the discount/premium, which is recognized in financial income.

For loans and borrowings denominated in foreign currencies, fair value gains and losses on financial instruments and hedged items are recognized in financial income.

1.23. INCOME TAX

As provided in IAS 12, deferred taxes are determined according for all temporary differences between net carrying amounts and the tax basis of assets and liabilities, to which is applied the anticipated tax rate at the time of reversal of these temporary differences. They are not discounted.

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 for recoverability, taking into account the income projections of the group's strategic action plan.

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 foreseeable future. Tax accounts are reviewed at the end of each accounting year, in particular to take into account changes in tax laws and the likelihood that amounts recognized will be recovered.

Deferred taxes are recognized through profit and loss, unless they concern "other comprehensive income items", i.e. changes in the value of available-for-sale securities and derivatives considered as cash flow hedges, currency translation adjustments on borrowings considered as hedges of net investments in foreign operations, or actuarial gains and losses resulting from changes in assumptions used to calculate post-employment employee benefits. Deferred taxes related to these items are also recognized under "other comprehensive income items".

AREVA elected to recognize the value added business tax (contribution sur la valeur ajoutée des entreprises, CVAE); as of 2010, all of its French subsidiaries are subject to this tax on net income (including the tax for Chamber of Commerce and Industry expenses) at the rate of 1.6%. AREVA considers that the base for calculation of the CVAE is a net amount rather than a gross amount, since the value added of its largest French subsidiaries represents a relatively small percentage of their revenue, bringing the value added business tax into the scope of accounting standard IAS 12, Income Taxes.

As provided in IAS 12, this election requires recognition of deferred taxes at the rate of 1.6% on temporary differences for:

- assets that produce economic benefits subject to the CVAE tax that cannot be deducted from the value added. At January 1, 2010, the basis selected for temporary differences consisted of the net carrying amount of property, plant and equipment and intangible assets eligible for depreciation. Beginning in 2010, no deferred tax liability is recognized on asset acquisitions other than business combinations, in application of the exemption provided by IAS 12 for initial recognition of an asset or a liability;
- asset impairments and provisions that may not be deducted from the CVAE but that relate to expenses that will be deducted from the value added at a later date.

Since the CVAE tax is deductible for income tax purposes, deferred taxes are recognized at the standard rate on deferred tax assets and liabilities recognized for the CVAE, as described in the previous paragraph.

NOTE 2. SCOPE

2.1. CONSOLIDATED COMPANIES AND ASSOCIATES (FRENCH / FOREIGN)

(number of companies)	2013		2012	
Consolidation method	**Foreign**	**French**	**Foreign**	**French**
Full consolidation	85	51	87	60
Proportionate consolidation	17	4	17	4
Equity method (associates)	3	3	3	4
Sub-total	**105**	**58**	**107**	**68**
TOTAL	**163**		**175**	

Note 36 provides a list of the main consolidated companies and associates. The decrease in the number of companies between 2012 and 2013 is due mainly to mergers between consolidated companies carried out in 2013 to streamline the group's legal structures.

2.2 2013 TRANSACTIONS

As part of the "Action 2016" strategic action plan launched by the group in December 2011, AREVA undertook to dispose of several non-strategic equity interests, thereby reducing the group's debt and helping to fund its strategic investment and safety program.

Canberra

On October 22, 2012, AREVA entered into exclusive negotiations with the Astorg Partners investment fund for the sale of the Canberra nuclear measurements business. On March 29, 2013, Astorg Partners and AREVA signed a purchase agreement whereby Astorg Partners would acquire Canberra's subsidiaries.

At December 31, 2012, the assets and liabilities of this subsidiary were classified as non-current assets and liabilities of discontinued operations, in accordance with IFRS 5.

In June 2013, Astorg Partners informed AREVA of its decision not to finalize the purchase of Canberra, citing insufficient funds, despite assurances given to AREVA in the contact signed on March 29, 2013. Consequently, this subsidiary is no longer classified in the category "non-current assets and liabilities of discontinued operations" at year-end 2013.

This situation will not compromise the asset disposal objective of the "Action 2016" plan (1.2 billion euros over the 2012-2013 period), which was reached in August 2012 with the sale of La Mancha Resources.

AREVA Mines LLC

AREVA signed an agreement to develop uranium mines in Mongolia and to create AREVA Mines LLC as a subsidiary of AREVA (66%) and Mon-Atom (34%). Mon-Atom is a government-owned Mongolian nuclear company.

Note 9 describes transactions that were ongoing at year-end 2013 and expected to be finalized in 2014.

2.3 2012 TRANSACTIONS

Sale of the interest in Eramet

Following the beginning of negotiations exclusively between AREVA and the Fonds Stratégique d'Investissement (FSI, the Strategic Investment Fund) on December 27, 2011 with a view to disposing of its 25.93% interest in the Eramet mining group, the group had set up a provision in its financial statements for the year ended December 31, 2011 for a potential capital loss of 48 million euros.

The sale closed on May 16, 2012. The sale price was 776 million euros and the total consolidated capital loss was 46.8 million euros (including the recycling of other comprehensive income items to profit and loss).

Sale of the interest in Sofradir

AREVA sold its 20% interest in the Sofradir group. The Thales and Safran groups, both 40% shareholders of the Sofradir group, each acquired an additional 10% of the share capital, bringing their respective interests to 50%.

The sale price was 48 million euros and the consolidated capital gain was 27.2 million euros.

Sale of the interest in La Mancha Resources Inc.

On August 28, 2012, AREVA sold its 63.6% interest in the La Mancha Resources Inc. group to Weather II Investments for 315 million Canadian dollars, i.e. 252.5 million euros.

The consolidated gain on disposal was 125.8 million euros.

The other changes in consolidation scope in 2012 were as follows:

Acquisition of Columbiana Hi Tech

On December 31, 2012, the AREVA group acquired the US firm Columbiana Hi Tech, based in North Carolina, which specializes in the manufacture of casks for the nuclear industry.

This transaction generated goodwill of 1.1 million euros, based on an acquisition price of 5.2 million euros.

NOTE 3. REVENUE

(in millions of euros)	2013	2012
Contracts accounted for according to the percentage of completion method	4,160	4,209
Other sales of products and services		
Sales of goods	3,150	2,551
Sales of services	1,929	2,126
TOTAL	**9,240**	**8,886**

Revenue for 2013 and 2012 does not include any significant revenue from exchanges of goods or services for current or future consideration other than cash.

The financial terms of the treatment-recycling contract with EDF for the 2013-2017 period were still under negotiation at the closing date. Accordingly, revenue recognized for used fuel treatment in 2013 was valued using a price assumption primarily based on full costs incurred by this contract, as estimated by AREVA. This amount will be adjusted based on the final terms of the contract once it has been signed.

The table below presents data on contracts recognized according to the percentage of completion method, which were in progress at December 31, 2013 and December 31, 2012:

(in millions of euros)	2013	2012
Customer advances	6,622	6,349
Amounts withheld by customers	10	19

The group has elected to present its statement of income based on the destination of income and expense items. Additional information is provided in Notes 4 and 5 below.

NOTE 4. ADDITIONAL INFORMATION BY TYPE OF EXPENSE

(in millions of euros, except workforce)	2013	2012
Payroll expenses	(3,595)	(3,531)
Employees at the end of the year	45,340	45,542
Operating leases	(188)	(185)

In application of IFRS 5, the 2012 data were restated in relation to the data published the previous year.

Payroll expenses include salaries and related social security contributions, excluding retirement benefits.

NOTE 5. DEPRECIATION, AMORTIZATION AND IMPAIRMENT OF PROPERTY, PLANT AND EQUIPMENT AND INTANGIBLE ASSETS AND PROVISIONS IMPACTING OPERATING INCOME

(in millions of euros)	2013	2012
Net amortization of intangible assets	(146)	(143)
Net depreciation of property, plant and equipment	(417)	(476)
Impairment of intangible assets, net of reversals	(119)	(268)
Impairment of property, plant and equipment, net of reversals	(55)	(51)
Goodwill impairment losses	(4)	-

(in millions of euros)	2013	2012
Provisions, net of reversals	(80)	179

NOTE 6. OTHER OPERATING INCOME AND EXPENSES

OTHER OPERATING EXPENSES

(in millions of euros)	2013	2012
Restructuring and early retirement costs	(49)	(18)
Goodwill impairment losses	(4)	-
Impairment of property, plant and equipment and intangible assets, net of reversals	(174)	(319)
Income on disposals of assets other than financial assets	(6)	
Other operating expenses	(248)	(95)
TOTAL OTHER OPERATING EXPENSES	**(481)**	**(432)**

In 2013, restructuring costs mainly include provisions related to the restructuring plan for Enrichment Technology Company (ETC - see Note 12).

Impairment of goodwill, intangible assets and property, plant and equipment in 2012 and 2013 are described in Notes 10, 11 and 12 respectively.

In 2013, impairment of property, plant and equipment and intangible assets in the Front End segment include a total of 120 million euros (compared with 143 million euros in 2012) for:

- intangible assets corresponding to preliminary studies for the construction of the EREF uranium enrichment plant in the United States, taking into consideration the unfavorable trend in long-term price estimates for uranium enrichment and the weighted average cost of capital used to calculate the in-use value, in addition to the lack of investing partners for the project; and
- property, plant and equipment of the ETC joint venture, whose industrial prospects are affected by postponements of several projects to expand or build enrichment plants.

In 2012, impairment of property, plant and equipment and intangible assets in the Mining segment included a total of 165 million euros for the Bakouma and Ryst Kuil mining projects, reflecting the reduction of their net realizable value, to take into account the change in their environment and in their specific characteristics.

In 2013, other operating expenses include:

- provisions for penalties or expenses associated with the early termination of long-term supply contracts, in the amount of 53 million euros; and
- provisions and expenses associated with the streamlining of the group's office sites, mainly in France, in the amount of 35 million euros.

OTHER OPERATING INCOME

(in millions of euros)	2013	2012
Income on disposals of assets other than financial assets	-	290
Other operating income	92	393
TOTAL OTHER OPERATING INCOME	**92**	**683**

In 2013, "other operating income" mainly reflects the impact of changes in options used to hedge contracts associated with operations.

In 2012, "income on sales of non-financial assets" included in particular the capital gain on the disposal of the Millennium mining project and the Gold business (La Mancha) in Canada and capital gains on disposals of property, plant and equipment in connection with the shut-down of production at the Georges Besse I enrichment plant. "Other operating income" included in particular the impact of changes to an early retirement plan and of regulations concerning long careers that applied in 2012 (see Note 23).

NOTE 7. NET FINANCIAL INCOME

(in millions of euros)	2013	2012
Net borrowing costs	**(214)**	**(181)**
Income from cash and cash equivalents	44	51
Gross borrowing costs	(258)	(232)
Other financial income and expenses	**(34)**	**(137)**
of which share related to end-of-lifecycle operations	**165**	**36**
Income from disposal of securities earmarked for end-of-lifecycle operations	231	198
Dividends received	138	118
Income from receivables related to dismantling and from discount reversal on earmarked assets	33	45
Impairment of available-for-sale securities	-	-
Impact of changes in discount rate and amended schedules	4	(25)
Discounting reversal expenses on end-of-lifecycle operations	(241)	(300)
of which share not related to end-of-lifecycle operations	**(199)**	**(173)**
Foreign exchange gain (loss)	-	-
Income from disposals of securities and change in value of securities held for trading	3	(1)
Income from disposals of investments in associates	-	26
Dividends received	2	5
Impairment of financial assets	(21)	(11)
Interest on contract prepayments	(63)	(58)
Other financial expenses	(66)	(87)
Other financial income	12	33
Financial income from pensions and other employee benefits	(66)	(80)
NET FINANCIAL INCOME	**(248)**	**(318)**

At December 31, 2013, the net gain on sales of securities includes in the share related to end-of-lifecycle operations includes 12 million euros corresponding to the recapture of lasting impairment of securities sold, compared with 93 million euros at December 31, 2012.

At December 31, 2012, the income on disposals of investments in associates primarily consisted of the gain on the disposal of Sofradir shares.

NOTE 8. INCOME TAXES

ANALYSIS OF INCOME TAX EXPENSE

(in millions of euros)	2013	2012
Current taxes (France)	(78)	(81)
Current taxes (other countries)	(44)	(151)
Total current taxes	**(122)**	**(232)**
Deferred taxes	184	384
TOTAL INCOME TAX	**62**	**152**

RECONCILIATION OF INCOME TAX EXPENSE AND INCOME BEFORE TAXES

(in millions of euros)	2013	2012
Net income attributable to equity owners of the parent	(494)	(99)
Less: income from discontinued operations	248	226
Minority interests	71	24
Share in net income of equity associates	-	(11)
Tax expense (income)	(62)	(152)
Income before tax	(237)	(12)
Theoretical income tax (expense)	**82**	**4**
Reconciliation		
Operations taxed at a rate other than the full statutory rate	14	41
Unrecognized deferred taxes	(37)	149
Other permanent differences	4	(42)
EFFECTIVE INCOME TAX (EXPENSE)	**62**	**152**

TAX RATES USED IN FRANCE

(percentage)	2013	2012
Tax rate	34.43	34.43

The tax rate used for presentation of the tax reconciliation was kept at 34.43% insofar as the French tax consolidations are in a deficit position and parliamentary decisions to bring the tax rate to 38% or 36.10% are temporary in application.

OTHER PERMANENT DIFFERENCES

(in millions of euros)	2013	2012
Parent / subsidiary tax treatment and inter-company dividends	(2)	1
Impact of permanent differences for tax purposes	43	14
Differences between the French tax rate and tax rates applicable abroad	4	(12)
CVAE business tax	(33)	(23)
Other permanent differences	(8)	(23)
TOTAL PERMANENT DIFFERENCES	**4**	**(42)**

EFFECTIVE TAX RATE OF THE GROUP

(in millions of euros)	2013	2012
Operating income	11	306
Net financial income	(248)	(318)
Other income		
TOTAL INCOME SUBJECT TO TAX	**(237)**	**(12)**
Income tax (expense)	62	152
Effective tax rate	**NA**	**NA**

DEFERRED TAX ASSETS AND LIABILITIES

(in millions of euros)	December 31, 2013	December 31, 2012
Deferred tax assets	1,153	1,029
Deferred tax liabilities	31	23
NET DEFERRED TAX ASSETS AND LIABILITIES	**1,122**	**1,006**

MAIN CATEGORIES OF DEFERRED TAX ASSETS AND LIABILITIES

(in millions of euros)	December 31, 2013	December 31, 2012
Tax impact of temporary differences related to:		
Property, plant and equipment, intangible assets and non-current financial assets	30	(19)
Working capital assets	(111)	(10)
Employee benefits	370	383
Provisions for restructuring	4	4
Tax-driven provisions	(309)	(276)
Provisions for end-of-lifecycle operations	87	99
Impact of carry-forward losses and deferred taxes	863	783
Other temporary differences	189	42
NET DEFERRED TAX ASSETS AND LIABILITIES	**1,122**	**1,006**

DEFERRED TAX ASSET AND LIABILITY REVERSAL SCHEDULE

(in millions of euros)	December 31, 2013	December 31, 2012
Reversal in more than 12 months	1,009	872
Reversal in 12 months or less	113	134

CHANGE IN CONSOLIDATED DEFERRED TAX ASSETS AND LIABILITIES

(in millions of euros)	2013	2012
AT JANUARY 1	**1,006**	**705**
Tax on continuing operations, recognized in profit or loss	184	334
Tax recognized on discontinued operations	28	8
Tax recognized directly in "other comprehensive income items"	(76)	(43)
Change in consolidated group	(10)	4
Currency translation adjustments	(9)	(3)
AT DECEMBER 31	**1,122**	**1,006**

DEFERRED TAX INCOME AND EXPENSES BY CATEGORY OF TEMPORARY DIFFERENCES

(in millions of euros)	2013	2012
Tax impact of temporary differences related to:		
Property, plant and equipment, intangible assets and non-current financial assets	48	67
Working capital assets	(55)	(77)
Employee benefits	18	(87)
Provisions for restructuring	2	(17)
Tax-driven provisions	(26)	(20)
Provisions for end-of-lifecycle operations	(11)	22
Net carry-forward losses and deferred taxes	231	170
Impairment of deferred taxes	(37)	149
Other temporary differences	14	177
NET DEFERRED TAX INCOME (EXPENSES)	**184**	**384**

DEFERRED TAX RECOGNIZED IN "OTHER COMPREHENSIVE INCOME ITEMS"

(in millions of euros)	2013	2012
IAS 32-39 impacts (change in value of available-for-sale assets, cash flow hedges and hedges of a net investment)	(56)	(69)
Other	(20)	26
TOTAL DEFERRED TAX RECOGNIZED DIRECTLY IN "OTHER COMPREHENSIVE INCOME ITEMS"	**(76)**	**(43)**

UNRECOGNIZED DEFERRED TAX ASSETS

(in millions of euros)	2013	2012
Tax credits		
Tax losses	639	621
Other temporary differences	494	624
TOTAL UNRECOGNIZED DEFERRED TAX ASSETS	**1,133**	**1,246**

NOTE 9. ITEMS RELATED TO NON-CURRENT ASSETS AND LIABILITIES HELD FOR SALE AND TO DISCONTINUED OPERATIONS

ASSETS AND LIABILITIES OF DISCONTINUED OPERATIONS AT DECEMBER 31, 2013

The following operations meet the criteria of IFRS 5 for classification as assets and liabilities of discontinued operations at December 31, 2013:

- Wind energy: On January 20, 2014, AREVA announced that it was in exclusive negotiations with Gamesa to create a joint venture in the offshore wind field. In view of governance rules agreed upon with Gamesa, the future joint venture will be recognized under the equity method.
- Solar energy: In the second half of 2013, AREVA contacted potential partners to set up a strategic partnership agreement or to sell an equity interest in AREVA Solar. This may result in the creation of a joint venture that would be recognized under the equity method.
- Euriware: On October 17, 2013, AREVA announced that it was in exclusive negotiations with Capgemini for the sale of the operations of this IT services subsidiary of the group.

The contribution to consolidated income of discontinued operations is as follows:

(in millions of euros)	2013
Revenue	**321**
Operating income	(272)
Net financial income	(13)
Income tax	36
Net income for the period	**(248)**
Minority interests	(9)
Net income attributable to owners of the parent	**(238)**

These amounts include contributions from the Wind and Solar Business Units, each being a separate and main business line meeting IFRS 5 criteria for classification as assets and liabilities of discontinued operations at December 31, 2013.

Assets and liabilities of discontinued operations at December 31, 2013 are as follows:

(in millions of euros)	Assets held for sale	Discontinued operations	Total
Non-current assets	**18**	**334**	**353**
Goodwill on consolidated companies		79	79
Property, plant and equipment and intangible assets		247	247
Other non-current financial assets	5	6	11
Deferred tax assets	13	2	15
Current assets	**52**	**239**	**291**
Inventories and work-in-process	3	107	110
Trade receivables and other operating receivables	49	126	175
Current tax assets			-
Other non-operating receivables			-
Cash and cash equivalents		5	5
Other current financial assets			-
TOTAL ASSETS HELD FOR SALE	**70**	**573**	**643**

(in millions of euros)	Liabilities held for sale	Discontinued operations	Total
Non-current liabilities	**14**	**26**	**40**
Employee benefits	14		14
Other non-current provisions			-
Long-term borrowings		9	9
Deferred tax liabilities		17	17
Current liabilities	**118**	**231**	**349**
Current provisions	6	49	55
Short-term borrowings		9	9
Advances and prepayments received		13	13
Trade payables and other operating liabilities	113	160	273
Current tax liabilities			-
Other non-operating liabilities			-
TOTAL LIABILITIES HELD FOR SALE	**132**	**258**	**389**

These amounts include assets and liabilities of the Wind and Solar Business Units, and those of Euriware, which meet IFRS 5 criteria for classification as assets and liabilities of discontinued operations at December 31, 2013.

Discontinued operations include goodwill from the Solar cash generating unit (CGU), which had previously been written down by 122 million US dollars (94 million euros) at December 31, 2012 (see Note 10). At December 31, 2013, considering the absence of new orders and ongoing difficulties in the performance of existing contracts, the residual goodwill has been entirely written off, representing additional impairment of 71 million US dollars (51 million euros).

Nonetheless, AREVA remains convinced of the relevance of the linear concentrated solar technology for certain applications and geographic areas. For this reason, and to minimize this activity's financial impact and accelerate its development, AREVA contacted several potential partners to propose a grouping or the sale of an interest in AREVA Solar, which could result in the creation of a joint venture recognized under the equity method.

ASSETS AND LIABILITIES OF DISCONTINUED OPERATIONS AT DECEMBER 31, 2012

Assets and liabilities of discontinued operations at December 31, 2012 are as follows:

Non-current assets	
Goodwill on consolidated companies	84
Property, plant and equipment and intangible assets	40
Other non-current financial assets	
Deferred tax assets	5
Current assets	
Inventories and work-in-process	38
Trade receivables and other operating receivables	53
Current tax assets	0
Other non-operating receivables	
Cash and cash equivalents	6
Other current financial assets	
TOTAL ASSETS HELD FOR SALE	**225**

Non-current liabilities	
Employee benefits	2
Other non-current provisions	
Long-term borrowings	
Deferred tax liabilities	13
Current liabilities	
Current provisions	9
Short-term borrowings	
Trade payables and other operating liabilities	46
Current tax liabilities	4
Other non-operating liabilities	0
TOTAL LIABILITIES HELD FOR SALE	**73**

These amounts reflected the assets and liabilities of the Nuclear Measurements business (Canberra), for which AREVA had entered into exclusive negotiations with Astorg Finance in October 2012 in view of their disposal. On March 29, 2013, Astorg Partner and AREVA signed a contract of disposal concerning Canberra's subsidiaries for this purpose. However, Astorg Partners informed AREVA in June 2013 of its decision not to finalize the purchase of Canberra, citing insufficient financing despite the assurances given by Astorg Partners to AREVA in the contact signed on March 29, 2013.

As a result, IFRS 5 does not apply to these subsidiaries' assets and liabilities at December 31, 2013.

NOTE 10. GOODWILL

The change in goodwill from December 31, 2012 to December 31, 2013 was as follows:

(in millions of euros)	December 31, 2012	Additions	Disposals	Impairment	Discontinued operations	Currency translation adjustments and other	December 31, 2013
Mining	942		(2)			(43)	897
Front End	1,163						1,163
Reactors & Services	1,488				84	(35)	1,536
Back End	217					9	225
Renewable Energies	185			(53)	(79)	(9)	43
Corporate and Other	4			(4)			
TOTAL	**3,998**	**-**	**(3)**	**(57)**	**4**	**(78)**	**3,864**

GOODWILL IMPAIRMENT TESTS

The group conducted impairment tests on all cash-generating units to which goodwill is allocated.

As indicated in Note 1.10, these tests consist of comparing the net carrying amount of assets of cash-generating units (CGU) (net of PPE and intangible asset impairments explained in Notes 11 and 12) with their recoverable amount, with the latter generally 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 segment. They are calculated using observed market data and evaluations prepared by specialized firms (10- 20- and 30-year risk-free rates, risk premiums on equity markets, volatility indices, credit spreads and debt ratios of comparable businesses in each segment).

The following assumptions were used to determine the net present value of the cash flows to be generated by the CGUs:

For the year ended December 31, 2013	After tax discount rate	Growth rate of pro forma year	Final year
Mining	10.00%	Not applicable	2065
Front End:			
Chemistry, Enrichment	7.00%	2%	2023
Fuel	7.00%	2%	2023
Reactors & Services	8.00%	2%	2018 or 2023*
Back End	5.50%	2%	2023
Renewable Energies	9.00%	2%	2018

For the year ended December 31, 2012	After tax discount rate	Growth rate of pro forma year	Final year
Mining	10.00%	Not applicable	2050
Front End:			
Chemistry, Enrichment	7.50%	2%	2021
Fuel	7.50%	2%	2021
Reactors & Services	8.50%	2%	2021
Back End	6.00%	2%	2021
Renewable Energies	9.25%	2%	2016 or 2020*

* *Depending on CGU.*

These impairment tests were calculated using exchange rates in effect on the closing date.

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. until 2065), rather than on a base year.

At December 31, 2012, impairment of 94 million euros had been recognized for the goodwill of the Solar CGU following the difficulties encountered by that business in 2012 (both in terms of the execution of certain contracts and in terms of the level of order intake). These difficulties prompted AREVA to start restructuring the US teams of the Business Unit and to contemplate a strategic reorientation of operations to refocus them (technology supplier supported by partners for project implementation).

At December 31, 2013, the Solar CGU's goodwill was reclassified as assets of discontinued operations (see Note 9).

The other impairment tests did not lead to recognition of impairment of goodwill.

In addition, sensitivity analyses showed that a discount rate of 1% higher or a growth rate for the base year of 1% lower than the above-mentioned rates would not have led to the recognition of impairment for the goodwill allocated to these cash-generating units, since their recoverable value is greater than the net carrying amount of their assets.

In the mining segment, a downside sales price assumption of 5 US dollars per pound of uranium versus the selected scenario, which is based on long-term uranium price forecasts drawn up by UxC, or a production cost assumption that is 10% higher than the amounts factored into the forecast data, would not generate goodwill impairment based on a dollar valuation of the recoverable value of uranium mining assets in the ground. However, the change in sales prices may lead to a revision of mineable uranium quantities as well as of production schedules.

In the Front End segment, an assumption of a 5% decrease in the selected scenario for the long-term sales price of separative work units (SWU), which is based on UxC forecasts, would also not generate goodwill impairment.

NOTE 11. INTANGIBLE ASSETS

	December 31, 2013			December 31, 2012
(in millions of euros)	Gross	Amortization and impairment	Net	Net
Pre-mining expenses	1,753	(699)	1,055	1,181
Research and Development expenses	1,082	(269)	814	794
Mineral rights	1,048	(1,047)	0	0
Concessions and patents (excluding mines)	446	(75)	371	399
Software	606	(477)	128	139
Intangible assets in progress	353	(196)	157	283
Other	297	(181)	116	165
TOTAL	**5,585**	**(2,944)**	**2,641**	**2,961**

2013

(in millions of euros)	Pre-mining expenses	R&D expenses	Mineral rights	Concessions and patents (excluding mines)	Software	Intangible assets in progress	Other	Total
Gross amount at December 31, 2012	**1,934**	**1,024**	**1,439**	**479**	**574**	**383**	**364**	**6,196**
Internally generated assets	-	40		1	-	37		78
Acquired assets	251	76		1	1	63	5	396
Disposals	(1)	(0)		(1)	(3)	(1)	(1)	(8)
Discontinued assets and operations		(57)		(24)	6	(49)	(63)	(187)
Currency translation adjustments	(146)	(19)	(60)	(4)	(2)	(13)	(9)	(251)
Change in consolidated group	(57)		(332)	(0)	(1)			(389)
Other changes	(228)	19		(4)	31	(68)	1	(249)
Gross amount at December 31, 2013	**1,753**	**1,082**	**1,048**	**446**	**606**	**353**	**297**	**5,585**
Depreciation and provisions at December 31, 2012	**(753)**	**(230)**	**(1,439)**	**(79)**	**(435)**	**(100)**	**(200)**	**(3,235)**
Net increase in depreciation / impairment [1]	(54)	(80)		(12)	(34)	(110)	(19)	(310)
Disposals				1	2		1	5
Discontinued assets and operations		36		7	(4)	4	33	77
Currency translation adjustments	57	5	60	1	1	8	3	134
Change in consolidated group	55		332					387
Other changes	(4)			7	(8)	2		(3)
Depreciation and provisions at December 31, 2013	**(699)**	**(269)**	**(1,047)**	**(75)**	**(477)**	**(196)**	**(181)**	**(2,944)**
Net carrying amount at December 31, 2012	**1,181**	**794**	**0**	**399**	**139**	**283**	**165**	**2,961**
NET CARRYING AMOUNT AT DECEMBER 31, 2013	**1,055**	**814**	**-**	**371**	**128**	**157**	**116**	**2,641**

(1) Impairment of intangible assets in the amount of 144 million euros was recognized at December 31, 2013.

Investments in intangible assets in 2013 primarily concern pre-mining expenses at sites in operation (AREVA Resources Canada, Katco) or under development (Imouraren), and development expenses for EPR™ reactor projects.

In addition to amounts capitalized under "Pre-mining expenses", exploration expenses in the amount of 51 million euros were recognized in profit and loss under "Research and Development expenses" at December 31, 2013 (vs. 33 million euros at December 31, 2012).

As indicated in Notes 1.1, "Estimates and assumptions" and 1.10, "Impairment of property, plant and equipment, intangible assets and goodwill", the group performs asset impairment tests based on its best estimate of their recoverable value, which corresponds to the higher of their estimated fair value, net of disposal expenses, based on projected cash flows resulting from the budget, the strategic action plan and the assumptions they contain.

ASSETS FROM THE ACQUISITION OF URAMIN

At December 31, 2012 and December 31, 2013, given the impairment recognized at December 31, 2011 and December 31, 2012, the residual value of property, plant and equipment and intangible for mining projects emanating from UraMin was 328 million euros, corresponding to their estimated net realizable value, based on a dollar valuation per pound of uranium in the ground. The net realizable value of the Trekkopje deposit now includes the value of sales of fresh water produced by the adjoining desalinization plant.

Impairment in the amount of 165 million euros was recognized in 2012 on intangible assets for the Bakouma and Ryst Kuil mining projects to reflect the decrease in their recoverable value as a result of the change in the market environment and their specific characteristics.

CAPITALIZED DEVELOPMENT EXPENSES

The net value of intangible assets corresponding to capitalized development expenses for the entire range of generation III nuclear reactors (generic EPR™ reactor, EPR™ reactor for the US market, specific EPR™ reactor developments for the Finnish market, and the ATMEA1 reactor) was 703 million euros at December 31, 2013 (612 million euros at December 31, 2012).

Impairment tests on these intangible assets are highly dependent on commercial calendar assumptions, volume and sales price forecasts, and the expected profitability from future sales of these reactors.

It should be noted that in 2013:

- EDF concluded a series of agreements with the British government, CGNPC, CNNC and AREVA for the construction of two EPR™ reactors at the Hinkley Point site in the United Kingdom;
- Turkey selected the ATMEA1 technology for the construction of four reactors at the Sinop site.

AREVA did impairment tests on capitalized development expenses for the EPR™ reactor and the ATMEA1 reactor at December 31, 2013 using the same discount rate as for impairment tests on the Reactors & Services Business Group's goodwill (see Note 10). These tests did not lead to the recognition of impairment.

Sensitivity analyses showed that the use of a discount rate higher by 1% would not have led to the recognition of impairment.

Compared to the assumptions used at December 31, 2013, a two-year delay in the marketing schedule for the ATMEA1 reactor and the EPR™ reactor, whether for the generic EPR™ reactor or the US EPR™ reactor, or a 30% deterioration in absolute value of margins per reactor compared with the assumptions used for the impairment tests would not require recognition of impairment as well.

A 25% reduction in the number of EPR™ reactors using the design developed in the United States by 2030 compared to the assumptions used would not require recognition of impairment of the capitalized development expenses corresponding to the licensing of the EPR™ reactor in the United States, for which the total amount capitalized comes to 335 million US dollars (243 million euros). However, it should be noted that nuclear power's share of the energy mix in the United States is highly sensitive to the US energy policy and to its regulatory requirements.

Similarly, a 20% reduction in the number of ATMEA1 reactors sold in relation to the assumptions used would not require recognition of impairment of capitalized development expenses.

Whether or not specific development expenses for the Finnish EPR™ reactor remain capitalized will depend on whether a second order is received after OL3. AREVA, which has already responded to two calls for tender issued by Fennovoima and TVO for the construction of new nuclear reactors in Finland, continues its discussions with TVO on the Olkiluoto 4 project. If AREVA does not receive a second EPR™ reactor order in Finland, impairment of the capitalized development expenses in the amount of 63 million euros would be recognized.

CAPITALIZED EXPENSES ASSOCIATED WITH STUDIES TO PREPARE FOR THE CONSTRUCTION OF A URANIUM ENRICHMENT PLANT IN THE UNITED STATES

The net carrying amount of intangible assets corresponding to studies to prepare for the construction of the EREF uranium enrichment plant in the United States was 88 million euros at December 31, 2012 after recognition of impairment of 100 million euros in 2012.

With no partner to carry out the EREF project, the estimated date for the start of plant construction was postponed in 2012 to the end of the Action 2016 plan. In addition, long-term SWU price forecasts were lowered by 4% in 2012. The impairment test conducted based on these assumptions thus led AREVA to recognize impairment of 100 million euros.

The results of the impairment test on these assets is highly dependent on assumptions for the plant construction schedule, the price forecast for the separative work units (SWU), the discount rate used and the euro / US dollar exchange rate used, insofar as the purchase price for the ETC cascades is expressed in euros.

AREVA conducted an impairment test on these capitalized study expenses at December 31, 2013 based on a further decrease of 4.5% in the long-term SWU price forecast compared with 2012, with a discount rate of 7.25% and a euro/ US dollar exchange rate of 1.38.

The outcome of this test led AREVA to a full write-off of the residual value of these assets in the amount of 144 million US dollars (108 million euros).

Sensitivity studies show that:

- using a 6.75% discount rate instead of 7.25% would lead to the recognition of 35 million US dollars in residual value for the capitalized EREF study expenses (25 million euros);
- using a SWU forecast price that is 10% higher than that used for the test would lead to the recognition of 100 million US dollars in residual value for capitalized EREF study expenses (72 million euros).

At the end of 2013, considering the lack of a partner for the EREF project and in view of current macroeconomic conditions and the outlook for the enrichment market, AREVA suspended the studies concerning this project. However, AREVA reserves possibility of resuming the project if macroeconomic conditions and the enrichment market outlook were to significantly improve.

NOTE 12. PROPERTY, PLANT AND EQUIPMENT

(in millions of euros)	Land	Buildings	Plant, equipment and tooling	End-of-lifecycle assets – AREVA share	Other	In process	Total
Gross amount at December 31, 2012	**189**	**2,164**	**18,233**	**1,208**	**1,483**	**2,799**	**26,076**
Additions	1	42	86		58	1,084	1,270
Disposals	(2)	(13)	(89)	(1)	(35)	(2)	(141)
Discontinued assets and operations		(17)	(16)		(52)	(37)	(122)
Currency translation adjustments	(3)	(27)	(61)	(1)	(34)	(38)	(164)
Change in consolidated group	(1)	12	22		6	(8)	31
Other changes	6	239	1,142	29	199	(1,190)	426
Gross amount at December 31, 2013	**189**	**2,400**	**19,317**	**1,235**	**1,626**	**2,608**	**27,376**
Depreciation and provisions at December 31, 2012	**(83)**	**(1,206)**	**(14,822)**	**(994)**	**(1,023)**	**(211)**	**(18,338)**
Net increase in depreciation / impairment [1]	(3)	(72)	(297)	(10)	(88)	(19)	(488)
Disposals		11	81	1	34		126
Discontinued assets and operations		(3)	(1)		28		24
Currency translation adjustments		10	22		22		56
Change in consolidated group		(6)	(15)		(4)		(25)
Other changes		(1)	110		(108)		1
Depreciation and provisions at December 31, 2013	**(85)**	**(1,266)**	**(14,922)**	**(1,002)**	**(1,139)**	**(230)**	**(18,645)**
Net carrying amount at Dec. 31, 2012	**107**	**958**	**3,411**	**214**	**460**	**2,588**	**7,738**
NET CARRYING AMOUNT AT DECEMBER 31, 2013	**104**	**1,134**	**4,395**	**233**	**487**	**2,378**	**8,731**

(1) Impairment of Property, Plant and Equipment in the amount of 59 million euros was recognized at December 31, 2013.

At December 31, 2013, the net value of capitalized finance lease contracts is 19 million euros (24 million euros at December 31, 2012).

Capitalized Interest expense in the cost of capital assets was not significant at December 31, 2013 and December 31, 2012.

INDUSTRIAL ASSETS OF ENRICHMENT TECHNOLOGY COMPANY (ETC)

ETC is a joint venture between AREVA and Urenco. AREVA consolidates its 50% interest using the proportionate consolidation method. ETC manufactures cascades for uranium enrichment plants using the ultracentrifugation technology. The industrial outlook for the company was affected by the postponement of several enrichment plant extension or construction projects, prompting it to announce the establishment of a restructuring plan.

The impairment test conducted on the basis of these assumptions, which at the end of 2013 excluded any prospect for the manufacture of cascades for the EREF project (see Note 11), led AREVA to recognize impairment of 14 million euros on its share in the property, plant and equipment of ETC in 2013, in addition to impairment of 43 million euros recognized in 2012.

COMURHEX II PLANT

The net carrying amount of property, plant and equipment in progress corresponding to the Comurhex II uranium conversion plant under construction was 507 million euros at December 31, 2013 (409 million euros at December 31, 2012).

An impairment test for these assets was conducted on December 31, 2013 using a discount rate of 7.00% (compared with 7.50% at December 31, 2012). The forecast data used assume that the annual production capacity of the Comurhex II plant would be expanded from 15,000 metric tons to 21,000 metric tons beyond the time-frame of the Action 2016 plan.

Sensitivity studies show that:

- using a discount rate of 7.50% instead of 7.00% would lead to the recognition of additional impairment of about 85 million euros for these assets;
- a price forecast for uranium conversion units that is lower by 5% than that used in performing the test would lead to recognition of additional impairment of about 110 million euros;
- a capital cost related to the capacity extension that is higher by 15% than that used in performing the test would lead to recognition of additional impairment of about 60 million euros;
- an assumption of limitation of the plant's annual production capacity to 15,000 metric tons over the long term would lead to full impairment of the additional residual value of property, plant and equipment in progress at the Comurhex II plant.

NOTE 13. END-OF-LIFECYCLE OPERATIONS

The table below summarizes the AREVA group accounts affected by the treatment of end-of-lifecycle operations and their financing.

Assets *(in millions of euros)*	**December 31, 2013**	**December 31, 2012**	**Shareholders' equity and liabilities** *(in millions of euros)*	**December 31, 2013**	**December 31, 2012**
End-of-lifecycle assets – AREVA share [1]	233	214			
Assets earmarked for end-of-lifecycle operations	6,256	5,912	Provisions for end-of-lifecycle operations	6,437	6,331
• End-of-lifecycle assets – third party share [2]	199	217	• funded by third parties [2]	199	217
• Assets earmarked for end-of-life cycle operations [3]	6,057	5,695	• funded by AREVA	6,238	6,114

(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-LIFECYCLE ASSETS

In addition to the value of its property, plant and equipment, the group recognizes the deferred portion of the group's share of end-of-lifecycle 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-lifecycle 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-lifecycle costs as soon as a facility starts up, including any share funded by third parties.

	AREVA share					
(in millions of euros)	Gross	Amortization	Net	Third party share	December 31, 2013	December 31, 2012
Dismantling	1,235	(1,002)	233	199	432	431
Waste retrieval and packaging					-	-
TOTAL	**1,235**	**(1,002)**	**233**	**199**	**432**	**431**

2012 *(in millions of euros)*	Net Carrying Amount at December 31, 2012	Increase	Decrease	Increases in and reversals of amortization and provisions	Discounting reversals	Other changes	Net carrying amount at December 31, 2013
AREVA share	214	41	(12)	(10)	-	-	233
Third party share	217	1	(27)	-	8	-	199
TOTAL	**431**	**42**	**(39)**	**(10)**	**8**	**-**	**432**

The net end-of-lifecycle asset is 432 million euros at December 31, 2013, compared with 431 million euros at December 31, 2012.

The third party share remaining in the end-of-lifecycle assets mainly corresponds to the funding expected from CEA for its share of funding for the Pierrelatte site. This heading increases by the amount of discounting reversals and decreases as work is performed.

The increase in the group's share of assets is mainly the consequence of the operational phase-in of the Georges Besse II plant.

PROVISIONS FOR END-OF-LIFECYCLE OPERATIONS

(in millions of euros)	Net carrying amount at December 31, 2012	Reversals (when risk has materialized): expenses for the year	Discounting reversals	Change in assumptions, revised budgets, etc.	Net carrying amount at December 31, 2013
Provision for nuclear facility dismantling	4,574	(138)	175	74	4,685
Provision for waste retrieval and packaging	1,757	(71)	66	-	1,752
PROVISIONS FOR END-OF-LIFECYCLE OPERATIONS	**6,331**	**(209)**	**241**	**74**	**6,437**

Provisions for end-of-lifecycle operations of facilities covered by the French law of June 28, 2006

Provisions for end-of-lifecycle operations of facilities covered by the Law of June 28, 2006 pertaining to the sustainable management of nuclear materials and nuclear waste were broken down as follows at December 31, 2013 and December 31, 2012:

(in millions of euros)	December 31, 2013	December 31, 2012
Dismantling of regulated nuclear facilities, excluding long-term radioactive waste management	3,847	3,786
Dismantling of used fuel, excluding long-term radioactive waste management	-	-
Retrieval and packaging of legacy waste, excluding long-term radioactive waste management	1,230	1,229
Long-term radioactive waste management	841	781
Post-closure disposal center monitoring costs	39	39
Total provisions for end-of-lifecycle operations of facilities covered by the French law of June 28, 2006	**5,957**	**5,835**
Provisions for end-of-lifecycle operations of facilities not covered by the French law of June 28, 2006	480	496
TOTAL PROVISIONS FOR END-OF-LIFECYCLE OPERATIONS	**6,437**	**6,331**

Nature of the commitments

As a nuclear facility operator, the group has a legal obligation to secure and dismantle its production facilities when they are shut down permanently in whole or in part. 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 plants for MOX fuel fabrication.

In December 2004, the CEA, EDF and AREVA NC signed an agreement concerning the Marcoule plant that transfers the responsibilities of site owner-operator to the CEA, which 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's share of waste shipping and final waste disposal costs.

Determination of provisions for end-of-lifecycle operations

Dismantling and waste retrieval and packaging

The valuation of facility dismantling costs is based on methods that provide at all times the best estimate of costs and schedules for these operations:

- For facilities in operation, a technical and economic model produced mainly with the ETE EVAL application is used for the different types of facilities to be dismantled. It is based on an equipment inventory, their estimated radiological condition and models using cost element scenarios and ratios.
- When dismantling operations have begun, a series of studies are carried out to assess cleanup and dismantling expenses with an increasingly narrow margin of uncertainty.

For the operating facilities, the cost estimates will be updated at least once every three years and when there is a change in applicable regulations or substantial technological developments may be anticipated. For the facilities undergoing dismantling, the estimates will be updated yearly. In accordance with the 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.

The provisions related to nuclear facility dismantling and waste retrieval and packaging rely on the following assumptions:

- 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 will be retrieved and packaged following a scenario and using technical methods approved by the regulatory authority.
- An inventory of costs to bring the site to the target decommissioning level will be established, with buildings generally decontaminated where they stand except for special circumstances, and with all nuclear waste areas decommissioned to conventional waste status.
- Operations would start without any waiting period for radioactive decay after final shutdown of production.
- Expenses would be valued based on anticipated costs, including subcontracting, manpower, radiation protection, consumables, equipment, treatment of the resulting waste, and shipment to and disposal by Andra. The valuation also includes a share of technical support costs of the entities in charge of the dismantling operations.
- Nuclear operations would continue at the La Hague and Pierrelatte sites after the facilities currently in operation have been shut down.

In addition, it reflects the contingencies and financial impacts of risk analyses performed for each project.

For projects already in progress, the analysis is based on an inventory of risks and an estimate of their financial and schedule consequences, weighted by their probability of occurrence.

The valuations selected for end-of-lifecycle provisions are, at the date of closing, the best estimate of the resources needed to meet current facility cleanup and dismantling obligations.

The valuation of end-of-lifecycle costs carries uncertainties inherent in the long operating period and the following items:

- nuclear safety, occupational and environmental protection regulations set by public and nuclear safety authorities are likely to change over time, impacting project schedules;
- detailed knowledge of the physical condition of some older facilities must sometimes be bolstered by inventories and radiological characterization which will only be feasible during subsequent dismantling phases. Dismantling scenarios will have to be adjusted to reflect improved knowledge of the facilities;
- schedules for the different projects are often closely linked, so that any delay in a project may result in delays and cost overruns for other end-of-lifecycle operations;
- the estimate of future expenses for deep disposal of medium- and high-level waste is based on a 2003 reference scenario, which Andra is revising at this time;
- the scope and terms for Andra's future acceptance of waste at its long-lived low-level disposal site and deep geological repository (CIGEO).

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. A provision is then recognized based on the discounted value. The discounting reversal is recognized in "Net financial expense".

The discount rate is set according to a method that has not changed since 2007, based on a sliding four-year average of 30-year French government rates, plus a margin reflecting high credit quality (based on a rating equivalent to A).

In reference to the provisions of implementing order no. 2007-243 of February 23, 2007 of the French law no. 2006-739 of June 28, 2006, the discount rate is subject to a cap set by the minister of Economy and Finance in its order of March 21, 2007, article 3, which caps the discount rate at the average four-year TEC 30 rate plus 100 basis points. In 2013, AREVA informed the administrative authority that this regulatory cap no longer appears to be compatible with the applicable accounting standards. For this reason, AREVA requested a waiver of the cap at December 31, 2013.

For facilities in France, AREVA adopted an inflation rate of 1.9% and a discount rate of 4.75% at December 31, 2013, same as in 2012.

At December 31, 2013, the use of a discount rate of 0.25% higher or 0.25% lower than the rate used and an inflation rate identical to the rate used would have had the effect of changing the value of end-of-lifecycle provisions falling within the scope of the French law of June 28, 2006 by -256 million euros and +279 million euros respectively.

Final waste removal and disposal

AREVA recognizes a provision for radioactive waste expenses for which the group is responsible.

These expenses include:

- its share of the cost of monitoring disposal facilities in the Manche and Aube regions, which received or will receive low-level, short-lived waste;
- the removal and underground disposal of low-level, long-lived waste (graphite) owned by the company;
- the removal and disposal of medium- and high-level waste covered by the French law of December 30, 1991 (now codified 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 deployed.

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. Extrapolating items from the report of the working group, AREVA adopted a reasonable total cost estimate of 14.1 billion euros (based on 2003 economic conditions) for the deep geologic repository, including both the cost of retrievability and allowances for contingencies.

In accordance with the French law of June 28, 2006, the French department of energy and climate (DGEC) designated a working group to carry out a new cost assessment for deep geologic disposal.

The DGEC-led working group brings together representatives from ANDRA, AREVA, the CEA, EDF and French nuclear safety authority ASN.

When the working group has completed its work, the Minister of Ecology, Sustainable Development and Energy may establish and make public the costs of reversible deep disposal.

The working group is expected to complete its work and submit its assessment of the costs of reversible deep geologic disposal in the first half of 2014.

For information purposes, the present value of the impact of a 1-billion-euro increase (at 2003 economic conditions) of the cost estimate for the deep disposal center on the group's end-of-lifecycle provision would be 26 million euros, assuming the percentage allocation of cost among waste producers remains the same.

ASSETS EARMARKED FOR END-OF-LIFECYCLE OPERATIONS

This heading consists of the following:

(in millions of euros)	December 31, 2013	December 31, 2012
Receivables related to end-of-lifecycle operations	705	680
Earmarked assets	**5,352**	**5,015**
TOTAL	**6,057**	**5,695**

Receivables related to end-of-lifecycle operations correspond principally to receivables resulting from the signature of a contract in December 2004 under which the CEA agreed to fund a share of facility dismantling costs at the La Hague and Cadarache plants and a share of waste retrieval and packaging costs at the UP2-400 plant.

Purpose of earmarked portfolio

To meet its end-of-lifecycle obligations, the group voluntarily built up a special portfolio earmarked for the payment of its 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 composed based on a schedule of disbursements over more than a century and is therefore 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-lifecycle 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 Dismantling Fund Monitoring Committee. Long-term asset allocations indicate the target percentage of assets to cover liabilities (bonds and money market assets, including receivables from third parties) and the diversification of assets (shares of stock, etc.), subject to limitations imposed by the French decree no. 2007-243 of February 23, 2007 and its amendment by the decree no. 2013-678 of July 24, 2013, both in terms of the control and spread of risks and in terms of type of investments.

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 segment is primarily managed by external service providers through:

- an equity management agreemen,
- earmarked investment funds.

The Rate segment (bonds and money market) is invested through:

- open-ended mutual funds,
- earmarked investment funds,
- directly-held bonds.

The portfolio of assets earmarked to fund end-of-lifecycle expenses includes the following:

(in millions of euros)	December 31, 2013	December 31, 2012
In market value or liquidation value		
Publicly traded shares	1,441	1,394
Equity funds	991	876
Bond and money market mutual funds	2,172	2,103
Unlisted mutual funds	68	60
At amortized cost		
Bonds and bond mutual funds held to maturity	680	582
Portfolio of securities earmarked for end-of-lifecycle operations	**5,352**	**5,015**
Receivables related to end-of-lifecycle operations	705	680
TOTAL – FINANCIAL ASSETS EARMARKED FOR END-OF-LIFECYCLE OPERATIONS	**6,057**	**5,695**

(in millions of euros)	December 31, 2013	December 31, 2012
By region		
Eurozone	5,354	5,047
Non-euro Europe	663	600
Other	40	48
TOTAL	**6,057**	**5,695**

Financial assets held as securities or mutual funds represent 88% of all earmarked assets at December 31, 2013. Earmarked assets were allocated as follows: 41% equities, 47% bonds, 12% receivables.

Performance of financial assets earmarked for end-of-lifecycle operations by asset class(#)

Asset class	2013	2012
Shares	+21.9%	+23.0%
Interest rate products	+1.4%	+6.4%
Subtotal - Portfolio of earmarked securities	**+10.4%**	**+13.2%**
Receivables related to end-of-lifecycle operations	+3.7%	+5.3%
TOTAL – FINANCIAL ASSETS EARMARKED FOR END-OF-LIFECYCLE OPERATIONS	**+9.7%**	**+13.1%**

(#) Performance reported for these asset classes includes that of mutual funds earmarked for end-of-lifecycle operations of regulated French and foreign nuclear facilities not subject to the French law of June 28, 2006.

If interest on receivables is used to determine the performance of rate instruments, the overall performance of earmarked assets would be 9.7% for the 2013 calendar year.

Risk description and assessment

Equity investments in the portfolio of earmarked securities include mainly:

- A mandate of publicly-traded shares, which includes about thirty companies based in the European Union. The securities are held in order to generate gains over the long term. Although it is not a management guideline, the mandate will be assessed over the long term by reference to the MSCI EMU index, net dividends reinvested. The nature of the long-term mandate is not compatible with an evaluation against a benchmark.
- Dedicated equity funds with diversified management strategies centered on European securities. 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.

As regards securities held by AREVA NC and AREVA NP, interest rate products in the portfolio of earmarked securities mainly include:

- Directly held securities consisting of government bonds from the Eurozone, which will be held to maturity. They are recognized at amortized cost under “securities held to maturity”.
- Dedicated bond funds and open-ended money market funds. The sensitivity to interest rates of bond funds is limited in both directions, including the portfolio’s overall consistency with preset long-term sensitivity objectives and the sensitivity of the liabilities to the discount rate used. The issuers’ ratings (Moody’s or Standard & Poor’s) are used to manage the credit risk exposure of money market and bond funds.

For Eurodif, mandates and bond funds were established specifically to match disbursement flows.

Valuation

The mutual funds’ net asset value is determined by valuing the securities held by each fund at market value on the last day of the period.

Derivatives

Derivatives may be used for hedging or to acquire a limited exposure. They are subject to specific investment guidelines prohibiting leverage. Total nominal commitments may not exceed the fund’s net assets. Sales of puts and calls must be fully covered by underlying assets (and are prohibited on assets not included in the portfolio).

Risk assessment and management of the earmarked portfolio

The risks underlying the portfolios and funds holding assets under the management mandate for end-of-lifecycle operations are assessed every month. For each fund or earmarked asset, this assessment allows the maximum total loss to be estimated with a 95% level of confidence for different portfolio maturities using the VaR (Value at Risk) method and volatility estimates. A second estimate is done using deterministic scenarios: impact of rates and/or declining equity markets.

The impacts of changes in equity markets and interest rates on the valuation of earmarked assets are summarized in the following table:

Base case (December 31, 2013)	
(in millions of euros)	
Assumption: declining equity markets and rising interest rates	
-10% on equities	(250)
+100 basis points on rates	(44)
TOTAL	
Assumption: rising equity markets and declining interest rates	
+10% on equities	+250
-100 basis points on rates	+44
TOTAL	

NOTE 14. INVESTMENT IN ASSOCIATES

INVESTMENTS IN ASSOCIATES (BY ASSOCIATE)

December 31, 2013 *(in millions of euros)*	**% of control**	**Share in net income of equity associates**	**Investment in associates, excluding goodwill**	**Goodwill**	**Investment in associates, including goodwill**
MNF	30%	(5)	35	59	95
Other equity associates		4	46	4	50
TOTAL		**(0)**	**82**	**63**	**145**

December 31, 2012 *(in millions of euros)*	**% of control**	**Share in net income of equity associates**	**Investment in associates, excluding goodwill**	**Goodwill**	**Investment in associates, including goodwill**
MNF	30.00	4	50	75	125
Other equity associates		7	45	5	49
TOTAL		**11**	**95**	**80**	**175**

MNF is a company based in Japan that works in the pressurized water (PWR) reactor fuel field. An impairment test was done at December 31, 2013 based on multi-year prospective data developed by the management of that company, with the assumption that Japanese boiling water reactors would gradually be returned to service by 2018.

This test did not result in the recognition of any impairment at December 31, 2013.

The test is extremely sensitive to assumptions, in particular the reactors' restart schedule. However, sensitivity studies show that no impairment would be recognized if one of the following assumptions were used: A discount rate of 6.50% instead of 6.00%, or a two-year deferral of the restart of Japanese pressurized water reactors, or a 10% reduction in the number of reactors restarted by 2018.

CHANGE IN INVESTMENTS IN ASSOCIATES

(in millions of euros)	2013
Investments in associates at January 1	**175**
Share in net income of associates	-
Dividends	(1)
Currency translation adjustments	(29)
Additions	-
Disposals	(1)
Other changes	
INVESTMENTS IN ASSOCIATES AT DECEMBER 31	**145**

SUMMARY DATA ON THE MAIN ASSOCIATES

(in millions of euros)	MNF
Total assets	274
Total liabilities	156
Equity	118
Revenue	71
Net income	(15)

NOTE 15. OTHER NON-CURRENT FINANCIAL ASSETS

(in millions of euros)	December 31, 2013	December 31, 2012
Available-for-sale securities	105	169
Loans to affiliates	1	18
Other non-current financial assets	69	75
Derivatives on financing activities	86	32
TOTAL	**262**	**294**

AVAILABLE-FOR-SALE SECURITIES

Changes during the year are as follows:

(in millions of euros)	
December 31, 2012	**169**
Additions	11
Disposals	(1)
Lasting impairment	(20)
Changes in fair value recorded in “other comprehensive income items”	(45)
Change in consolidation scope, currency translation, reclassifications and miscellaneous	(9)
DECEMBER 31, 2013	**105**

Available-for-sale securities are as follows:

(in millions of euros)	Number of shares at December 31, 2013	December 31, 2013	December 31, 2012
Publicly traded shares (at market value)			
• Alcatel	2,597,435	8	3
• Mawson Resources	4,696,698	1	6
• Summit	21,879,518	7	27
• Japan Steel	4,830,000	20	24
• Other publicly traded shares		5	6
Investment in privately held companies		64	105
TOTAL		**105**	**169**

At December 31, 2013 and December 31, 2012, "investments in privately held companies" consist in particular of interests in companies with shares in mineral deposits, including a 13% interest in Euronimba.

The impact on the valuation of shares classified as "available-for-sale securities" is presented in Note 32.

NOTE 16. INVENTORIES AND WORK-IN-PROCESS

	December 31, 2013			December 31, 2012		
(in millions of euros)	Gross	Impairment	Net	Gross	Impairment	Net
Raw materials and other supplies	680	(128)	552	730	(106)	624
Goods in process	605	(73)	532	632	(75)	557
Services in process	545	(13)	532	434	(6)	428
Intermediate and finished products	746	(31)	715	1,024	(25)	999
TOTAL	**2,576**	**(245)**	**2,331**	**2,820**	**(212)**	**2,608**
Inventories and work-in-process						
• at cost			2,054			2,340
• at fair value net of disposal expenses			267			268
			2,331			**2,608**

NOTE 17. TRADE ACCOUNTS RECEIVABLE AND RELATED ACCOUNTS

(in millions of euros)	December 31, 2013	December 31, 2012
Gross amount	2,086	2,158
Impairment	(19)	(28)
NET CARRYING AMOUNT	**2,067**	**2,130**

CHANGE IN IMPAIRMENT OF TRADE ACCOUNTS RECEIVABLE AND RELATED ACCOUNTS

JANUARY 1, 2013	**(28)**
Change in consolidated group	
Discontinued operations	2
Charge	(8)
Reversal (when risk has materialized)	7
Reversal (when risk has not materialized)	1
Other (currency translation adjustments)	7
DECEMBER 31, 2013	**(19)**

The gross value of trade accounts receivable and related accounts includes 56 million euros in receivables maturing in more than one year.

At December 31, 2013, trade accounts receivable and related accounts include receivables in the amount of 707 million euros on contracts recognized according to the percentage of completion method (versus 726 million euros at December 31, 2012).

In 2013, AREVA sold a trade receivable maturing over the 2014-2020 period to a financial institution for 115 million euros, without right of recourse. AREVA retained no significant ongoing involved in respect of this receivable.

TRADE ACCOUNTS RECEIVABLE AND RELATED ACCOUNTS (GROSS) *

(in millions of euros)				Including not impaired and past due					
Accounts receivable and related accounts	**Gross**	**Maturing in the future**	**Impaired and past due**	**Less than 1 month**	**1 to 2 months**	**2 to 3 months**	**3 to 6 months**	**6 months to 1 year**	**More than one year**
for the year ended December 31, 2013	1,379	1,177	16	108	19	10	26	11	12
for the year ended December 31, 2012	1,432	1,193	25	136	24	7	7	23	17

** : Excluding accounts receivable recognized according to the percentage of completion method.*

NOTE 18. OTHER OPERATING RECEIVABLES

(in millions of euros)	December 31, 2013	December 31, 2012
French State	661	656
Advances and down payments to suppliers	681	750
Miscellaneous accounts receivable	463	495
Financial instruments	145	167
Other	12	11
TOTAL	**1,962**	**2,079**

"Miscellaneous accounts receivable" includes receivables from employees and social security and unemployment administrations.

At December 31, 2013, other operating receivables include 292 million euros in receivables maturing in more than one year.

"Financial instruments" include the fair value of derivatives hedging market transactions and the fair value of the firm commitments hedged.

NOTE 19. CASH AND CASH EQUIVALENTS

(in millions of euros)	December 31, 2013	December 31, 2012
Cash and current accounts	273	284
Cash equivalents	1,488	1,259
TOTAL	**1,761**	**1,543**

Cash equivalents consist chiefly of short-term marketable securities and mutual funds.

NOTE 20. OTHER CURRENT FINANCIAL ASSETS

(in millions of euros)	December 31, 2013	December 31, 2012
Securities held for trading	33	246
Other current financial assets and derivatives on financing activities	55	112
TOTAL	**88**	**358**

"Securities held for trading" include top-rated bonds and balanced equity/bond funds.

NOTE 21. SHARE CAPITAL

Since May 30, 2011, the AREVA share is traded on compartment A of the NYSE Euronext stock exchange in Paris under ISIN code FR0011027143.

AREVA common shares replaced the investment certificates (IC) following the exchange offer initiated by the CEA in April 2011.

At December 31, 2013, AREVA's share capital was held as follows:

SHARE CAPITAL

At December 31	2013	2012
CEA	61.5%	68.9%
French State	21.7%	14.3%
Kuwait Investment Authority	4.8%	4.8%
CDC / BPI France Participations	3.3%	3.3%
Total	1.0%	1.0%
Employee shareholders	1.2%	0.2%
EDF	2.2%	2.2%
Treasury shares	0.2%	1.2%
Public	4.1%	4.0%
TOTAL	**100.0%**	**100.0%**

The par value of the AREVA SA share is 3.80 euros.

CURRENCY TRANSLATION RESERVES

The group's currency translation reserves were a negative 96 million euros in 2013, compared with a positive 57 million euros in 2012. The change primarily reflects the change in the US dollar / euro and Japanese yen / euro exchange rates.

DILUTIVE INSTRUMENTS

The group does not have a stock option plan and has not issued any instrument convertible into equity.

EARNINGS PER SHARE

An average of 380,590,309 shares was used to calculate earnings per share for 2013.

OTHER COMPREHENSIVE INCOME ITEMS

(in millions of euros)	2013	2012
Items not recyclable to the income statement		
• Actuarial gains and losses on employee benefits	91	(324)
• Income tax on non-recyclable items	(20)	26
Items recyclable to the income statement		
Currency translation adjustments on consolidated companies		
• Unrealized gains (losses) for the period	(176)	(35)
• Less gains (losses) recognized in profit and loss	(5)	2
Change in value of available-for-sale financial assets		
• Unrealized gains (losses) for the period	264	382
• Less gains (losses) recognized in profit and loss	(156)	(88)
Change in value of cash flow hedges		
• Unrealized gains (losses) for the period	(11)	(9)
• Less gains (losses) recognized in profit and loss	(4)	11
Income tax related to these items	**(56)**	**(68)**
Other comprehensive income items from discontinued operations	**21**	**5**
Share in comprehensive income of associates, net of income tax	**(29)**	**(18)**
Non-current assets held for sale	**-**	**(3)**
TOTAL OTHER COMPREHENSIVE INCOME ITEMS (NET OF INCOME TAX)	**(81)**	**(121)**

TAX IMPACT OF OTHER COMPREHENSIVE INCOME ITEMS

	2013			2012		
(in millions of euros)	Before tax	Income tax	After tax	Before tax	Income tax	After tax
Actuarial gains and losses on employee benefits	91	(20)	71	(324)	26	(298)
Currency translation adjustments on consolidated companies	(181)	(1)	(182)	(33)	0	(33)
Change in value of available-for-sale financial assets	108	(60)	48	294	(69)	225
Change in value of cash flow hedges	(15)	5	(10)	1	1	2
Share in comprehensive income of associates (net of income tax)	(29)		(29)	(18)		(18)
Other comprehensive income items from discontinued operations	21		21	5		5
Non-current assets held for sale	-		-	(3)		(3)
TOTAL OTHER COMPREHENSIVE INCOME ITEMS (NET OF INCOME TAX)	**(5)**	**(76)**	**(81)**	**(78)**	**(43)**	**(121)**

NOTE 22. MINORITY INTERESTS

The largest minority interests are as follows:

(in millions of euros)	December 31, 2013	December 31, 2012
Katco	197	181
SET and SET Holding	162	157
Somaïr	72	52
Imouraren	51	61
UraMin Lukisa	-	(20)
Eurodif / Sofidif and subsidiaries	(73)	(56)
Minority interests related to non-current assets held for sale and discontinued operations	(13)	1
Other	12	7
TOTAL	**408**	**382**

NOTE 23. EMPLOYEE BENEFITS

Depending on the prevailing laws and practices of each country, the group's companies 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. Some of the group's 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".

The group calls on independent actuaries for a valuation of its commitments each year.

In some companies, these obligations are covered in whole or in part by contracts with insurance companies or pension funds. In such cases, the obligations and the covering assets are valued independently. The difference between the obligation and the fair value of 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.

The entry into force of the provisions of decree no. 2012-847 of July 2, 2012 on long careers had generated a reduction of the group's actuarial debt of 35 million euros. The full impact of these measures is being assessed but should lead to a reduction of the actuarial debt in the range of 3 to 6 million euros (deemed immaterial compared with previous retirement law reforms in 2010 and 2013). In addition, the impact of the 2013 retirement reform, increasing the contribution period for generations born after 1958, is deemed immaterial and will be included in the 2014 valuations.

Early adoption of amended IAS 19 at January 1, 2012

As indicated in the 2012 Reference Document, AREVA had elected early adoption of amended IAS 19 at January 1, 2012. Accordingly, the financial statements for the year ended December 31, 2011 had been restated retroactively in compliance the new rules for purposes of comparison.

Change in the discount rate at December 31, 2013

The discount rates used by the group are unchanged in the Eurozone and rose 100 basis points in the United States in relation to December 31, 2012, settling at 3.25% and 4.50% respectively. The long-term inflation assumption for the Eurozone was also adjusted from 1.90% to 1.80%.

The overall impact of these two effects generates a reduction in liabilities of approximately 57 million euros. The provision for employee benefits was adjusted accordingly by offset against "Other comprehensive income items" in accordance with the new amended IAS 19R.

The group's key benefits

The "CAFC plan" set up in 2012 is the group's principle early retirement plan consisting of a working time account with matching contributions from the employer for personnel of the group's French subsidiary who work at night or in certain jobs identified in the agreement. The system is partially covered by an insurance policy. The population of eligible beneficiaries is open.

The group's second most material early retirement system (called "TB6") is also located in France. The beneficiaries are employees who work at night or in certain types of jobs identified in the agreement.

Medical coverage partially funded by the employer during the retirement period is currently in effect in some companies in France and the United States. The population of eligible beneficiaries is open.

An employee retirement plan is in effect in the United States and is funded by a retirement fund. Benefits were frozen in 2005. Because it is a "qualified" plan, the funded ratios are regulated by law and additional contributions may be necessary.

In Germany, a "cash balance" pension plan exists and is partially covered by a pension fund. The law does not define rules for minimum funding levels.

PROVISIONS RECOGNIZED ON THE BALANCE SHEET

(in millions of euros)	December 31, 2013	December 31, 2012
TOTAL PROVISIONS FOR PENSION OBLIGATIONS AND OTHER EMPLOYEE BENEFITS	**1,958**	**2,026**
Less pension plan assets	-	-
Less local pension plan assets	(1)	(0)
TOTAL PLANS REVIEWED BY THE GROUP'S ACTUARIES	**1,957**	**2,026**
Retirement benefits	536	538
Supplemental retirement benefits	233	272
Early retirement benefits	846	866
Medical expenses and accident/disability insurance	320	326
Job-related awards	22	24

- By geographical area

	Eurozone	United States	Other*	TOTAL
Retirement benefits	535	-	1	536
Supplemental retirement benefits	163	63	7	233
Early retirement benefits	824	-	21	846
Medical expenses and accident/disability insurance	276	44	-	320
Job-related awards	22	-	-	22
TOTAL	**1,821**	**107**	**29**	**1,957**

** United Kingdom, Niger, Japan.*

The information below concerns plans reviewed by the group's actuaries.

CATS plans are included in early retirement plans.

The main actuarial assumptions used in determining the group's obligations are as follows:

	2013	2012
Inflation		
• Eurozone	1.8%	1.9%
• Dollar zone	3%	3%
Discount rate		
• Eurozone	3.25%	3.25%
• Dollar zone	4.5%	3.5%
Expected average return on plan assets		
• Eurozone	3.25*	4.75%*
• Dollar zone	3.5%*	4.5%*
Pension benefit increases		
• Eurozone	1.5%-1.9%	1.5%-1.9%
• Dollar zone	0%	0%
Annual social security ceiling increase (before inflation)	+0.5%	+0.5%

** : In accordance with the provisions of amended IAS 19, the concept of expected asset yields disappears in favor of "interest income on assets", which is calculated based on the discount rate at the beginning of the year.*

- Mortality tables

	2013	2012
France		
• Annuities	Mortality tables	Mortality tables
• Lump sum payments	INSEE 2000-2002 Men/Women	INSEE 2000-2002 Men/Women
Germany	Heubeck 2005	Heubeck 2005
United States	RP 2000 with updated projections	RP-2000

- Retirement age in France

	2013	2012
Management personnel	64	64
Non-management	62	62

- Average attrition is assumed to occur among employees in each company at a declining rate reflecting age brackets. The rates between brackets indicate [average turnover at career start - average turnover at career end].

	Management personnel		Non-management personnel	
	2013	2012	2013	2012
France	[1.6% - 0%]	[1.6% - 0%]	[0.7% - 0%]	[0.7% - 0%]
Germany	[7% - 0%]	[7% - 0%]	[7% - 0%]	[7% - 0%]
United States	6%	6%	6%	6%

- Assumed rates of average salary increases, including inflation. The rates between brackets indicate [average increases at career start - average increases at career end].

	Management personnel		Non-management personnel	
	2013	2012	2013	2012
France	[4% - 2.8%]	[4.1% - 2.9%]	[3.5% - 2.9%]	[3.6% - 3%]
Germany	3.4%	3.5%	3.4%	3.5%
United States	3.75%	3.75%	3.75%	3.75%

- Assumed rate of increase in medical expenses in the United States

Year	
2014	7.3%
2015	7.1%
2016	6.8%
2017	6.6%
2018	6.4%
2019	6.2%
2020+	6.0%

- Contributions / benefits anticipated for defined benefit plans in 2014:
  - The costs to be borne by the company for baseline contributions/ benefits are estimated at 93 million euros,
  - Estimated contributions to qualified US retirement plans will be 14 million euros. These contributions were reduced due to the MAP 21 law (July 2012), which relaxes funding requirements in the United States.

FINANCIAL ASSETS

Europe

Type of asset	2013	2012
Cash	0%	7%
Bonds	83%	75%
Shares	16%	17%
Real estate	1%	1%

United States

Type of asset	2013	2012
Cash	4%	3%
Bonds	35%	40%
Shares	61%	57%
Real estate	0%	0%

Effective return on plan assets	2013	2012
Europe	2.17%	10.27%
United States	15.92%	11.83%

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 DEFINED BENEFIT OBLIGATIONS

December 31, 2013	Retirement bonuses	Supplemental retirement benefits	Early retirement benefits	Medical benefits	Job-related awards	Total	2012
Defined benefit obligation	560	948	1,045	320	22	2,895	3,002
Fair value of plan assets	(24)	(715)	(200)	-	-	(938)	(976)
NET CARRYING AMOUNT	**536**	**233**	**846**	**320**	**22**	**1,957**	**2,026**

Sensitivity of the actuarial value of the obligation to changes in discount rates

An across-the-board decrease in the discount rate of 0.25% would increase the defined benefit obligation by 2.7%.

Sensitivity of the actuarial value of the obligation to changes in medical inflation rates in the United States

In the United States, the sensitivity of the actuarial value of the obligation to changes in medical inflation rates is as follows: a 1% change (up or down) in the medical inflation rate causes a change in the obligation of approximately 13% in the same direction.

TOTAL EXPENSE FOR THE YEAR

2013 *(in millions of euros)*	Retirement bonuses	Supplemental retirement benefits	Early retirement benefits	Medical benefits	Job-related awards	Total	2012
Current service cost	27	23	21	7	1	80	66
Interest cost	18	33	35	11	1	97	124
Past service costs (including plan changes and reductions)	5	(5)	3	4	-	7	(344)
Interest income on assets	(1)	(23)	(7)	-	-	(31)	(43)
Recognition of actuarial gains and losses generated during the year on other long-term plans (long service medals, CATS, etc.)	-	-	2	-	(2)	(1)	9
Liquidation							(9)
TOTAL EXPENSE WITH INCOME STATEMENT IMPACT	**49**	**28**	**54**	**22**	**-**	**153**	**(197)**
Recognition of actuarial gains and losses generated during the year on post-employment plans							
Actuarial gains and losses on earmarked assets	1	(20)	11	-	-	(8)	(58)
Experience differences	(2)	7	(32)	3	-	(24)	(30)
Demographic assumption differences	-	4	-	(10)	-	(6)	43
Financial assumption differences (adjustment of discount rate)	(7)	(28)	(9)	(10)	-	(54)	369
TOTAL EXPENSE WITH IMPACT ON OTHER COMPREHENSIVE INCOME ITEMS	**(8)**	**(37)**	**(30)**	**(17)**	**-**	**(92)**	**324**
TOTAL EXPENSE FOR THE YEAR	**41**	**(9)**	**24**	**5**	**-**	**62**	**127**

CHANGE IN THE DEFINED BENEFIT OBLIGATION

December 31, 2013 *(in millions of euros)*	Retirement bonuses	Supplemental retirement benefits	Early retirement benefits	Medical benefits	Job-related awards	Total	2012
Defined benefit obligation at December 31, 2012	**562**	**964**	**1,127**	**326**	**24**	**3,002**	**2,929**
Current service cost	27	23	21	7	1	80	66
Cost escalation	18	33	35	11	1	97	124
Employee contributions	-	4	-	-	-	4	4
Past service costs (including plan changes and reductions)	5	(5)	3	4	-	7	(344)
Mergers, acquisitions, transfers	(1)	-	-	-	-	(1)	(1)
Change in consolidation scope	-				-	-	4
Plan transfer	-	-	(4)	-	-	(4)	-
Disposals / Liquidation / Plan reductions							(9)
Defined benefit obligation of operations held for sale	(12)					(12)	(2)
Benefits paid during the year	(31)	(41)	(98)	(8)	(2)	(180)	(152)
Risk premiums							-
Actuarial gains and losses	(9)	(17)	(40)	(17)	(2)	(84)	391
Currency translations	-	(12)	-	(2)	-	(14)	(7)
DEFINED BENEFIT OBLIGATION AT DECEMBER 31, 2013	**560**	**948**	**1,045**	**320**	**22**	**2,895**	**3,002**

CHANGES IN EARMARKED ASSETS

(in millions of euros)	2013	2012
Changes in asset values		
Opening balance	976	930
Interest income on assets	31	43
Actuarial differences	8	58
Contributions / Benefits paid by the employer	107	98
Employee contributions	4	4
Benefits paid and not reimbursed	(94)	(71)
Benefits paid by earmarked assets	(86)	(81)
Administrative expenses funded by assets	-	-
Effect of mergers / acquisitions / transfers between entities	-	(1)
Effect of mergers / acquisitions / transfers between pension plans	1	-
Assets of discontinued operations		-
Change in consolidation scope		-
Currency translations	(9)	(3)
NET CARRYING VALUE AT DECEMBER 31	**938**	**976**

CHANGE IN THE PROVISION ESTIMATED BY THE GROUP'S ACTUARIES

(in millions of euros)	2013	2012
Change in the provision		
Restated opening balance	2,026	1,999
Recognition of off balance sheet items	-	-
Currency translation adjustment	(5)	(4)
Change in consolidated group	(1)	4*
Discontinued operations	(12)	(2)
Reclassification of provisions/assets	(5)	-
Total expense	62	127
Contributions collected/benefits paid	(107)	(98)
NET CARRYING VALUE AT DECEMBER 31	**1,957**	**2,026**

* *This 4 million euros corresponds to the integration of plans that had been valued locally in 2011 into the consolidation scope of the group's actuaries.*

NOTE 24. OTHER PROVISIONS

(in millions of euros)	January 1, 2013	Charge*	Reversal (when risk has materialized)	Reversal (when risk has not materialized)	Liabilities of discontinued operations	Changes in consolidation scope, currency translation adjustments and other	December 31, 2013
Restoration of mining sites and mill decommissioning	162	25	(12)	(4)	-	26	197
Provision for site clean-up and reclamation of other industrial sites	1	-	-	-	-	-	2
Other non-current provisions	**163**	**25**	**(12)**	**(4)**	**-**	**26**	**199**
Restructuring and layoff plans	55	58	(18)	(2)	(2)	(1)	91
Provisions for ongoing cleanup	299	11	(87)	(1)	-	(2)	221
Provisions for customer warranties	103	20	(18)	(28)	4	(1)	79
Provisions for losses at completion	960	655	(538)	(2)	(22)	(4)	1,050
Accrued costs	789	182	(79)	(11)	-	(9)	872
Other	356	206	(71)	(36)	(25)	(19)	411
Current provisions	**2,562**	**1,132**	**(810)**	**(79)**	**(45)**	**(36)**	**2,724**
TOTAL PROVISIONS	**2,725**	**1,158**	**(822)**	**(83)**	**(45)**	**(10)**	**2,923**

** : including 44 million euros in discounting reversals in 2013.*

At December 31, 2013, provisions for cleanup include 140 million euros for "PRISME" operations preparatory to the final shutdown of Eurodif's Georges Besse I plant (versus 220 million euros at December 31, 2012).

At December 31, 2012 and December 31, 2013, other provisions include provisions for contract risks, disputes, tax risks, fines and penalties, and provisions for expenses related to work preparatory to the shutdown of certain nuclear facilities.

PROVISIONS FOR LOSSES AT COMPLETION

In 2013, the Reactors & Services Business Group recognized provisions for a total of close to 655 million euros for several reactor construction or modernization projects, including:

- 425 million euros for the Olkiluoto 3 EPR™ reactor in Finland;
- 141 million euros in respect of a reactor upgrade project in Europe.

Contract to build the Olkiluoto 3 EPR™ reactor

For several years, the construction of the Olkiluoto 3 EPR™ reactor (the "Project") has given rise to constant and significant disagreements with TVO (the "Customer"), mostly because of the manner in which the latter applies the contract and does not comply with its obligations. Since the beginning of the Project, this situation has been a very important disruptive factor, in particular as the Project reaches the final stages of reactor construction, testing and commissioning, which require close cooperation with the Customer and the latter's gradual takeover of the plant.

On a legal level, the AREVA-Siemens Consortium (the "Consortium") continues to exercise its rights in the framework of arbitration proceedings initiated in 2008.

- A new claim for damages in the amount of 800 million euros for the January 1, 2008 to June 30, 2011 period was filed on October 29, 2013 based on a method used to estimate in detail the disruptions and delays caused by the Customer in the performance of the Project. This claim is in addition to a previous claim in the amount of 1.9 billion euros for the period through year-end 2007, bringing the total claim to 2.7 billion euros. In addition, a third claim is under preparation for the period after June 30, 2011. No income has been recognized in respect of these claims.
- Similarly, no provision was established for the counterclaim filed by TVO with the Consortium on September 28, 2012 for an amount of approximately 1.8 billion euros. In fact, the Consortium and its counsel still consider the allegations made in the counterclaim to be unfounded.
- The arbitral tribunal could issue its first, partial decision in 2015.

On the operating level, the Consortium focused on the following aspects of the Project in 2013:

- updating the detailed instrumentation and control (I&C) design, in response to incessant requests for revisions from the Customer, with the goal of starting platform tests of the instrumentation and control system in 2014, an activity which is currently on the Project's critical path;
- on-site electromechanical installation and finishing work, including the installation of piping systems and related hydraulic testing. At year-end 2013, 94% of the welding work and 71% of the hydraulic tests had been completed. Finishing works progressed and are now 80% complete, allowing for pressurized testing of the reactor building containment, scheduled for the first quarter of 2014;
- testing and startup activities continued as regards fuel handling equipment and electric power distribution.

At the end of 2013, the Project entered a phase requiring close cooperation between TVO in its capacity as operator and the Consortium, as called for in the contract, for all joint testing and commissioning activities. In addition, despite convergence in certain areas, the Consortium did not receive a binding commitment from the Customer for a Project finalization schedule. In these two areas, AREVA regrets TVO's insufficient will to cooperate and its lack of commitment to tackle the Project's final phases. In 2014, the Consortium's work will focus on the activities comprising the critical path of the Project.

As a result, on an accounting level, AREVA no longer has the ability to assess with sufficient reliability the cost to Project completion for certain cost categories, as this remains highly dependent on the degree of cooperation by the Customer and the latter's compliance with its contractual obligations, in addition to the validation of the detailed instrumentation and control architecture by the Finnish safety authority, STUK. These so-called "non definable" cost categories relate to following activities:

- the testing and operational readiness phases of the reactor (all work required for handover of the reactor), which are dependent on STUK's validation of the detailed instrumentation and control system architecture;
- the engineering work needed to secure this validation.

Except for costs identified above, AREVA is still able to assess the amount of the costs to be incurred to complete the reactor's construction. These types of costs are called "definable". At December 31, 2013, 83% of the total cost at completion of the Project consists of costs already incurred, 10% of future "definable" costs and 7% of future "non-definable" costs.

With this background, and in accordance with the provisions of paragraph 32 of IAS 11, AREVA stopped recognizing in the second half of 2013 contract revenue and costs based on percentage of completion and now uses the following recognition methods:

- at December 2013, revenue recognized for the contract was stabilized at the amount achieved at June 30, 2013. Additional revenue will be recognized only when a contract billing threshold not contested by the Customer is reached;
- contract costs are expensed as incurred; only costs in the "definable" categories that effectively contribute to the reactor's physical completion lead to utilization of the provision for losses to completion of the contract;
- costs at completion are updated for the half-year and year-end closings. Consequently, 275 million euros were added to the provision for losses at completion at December 31, 2013 (in addition to the 150 million euros recognized at June 30, 2013). In addition, in application of the new accounting measures described in the previous paragraph, 140 million euros were expensed directly in the second half of the year as not contributing to the completion of the project due to their insufficient efficiency, attributable to TVO, in the completion of residual construction (in particular finishing works) or in relation to the continuation of engineering activities required to validate the detailed architecture of the instrumentation and control system. The losses at completion recognized at December 31, 2013 now stand at 3.9 billion euros.

AREVA will revert to the percentage of completion method for the OL3 contract (paragraph 22 of IAS 11) when the group is again able to assess contract costs at completion with sufficient reliability. This will require a clear commitment from TVO on its involvement as the future operator of the reactor during the power plant's testing and commissioning phases.

Contract to modernize a nuclear power plant

AREVA is encountering difficulties in the performance of a contract to extend the operating period of a nuclear power plant and upgrade its capacity.

A provision in the total amount of 118 million euros had already been recognized for losses at completion for this project in 2009 and 2011.

An additional provision of 165 million euros for losses at completion had been recognized at December 31, 2012 in view of the technical and scheduling challenges and changes in the scope of the contract at the customer's initiative.

An additional provision of 141 million euros for losses at completion had been recognized at December 31, 2013 in view of the changes in technical requirements and contract scope. An amendment to the contract was signed in the second half of 2013 which clarifies the technical scope with the Customer and defines a new schedule for Project completion, with activities to extend the operating period to be completed in the first half of 2014.

Contracts for the design and construction of an experimental reactor

AREVA is encountering difficulties in the performance of contracts for the design and construction of components of an experimental reactor.

These difficulties result from changes requested by the customer, from certain technical specifications, and from the default of certain suppliers. A provision had already been recognized for losses at completion for these contracts in 2011 and 2012. At December 31, 2013, the unused portion of these provisions represented 80% of their value at year-end 2012.

In 2013, an obvious shift in schedule transpired because of these difficulties, leading to an increase in the project's costs at completion, which may range from 120 to 200 million euros, depending on the realization of certain contingencies, and a major imbalance in the economics of these contracts. Consequently, AREVA initiated discussions with the customer to find a legal and financial solution to continue the project, including the necessary expansion of the scope of work, without having to bear further significant financial losses beyond those already covered by provisions.

The outcome of these discussions was not known as of year-end closing 2013. If an agreement is not reached quickly on the conditions for ongoing performance of these contracts, AREVA will take the necessary measures to avoid an increase in the existing provisions while maintaining the project in a safe condition until performance resumes after clarification of the terms. In this context, no provision for losses at completion was recognized on these contracts for 2013.

PROVISIONS FOR CONTRACT COMPLETION

Provisions for contract completion totaled 872 million euros at December 31, 2013. These expenses represent ancillary tasks yet to be performed, such as waste treatment and storage.

NOTE 25. BORROWINGS

(in millions of euros)	Long-term borrowings	Current debts	December 31, 2013	December 31, 2012
Put options of minority shareholders			-	17
Interest-bearing advances from customers	91	-	91	88
Borrowings from lending institutions and commercial paper	445	302	747	542
Bond issues	5,111	63	5,174	5,048
Short-term bank facilities and non-trade current accounts (credit balances)		87	87	60
Financial derivatives		33	33	49
Miscellaneous debt *	12	31	43	46
TOTAL BORROWINGS	**5,659**	**517**	**6,176**	**5,850**
* *Including leasing obligations*	*10*	*8*	*18*	*23*

The heading "borrowings from lending institutions and commercial paper" includes commercial paper outstanding of 206 million euros at December 31, 2013, compared with 70 million euros at December 31, 2012.

At the end of 2013 and at the end of 2012, the balance in this account consists primarily of borrowings in the amount of 400 million euros maturing in 2015 and 2016, with 200 million euros contracted in 2008 and 200 million euros contracted in 2009 from the European Investment Bank.

Borrowings by maturity, currency and type of interest rate:

(in millions of euros)	December 31, 2013
Maturing in one year or less	517
Maturity of 1-2 years	221
Maturity of 2-3 years	1,222
Maturity of 3-4 years	800
Maturity of 4-5 years	55
Maturing of more than 5 years	3,361
TOTAL	**6,176**

(in millions of euros)	December 31, 2013
Euro	6,014
United States dollar	38
Yen	55
Other	68
TOTAL	**6,176**

(in millions of euros)	December 31, 2013
Fixed rate borrowings	4,192
Floating rate borrowings	1,899
TOTAL	**6,091**
Other non-interest-bearing debt	51
Financial derivatives	33
TOTAL	**6,176**

The maturities of the group's financial assets and borrowings at December 31, 2013 are presented in Note 31.

PAYMENT SCHEDULE AT DECEMBER 31, 2013

(in millions of euros)	Balance sheet value	Total payment flows	Less than one year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	More than 5 years
Interest-bearing advances from customers	91	91						91
Borrowings from lending institutions and commercial paper	747	747	302	212	213	7	-	12
Bond issues	5,174	5,174	63	-	1,009	792	55	3,256
Short-term bank facilities and non-trade current accounts (credit balances)	87	87	87					
Miscellaneous debt	43	43	31	4	3	1	-	3
Future interest on financial liabilities		1,512	289	213	210	172	135	492
Total borrowings (excluding derivatives)	**6,143**	**7,655**	**773**	**430**	**1,436**	**972**	**190**	**3,853**
Derivatives – assets	(87)							
Derivatives – liabilities	33							
Total net derivatives	**(54)**	**(54)**	**(12)**	**(41)**	**(7)**	**1**	**6**	**-**
TOTAL	**6,089**	**7,601**	**761**	**389**	**1,429**	**973**	**196**	**3,853**

PAYMENT SCHEDULE AT DECEMBER 31, 2012

(in millions of euros)	Balance sheet value	Total payment flows	Less than one 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	17	17			17			
Interest-bearing advances	88	88						88
Borrowings from lending institutions and commercial paper	542	542	98	13	205	217	7	1
Bond issues	5,048	5,048	62			1,323	893	2,770
Short-term bank facilities and non-trade current accounts (credit balances)	60	60	60					
Miscellaneous debt	46	46	17	19	4	2	1	4
Future interest on financial liabilities		1,594	211	213	211	208	158	593
Total borrowings (excluding derivatives)	**5,801**	**7,395**	**448**	**245**	**438**	**1,750**	**1,059**	**3,456**
Derivatives – assets	(35)							
Derivatives – liabilities	49							
Total net derivatives	**15**	**15**		**14**	**(1)**	**2**		
TOTAL	**5,815**	**7,410**	**448**	**258**	**437**	**1,752**	**1,059**	**3,456**

BOND ISSUES AFTER HEDGING

Issue date	Net carrying amount *(in millions of euros)*	Currency	Nominal amount *(in millions of currency units)*	Nominal rate	Due date
September 23, 2009	1,009	EUR	971	3.875%	2016
September 23, 2009	1,042	EUR	1,000	4.875%	2024
November 6, 2009	773	EUR	750	4.375%	2019
September 22, 2010	743	EUR	750	3.5%	2021
October 5, 2011	396	EUR	398	4.625%	2017
March 14, 2012	396	EUR	400	4.625%	2017
April 4, 2012	198	EUR	200	TEC10 + 2.125%	2022
September 4, 2013	500	EUR	500	3.25%	2020
September 20, 2013	55	JPY	8,000	1.156%	2018
TOTAL	**5,111**				

The group raised 555 million euros with a bond issue in 2013, which followed the bond issues completed in 2009 to 2012. A total of 5.111 billion euros was outstanding at December 31, 2013.

Of this amount, 1.300 billion euros were hedged for a variable rate in euros with rate swaps.

In 2013, the group bought back some of the bonds maturing in 2016 and 2017. These buy-back operations fall under the strategic debt management objective of the Action 2016 Strategic Action Plan and mark a transition from the financing phase of the group's capital spending plan to a re-financing phase. They strengthen the group's financing mechanism by rebalancing the maturity dates of outstanding bond debt.

GUARANTEES AND COVENANTS

With the exception of the loan to Somaïr in the amount of 28 billion CFA (equivalent to 32 million euros), for which assets have been pledged, no assets have been pledged to secure borrowings or debt (except for assets financed under leasing arrangements).

COVENANTS

There is no significant financial commitment with financial covenants at December 31, 2013.

NOTE 26. ADVANCES AND PREPAYMENTS RECEIVED

(in millions of euros)	December 31, 2013	December 31, 2012
Advances and prepayments on orders	3,454	3,069
Customer advances and prepayments invested in non-current assets	1,091	934
TOTAL	**4,545**	**4,004**

This account includes 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 and uranium, used fuel treatment and recycling services, and reactors. Interest-bearing advances are recognized in borrowings.

Only advances and prepayments effectively collected are recognized as a liability.

Trade advances and prepayments on orders correspond to amounts received from customers under contracts that do not finance significant 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 include 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

(in millions of euros)	December 31, 2013	December 31, 2012
Tax and social security liabilities, excluding corporate income tax	1,352	1,345
Financial instruments	95	145
Other operating liabilities	1,136	1,090
TOTAL	**2,582**	**2,581**

Financial instruments include the fair value of derivatives hedging market transactions and the fair value of the firm commitments hedged.

At December 31, 2013, operating liabilities by maturity are as follows:

- less than 1 year: 2.164 billion euros
- 1-5 years: 353 million euros
- more than 5 years: 66 million euros

NON-OPERATING LIABILITIES

(in millions of euros)	December 31, 2013	December 31, 2012
TOTAL	**70**	**87**

Other non-operating liabilities include mainly dividends payable to minority shareholders of certain subsidiaries.

NOTE 28. CASH FROM OPERATING ACTIVITIES

CHANGE IN WORKING CAPITAL REQUIREMENT

(in millions of euros)	2013	2012
Change in inventories and work-in-process	123	-
Change in accounts receivable and other receivables	(80)	245
Change in accounts payable and other liabilities	197	266
Change in trade advances and prepayments received	277	(213)
Change in advances and prepayments made	14	15
Change in Forex hedge of WCR	(14)	(4)
TOTAL	**518**	**310**

NOTE 29. RELATED PARTY TRANSACTIONS

Transactions between the parent company and its subsidiaries, which are related parties, were eliminated on consolidation and are not presented in this note.

Transactions between the group and its principal shareholder, the CEA, are as follows:

	CEA	
(in millions of euros)	December 31, 2013	December 31, 2012
Sales	580	555
Purchasing	101	117
Loans to/receivables from related parties	901	932
Borrowings from related parties	174	166
Guarantees given to related parties	-	-
Guarantees received from related parties	-	-

There were no material transactions between the group and associates.

RELATIONS WITH GOVERNMENT-OWNED COMPANIES

The group has business relationships with government-owned companies, in particular EDF and the CEA (Commissariat à l'énergie atomique et aux énergies alternatives). 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. Transactions with the CEA concern dismantling work on the CEA's nuclear facilities, engineering services for the design, construction and operating support of the CEA's research reactors, and the sale of studies and research work. Conversely, AREVA pays royalties to the CEA for the use of the CEA's used nuclear fuel treatment processes.

COMPENSATION PAID TO KEY EXECUTIVES

(in thousands of euros)	2013	2012
Short-term benefits	3,762	3,317
Termination benefits	-	2,574
Post-employment benefits	-	-
Other long-term benefits	-	-
TOTAL	**3,762**	**5,891**

Key executives include members of the Executive Board and the Supervisory Board. Short-term benefits and termination benefits include compensation paid during the year by the group and by the CEA (565 thousand euros in 2013, compared with 549 thousand euros in 2012).

NOTE 30. GREENHOUSE GAS EMISSION ALLOWANCES

(metric tons of CO_2)	2013	2012
Allowances received by AREVA	91,978	91,978
Actual emissions	55,669	40,330
Excess of allowances over emissions	36,309	51,648
Allowances sold on the Powernext market	-	76,720

NOTE 31. MANAGEMENT OF MARKET RISKS

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 Financial Operations and Treasury Management Department (DOFT) makes transactions on financial markets and acts as a central desk that provides services and manages the group's financial exposure. The organization of this department ensures the separation of functions and the necessary human, technical, and information system resources. Transactions handled by DOFT 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, DOFT prepares a monthly report presenting the group's positions and the performance of its financial transactions. The report is sent to the senior management and to the Finance, Legal and Strategy 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 drop in value 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.

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 foreign exchange swaps or cross 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.

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.

The group's policy, which was approved by the Executive Committee, is thus to systematically hedge foreign exchange risk generated by sales transactions; it recommends hedging potential risks during the proposal phase, to the extent possible, to minimize the impact of exchange rate fluctuations on consolidated net income.

The AREVA group acquires derivatives (principally currency futures) or special 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 made 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 Financial Operations and Treasury Management Department centralizes the exposure of all entities and hedges the net position directly with banking counterparties. A system of strict limits, particularly concerning results, marked to market, and foreign exchange positions that may be taken by the trading desk, is monitored by specialized teams that are also charged with valuation of the transactions. In addition, analyses of sensitivity to changes in exchange rates are periodically performed.

At December 31, 2013, derivatives used by the group to manage foreign exchange risk were as follows:

(Notional amounts by maturity date at December 31, 2013)	2014	2015	2016	2017	2018	> 5 years	Total	Market value
Forward exchange contracts	984	222	81	51			1,338	49
Foreign exchange swaps	1,610	283	254	104			2,250	16
Currency options	129	29	28	15			200	2
Cross-currency swaps		565	148		61	-	774	61
TOTAL	**2,722**	**1,098**	**511**	**169**	**61**	**-**	**4,562**	**128**

Derivative financial instruments used to hedge foreign currency exposure were as follows at December 31, 2013 and December 31, 2012:

	2013		2012	
(in millions of euros)	Notional amounts at par value	Market value	Notional amounts at par value	Market value
Derivatives related to fair value hedging strategies (FVH)	**1,819**	**42**	**3,750**	**74**
Forward exchange contracts	653	38	727	53
Foreign exchange swaps	1,167	4	2,866	15
Cross-currency swaps			157	7
Derivatives related to net investment hedging strategies (NIH)	**0**	**0**	**0**	**0**
Derivatives related to cash flow hedging strategies (CFH)	**1,550**	**24**	**1,842**	**20**
Forward exchange contracts	626	10	919	18
Foreign exchange swaps	767	12	652	2
Currency options	158	2	271	0
Derivatives not eligible for hedge accounting	**1,192**	**62**	**1,025**	**(4)**
Forward exchange contracts	59	1	18	0
Foreign exchange swaps	317	1	940	(4)
Currency options	42	(0)	67	0
Cross-currency swaps	774	61		
TOTAL	**4,562**	**128**	**6,618**	**90**

A significant share of undocumented financial instruments in 2013 and 2012 relates to derivatives used to hedge foreign exchange risk on short-term financial assets and liabilities, which constitutes a natural hedge. Financial instruments reported as "Not formally documented" in accordance with IAS 39 also include derivative transactions to hedge requests for proposals in foreign currencies.

Based on market data at the date of closing, the impact on the group's consolidated equity at year-end 2013 of currency derivative instruments qualified as cash flow hedges would be +32 million euros in the case of a 5% instantaneous increase in exchange rates against the euro, or - 35 million euros in the case of a 5% decrease in exchange rates. Using these same assumptions, the impacts were +43 million euros and -42 million euros at year-end 2012.

In view of the group's policy, which is to hedge all currency exposures:

- undocumented derivatives are used to hedge assets and liabilities in currencies for identical amounts;
- unhedged assets and liabilities are immaterial.

The impact on the group's financial statements of an instant variation of + 5% or -5% of exchange rates versus the euro is relatively neutral.

COMMODITY RISK

The group has little exposure to commodities. In 2013, the nominal value of the group's commodity hedges (fuel forwards contracts) was less than 1 million euros.

INTEREST RATE RISK MANAGEMENT

Rate risk management is entirely centralized in the Financial Operations and Treasury Management Department, 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 derivatives, based on market conditions, to allocate its external borrowings and investments between fixed rates and floating rates, with the goal being primarily to reduce its financing costs while optimizing the management of its cash surpluses.

At December 31, 2013, 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.

Inflation rate swaps in US dollars were set up to cover a specific and isolated commercial risk on behalf of the Mining Business Group.

At December 31, 2013, the following financial instruments were used to hedge interest rate exposure:

		Notional amounts by maturity date at December 31, 2013						Market value
(in millions of euros)	**Total**	**2014**	**2015**	**2016**	**2017**	**2018**	**> 5 years**	
Interest rate swaps – variable lender – EUR								
Fixed borrower – EUR	400		200	200				(7)
Interest rate swaps – variable lender – EUR								
EUR variable borrower	100						100	1
USD variable borrower	181		181					0
CAD variable borrower	532		384	148				(2)
Interest rate swaps – fixed lender – EUR								
EUR variable borrower	1,505	205		350			950	43
Interest rate swaps – JPY fixed lender								
EUR variable borrower	61					61		(1)
Inflation rate swaps – variable lender – USD								
USD fixed lender	127						127	(21)
GRAND TOTAL	**2,906**	**205**	**765**	**698**	**0**	**61**	**1,177**	**14**

At December 31, 2013, the group used the following derivatives to hedge interest rate exposure:

		Market value of contracts[1]			
Rate instruments (in millions of euros)	**Nominal amount of contract**	**Cash flow hedges (CFH)**	**Fair value hedges (FVH)**	**Not formally documented (Trading)**	**Total**
Interest rate swaps – variable lender – EUR					
Fixed borrower – EUR	400	(7)			(7)
Interest rate swaps – variable lender – EUR					
EUR variable borrower	100			1	1
USD variable borrower	181			(0)	(0)
CAD variable borrower	532			(2)	(2)
Interest rate swaps – fixed lender – EUR					
EUR variable borrower	1,505		43		43
Interest rate swaps – JPY fixed lender					
EUR variable borrower	61			(1)	(1)
Inflation rate swaps – variable lender – USD					
USD fixed lender	127			(21)	(21)
TOTAL	**2,906**	**(7)**	**43**	**(23)**	**14**

(1) Gain / (loss).

The following tables summarize the group's net rate risk exposure, before and after rate management transactions, at the end of 2013 and 2012.

Maturities of the group's financial assets and borrowings at December 31, 2013

(in millions of euros)	**Less than one 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**
Financial assets	**1,849**						**1,849**
including fixed rate assets							0
including floating rate assets	1,827						1,827
including non-interest-bearing assets	23						23
Borrowings	**(517)**	**(217)**	**(1,225)**	**(800)**	**(55)**	**(3,361)**	**(6,176)**
including fixed rate borrowings	(318)	(17)	(1,025)	(800)		(3,150)	(5,311)
including floating rate borrowings	(114)	(200)	(200)		(55)	(211)	(779)
including non-interest-bearing borrowings	(85)						(85)
Net exposure before hedging	**1,332**	**(217)**	**(1,225)**	**(800)**	**(55)**	**(3,361)**	**(4,326)**
share exposed to fixed rates	(318)	(17)	(1,025)	(800)		(3,150)	(5,311)
share exposed to floating rates	1,713	(200)	(200)		(55)	(211)	1,047
non-interest-bearing share	(63)						(63)
Off-balance sheet hedging							
on borrowings: fixed rate swaps	206	(200)	162			952	1,120
on borrowings: floating rate swaps	(206)	200	(162)			(952)	(1,120)
Net exposure after hedging	**1,332**	**(217)**	**(1,225)**	**(800)**	**(55)**	**(3,361)**	**(4,326)**
share exposed to fixed rates	(112)	(217)	(863)	(800)		(2,198)	(4,191)
share exposed to floating rates	1,507		(362)		(55)	(1,162)	(73)
non-interest-bearing share	(63)						(63)

Maturities of the group's financial assets and borrowings at December 31, 2012

(in millions of euros)	Less than one 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
Financial assets	**1,831**	**0**	**0**	**0**	**0**	**71**	**1,902**
including fixed rate assets	175	0	0	0	0	0	175
including floating rate assets	1,569	0	0	0	0	71	1,791
including non-interest-bearing assets	86	0	0	0	0	0	86
Borrowings	**(286)**	**(32)**	**(226)**	**(1,542)**	**(901)**	**(2,863)**	**(5,850)**
including fixed rate borrowings	(113)	(32)	(17)	(1,265)	(908)	(2,593)	(4,928)
including floating rate borrowings	(67)	0	(200)	(207)	0	(200)	(674)
including non-interest-bearing borrowings	(106)	0	(10)	(70)	7	(70)	(247)
Net exposure before hedging	**1,546**	**(32)**	**(226)**	**(1,542)**	**(901)**	**(2,792)**	**(3,948)**
share exposed to fixed rates	62	(32)	(17)	(1,265)	(908)	(2,593)	(4,752)
share exposed to floating rates	1,503	0	(200)	(207)	0	(129)	966
non-interest-bearing share	(19)	0	(10)	(70)	7	(70)	(161)
Off-balance sheet hedging	**0**	**0**	**0**	**0**	**0**	**0**	**0**
on borrowings: fixed rate swaps	70	0	(200)	600	0	150	620
on borrowings: floating rate swaps	(70)	0	200	(600)	0	(150)	(620)
Net exposure after hedging	**1,546**	**(32)**	**(226)**	**(1,542)**	**(901)**	**(2,792)**	**(3,948)**
share exposed to fixed rates	132	(32)	(217)	(665)	(908)	(2,443)	(4,133)
share exposed to floating rates	1,433	0	0	(807)	0	(279)	346
non-interest-bearing share	(19)	0	(10)	(70)	7	(70)	(161)

Based on the group's exposure at December 31, 2013, a 1% increase in interest rates would have an impact on borrowing costs on a full-year basis estimated at +15 million euros and, therefore, on the group's consolidated income before tax. The impact of a similar increase was +4 million euros at year-end 2012.

RISK FROM EQUITY INVESTMENTS

The group holds of publicly traded shares in a significant amount and is exposed to changes in the financial markets.

Publicly traded shares held by the AREVA group are exposed to the volatility inherent in equity markets.

These holdings are of three types:

- investments in associates (see Note 14, *Investments in associates*);
- equities held in the portfolio of financial assets earmarked for end-of-lifecycle operations (see Note 13, *End-of-lifecycle operations*); and
- other long-term investments: these are interests in publicly traded companies, most notably Alcatel and Japan Steel Works (see Note 15. *Other non-current financial assets*).

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-lifecycle 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-lifecycle operations*). Exposure to European equities is managed by various management companies, either through a mandate given to an investment firm or through several dedicated mutual funds, with management guidelines limiting the tracking error.

The sensitivity of the value of equity investments to variations in the equity markets is as follows:

Upper scenario (10% increase in the value of equity investments)

December 31, 2013 *(in millions of euros)*	Available-for-sale securities	Securities recognized at fair value through profit or loss
Balance sheet position	**2,541**	**-**
Income statement impact	-	-
Impact on shareholders' equity	254	-

Lower scenario (10% decrease in the value of equity investments)

December 31, 2013 *(in millions of euros)*	Available-for-sale securities	Securities recognized at fair value through profit or loss
Balance sheet position	**2,541**	**-**
Income statement impact	(3)	-
Impact on shareholders' equity	(251)	

Upper scenario (10% increase in the value of equity investments)

December 31, 2012 *(in millions of euros)*	Available-for-sale securities	Securities recognized at fair value through profit or loss
Balance sheet position	**2,390**	**-**
Income statement impact	-	-
Impact on shareholders' equity	239	-

Lower scenario (10% decrease in the value of equity investments)

December 31, 2012 *(in millions of euros)*	Available-for-sale securities	Securities recognized at fair value through profit or loss
Balance sheet position	**2,390**	**-**
Income statement impact	(3)	-
Impact on shareholders' equity	(236)	

COUNTERPARTY RISK

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. 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 cash management department deals only with diversified, top quality counterparties based on their ratings in the Standard & Poor's and Moody's rating systems, with a minimum rating of Investment Grade. 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 group's Chief Financial Officer. The limits are verified in a specific report produced by the internal control team of the Treasury Management Department. During periods of significant financial instability that may involve an increased risk of bank default, which may be underestimated by ratings agencies, the group monitors advanced indicators as necessary, such as the value of the credit default swaps (CDS) of the eligible counterparties, to determine if limits should be adjusted.

When conditions warrant (rising counterparty risk, longer term transactions, etc.), market transactions are managed by margin calls that reduce the group's counterparty risk to a predetermined threshold: the Credit Support Annex for trades documented under an ISDA master agreement, or the Collateral Annex for trades documented under a French Banking Federation (FBF) master agreement.

BALANCE SHEET NETTING OF THE FAIR VALUE OF DERIVATIVES

For the year ended December 31, 2013		Effect of clearing agreements		
(in millions of euros)	Gross carrying amount	Financial instruments	Fair value of financial collateral	Net exposure
Assets	247	(74)	(30)	143
Shareholders' equity and liabilities	(93)	74		(19)
TOTAL	**154**	**0**	**(30)**	**124**

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.

In 2013, the group:

- bought back a portion of its bond debt (275 million euros maturing on September 23, 2016 and 100 million euros maturing on October 5, 2017);
- raised 500 million euros through a seven-year bond issue maturing on September 4, 2020, at a fixed rate of 3.25%; and
- raised 8 billion euros in September through another private placement maturing in five years on September 20, 2018, at a variable rate.

In 2012, the group:

- sold its interests in Eramet, the Millennium mining project in Canada, and La Mancha Resources, for a combined total of close to 1.2 billion euros;
- raised 400 million euros in March through an additional five-year bond issue maturing on October 5, 2017, at a rate of 4.625%;
- raised 200 million euros in April through another private placement maturing in ten years on March 21, 2022, at a variable rate.

External financing arrangements are not subject to specific covenants. 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.

CREDIT RISK

AREVA's only exposure to credit risk relates to investments of cash surpluses in marketable securities and mutual funds or money market funds. Investment in these marketable securities is subject to limits of exposure based on the issuer's rating (short-term rating of Investment Grade). The group's management approves these limits. As regards money market funds and monetary SICAV (open-ended mutual funds), the group invests its cash surpluses only subject to limits of exposure based on the issuer's rating (under criteria as described above) and in investment vehicles with an average duration of less than 3 months.

MARKET VALUE OF FINANCIAL INSTRUMENTS

The market value of financial instruments pertaining to currency, rate and commodity transactions were calculated based on market data at 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.

NOTE 32. ADDITIONAL INFORMATION ON FINANCIAL INSTRUMENTS

FINANCIAL ASSETS AND LIABILITIES BY CATEGORY

2013

Assets

				Including					
(in millions of euros)	**Balance sheet value**	**Non-financial assets and liabilities**	**Loans and receivables**	**Liabilities at amortized cost**	**Fair value recognized in profit or loss**	**Assets available for sale**	**Assets held to maturity**	**Derivatives**	**Fair value of financial assets**
Non-current assets	**23,052**	**16,735**	**773**			**4,778**	**680**	**86**	**6,383**
Goodwill on consolidated companies	3,864	3,864							
Intangible assets	2,641	2,641							
Property, plant and equipment	8,731	8,731							
End-of-lifecycle assets (third party share)	199	199							
Assets earmarked for end-of-lifecycle operations	6,057		705			4,673	680		6,123
Equity associates	145	145							
Other non-current financial assets	262	2	68			105		86	260
Pension fund assets									
Deferred tax assets	1,153	1,153							
Current assets	**9,038**	**5,247**	**2,428**		**1,207**			**157**	**3,791**
Inventories and work-in-process	2,331	2,331							
Trade accounts receivable and related accounts	2,067	704	1,362						1,362
Other operating receivables	1,962	1,402	424					136	560
Current tax assets	80	80							
Other non-operating receivables	106	86	20						20
Cash and cash equivalents	1,761		588		1,173				1,761
Other current financial assets	88		33		33			21	88
Assets of discontinued operations	643	643							
TOTAL ASSETS	**32,090**	**21,982**	**3,201**		**1,207**	**4,778**	**680**	**243**	**10,174**

Liabilities and equity

			Including				
(in millions of euros)	Balance sheet value	Non-financial assets and liabilities	Loans and receivables	Liabilities at amortized cost	Fair value recognized in profit or loss	Assets available for sale	Derivatives	Fair value of financial liabilities
Equity and minority interests	**5,082**	**5,082**						
Share capital	1,456	1,456						
Consolidated premiums and reserves	3,298	3,298						
Actuarial gains and losses on employee benefits	(317)	(317)						
Deferred unrealized gains and losses on financial instruments	330	330						
Currency translation reserves	(94)	(94)						
Minority interests	408	408						
Non-current liabilities	**14,284**	**8,625**		**5,659**				**6,002**
Employee benefits	1,958	1,958						
Provisions for end-of-lifecycle operations	6,437	6,437						
Other non-current provisions	199	199						
Long-term borrowings	5,659			5,659				6,002
Deferred tax liabilities	31	31						
Current liabilities	**12,725**	**8,999**		**3,624**			**102**	**3,726**
Current provisions	2,724	2,724						
Short-term borrowings	517			484			33	517
Advances and prepayments received	4,545	4,545						
Trade accounts payable and related accounts	1,817	11		1,806				1,806
Other operating liabilities	2,582	1,243		1,271			69	1,339
Current tax liabilities	80	80						
Other non-operating liabilities	70	7		63				63
Liabilities of discontinued operations	389	389						
TOTAL LIABILITIES AND EQUITY	**32,090**	**22,706**		**9,283**			**102**	**9,727**

Financial instruments at fair value recognized in profit or loss and in "other comprehensive income items" according to:

- Level 1: valuation based on quoted market prices in an active market
- Level 2: if a market for a financial instrument is not active, valuation based on readily observed market inputs
- Level 3: valuation based on criteria that cannot be readily observed.

(in millions of euros)	Level 1	Level 2	Level 3	Total
Non-current assets	**4,714**	**86**	**64**	**4,864**
Assets earmarked for end-of-lifecycle operations	4,673			4,673
Other non-current financial assets	42	86	64	191
Current assets	**1,207**	**157**		**1,363**
Other operating receivables		136		136
Cash and cash equivalents	1,173			1,173
Other current financial assets	33	21		55
TOTAL ASSETS	**5,921**	**243**	**64**	**6,228**

(in millions of euros)	Level 1	Level 2	Level 3	Total
Current liabilities				
Short-term borrowings		33		33
Other operating liabilities		69		69
TOTAL LIABILITIES		**102**		**102**

Analysis of assets in the level 3 category

(in millions of euros)	Amount at December 31, 2012	Additions	Disposals	Other	Amount at December 31, 2013
Other non-current financial assets	18	8	-	39	64

Assets in the level 3 category mainly include AREVA's equity interest in Euronimba. The value of this interest at December 31, 2012 was based on an estimated sales price in connection with negotiations with the other shareholders of this company. It was reclassified from level 2 to level 3 in 2013, considering the lack of short-term disposal opportunities, and is valued at historical cost.

2012

Assets

(in millions of euros)	Balance sheet value	Including: Non-financial assets and liabilities	Including: Loans and receivables	Including: Liabilities at amortized cost	Including: Fair value recognized in profit or loss	Including: Assets available for sale	Including: Assets held to maturity	Including: Derivatives	Fair value of financial assets
Non-current assets	**22,107**	**16,120**	**771**			**4,602**	**582**	**32**	**6,060**
Goodwill on consolidated companies	3,998	3,998							
Intangible assets	2,961	2,961							
Property, plant and equipment	7,738	7,738							
End-of-lifecycle assets (third party share)	217	217							
Assets earmarked for end-of-lifecycle operations	5,695		680			4,433	582		5,767
Equity associates	175	175							
Other non-current financial assets	294	2	92			169		32	292
Pension fund assets	-								
Deferred tax assets	1,029	1,029							
Current assets	**9,148**	**5,261**	**3,402**		**247**			**238**	**3,887**
Inventories and work-in-process	2,608	2,608							
Trade accounts receivable and related accounts	2,130	723	1,407						1,407
Other operating receivables	2,079	1,527	399					153	552
Current tax assets	92	92							
Other non-operating receivables	113	86	26						26
Cash and cash equivalents	1,543		1,543		1				1,544
Other current financial assets	358		27		246			85	358
Assets of discontinued operations	225	225							
TOTAL ASSETS	**31,255**	**21,381**	**4,173**		**247**	**4,602**	**582**	**270**	**9,946**

Financial instruments at fair value recognized in profit or loss and in "other comprehensive income items" according to:

- Level 1: valuation based on quoted market prices in an active market
- Level 2: if a market for a financial instrument is not active, valuation based on readily observed market inputs
- Level 3: valuation based on criteria that cannot be readily observed.

(in millions of euros)	Level 1	Level 2	Level 3	Total
Non-current assets	**4,497**	**119**	**18**	**4,634**
Assets earmarked for end-of-lifecycle operations	4,433			4,433
Other non-current financial assets	64	119	18	201
Current assets	**247**	**238**		**485**
Other operating receivables		153		153
Cash and cash equivalents	1			1
Other current financial assets	246	85		331
TOTAL ASSETS	**4,744**	**357**	**18**	**5,119**

Liabilities and equity

			Including					
(in millions of euros)	Balance sheet value	Non-financial assets and liabilities	Loans and receivables	Liabilities at amortized cost	Fair value recognized in profit or loss	Assets available for sale	Derivatives	Fair value of financial liabilities
Equity and minority interests	**5,556**	**5,556**						
Share capital	1,456	1,456						
Consolidated premiums and reserves	3,759	3,759						
Actuarial gains and losses on employee benefits	(385)	(385)						
Deferred unrealized gains and losses on financial instruments	286	286						
Currency translation reserves	57	57						
Minority interests	382	382						
Non-current liabilities	**14,107**	**8,543**		**5,564**				**4,702**
Employee benefits	2,026	2,026						
Provisions for end-of-lifecycle operations	6,331	6,331						
Other non-current provisions	163	163						
Long-term borrowings	5,564			5,564				4,702
Deferred tax liabilities	23	23						
Current liabilities	**11,593**	**8,144**		**3,350**			**98**	**3,448**
Current provisions	2,562	2,562						
Short-term borrowings	286			237			49	286
Advances and prepayments received	4,004	4,004						
Trade accounts payable and related accounts	1,928	107		1,820				1,820
Other operating liabilities	2,581	1,319		1,213			49	1,262
Current tax liabilities	72	72						
Other non-operating liabilities	87	8		80				80
Liabilities of discontinued operations	73	73						
TOTAL LIABILITIES AND EQUITY	**31,255**	**22,243**		**8,914**			**98**	**8,150**

NET GAINS AND LOSSES ON FINANCIAL INSTRUMENTS

Available-for-sale securities

2013

			Subsequent valuation		
(in millions of euros)	Interest income and dividends	Other income and expenses	Changes in fair value and foreign exchange impact	Impairment	Gain (loss) from disposal
Other comprehensive income items*			263		(156)
Statement of Income	139			(20)	235
TOTAL	**139**		**263**	**(20)**	**79**

** : excluding tax impact.*

At December 31, 2013, the net change in the fair value of available-for-sale securities recognized in "other comprehensive income items" represented a total unrealized gain of 495 million euros.

2012

			Subsequent valuation		
(in millions of euros)	Interest income and dividends	Other income and expenses	Changes in fair value and foreign exchange impact	Impairment	Gain (loss) from disposal
Other comprehensive income items*			382		(88)
Statement of Income	122			(7)	201
TOTAL	**122**		**382**	**(7)**	**113**

** : excluding tax impact.*

At December 31, 2012, the net change in the fair value of available-for-sale securities recognized in "other comprehensive income items" represented a total unrealized gain of 388 million euros.

Loans and receivables

2013

(in millions of euros)	Interest	Impairment	Debt forgiveness
Net income	69		(1)

2012

(in millions of euros)	Interest	Impairment	Debt forgiveness
Net income	76	(8)	(1)

Financial assets and liabilities at fair value recognized through profit or loss

The income recorded from financial assets and liabilities at fair value recognized through profit and loss was not significant at December 31, 2013, compared with 5 million euros at December 31 2012.

Financial liabilities at amortized cost

2013

(in millions of euros)	Interest expense and commissions	Other income and expenses
Net income	(262)	

2012

(in millions of euros)	Interest expense and commissions	Other income and expenses
Net income	(227)	-

Derivatives used for hedging

At December 31, 2013, the ineffective share of derivatives used for hedging recognized in profit or loss is as follows:

- Cash flow hedge: -
- Fair value hedge: -5 million euros
- Net investment hedge: -
- **Total** **-5 million euros**

CASH FLOW HEDGES

(in millions of euros)	Value before tax at Dec. 31, 2012	New transactions	Change in value	Recognition through profit and loss	Value before tax at December 31, 2013
Cash flow hedging instruments	28	(2)	(7)	(4)	15

LASTING IMPAIRMENT OF AVAILABLE-FOR-SALE SECURITIES

(in millions of euros)	Amount at December 31, 2012	Allowance	Reversal of depreciation on disposals	Currency translation adjustments	Amount at December 31, 2013
Earmarked funds	(27)	-	12	-	(15)
Non-earmarked funds	(131)	(19)	-	15	(135)
TOTAL	**(158)**	**(19)**	**12**	**15**	**(151)**

UNREALIZED CAPITAL LOSSES ON AVAILABLE-FOR-SALE SECURITIES NOT RECOGNIZED THROUGH PROFIT AND LOSS

(in millions of euros)	Unrealized capital losses at December 31, 2013	Including maturity in less than 1 year	Including maturity in 1-2 years
Mandate	10	10	
Bond funds	14	14	
TOTAL	**24**	**24**	

NOTE 33. COMMITMENTS GIVEN AND RECEIVED

(in millions of euros)	December 31, 2013	Less than one year	1 to 5 years	> 5 years	December 31, 2012
Commitments given	**2,096**	**1,313**	**596**	**187**	**1,994**
Operating commitments given	1,987	1,280	537	170	1,877
• Contract guarantees given	1,868	1,196	510	162	1,742
• Other operating guarantees	119	84	27	8	135
Commitments given on financing	51	9	40	2	50
Other commitments given	58	24	19	15	67
Commitments received	**1,270**	**822**	**408**	**40**	**1,419**
Operating commitments received	1,192	788	368	36	1,366
Commitments received on collateral	1	-	1	-	2
Other commitments received	77	34	39	4	51
Reciprocal commitments	**3,652**	**554**	**2,822**	**276**	**4,984**

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 at the date of closing. Accordingly, these commitments do not include construction contracts currently under negotiation.

COMMITMENTS GIVEN

Operating commitments represent 95% of all commitments given. The majority of these commitments consist of performance guarantees.

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 that 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. 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, capped at the sale price of 582 million euros, expired on December 31, 2013.

RECIPROCAL COMMITMENTS

In January 2013, the group established a 1.25-billion-euro syndicated line of credit available in euros over a five-year period. The group also has bilateral lines of credit available to it in the amount of 755 million euros maturing in 2015 and 50 million euros maturing in 2016. At the end of December 2013, none of these lines had been used.

Reciprocal commitments at December 31, 2013 include the future minimum payments to be made on operating leases, as follows:

(in millions of euros)

December 31, 2013	Less than one year	1 to 5 years	> 5 years	December 31, 2012
729	117	364	248	715

NOTE 34. DISPUTES AND POTENTIAL LIABILITIES

ONGOING INVESTIGATIONS

On January 24, 2007, the European Commission fined 11 companies, including AREVA SA, for anti-competitive practices in the gas insulated switchgear market (GIS). EBS Networks filed a new claim for damages in Ireland on April 19, 2013, naming jointly AREVA SA and all of the defendant companies subject to the above-mentioned fine by the European Commission. Before any defense on the merits, AREVA decided to file for dismissal of this action on procedural grounds (strike-out), since the plaintiff did not serve his statement of claim in a timely manner. The plaintiff has not yet asserted the amount of his claim.

CURRENT CONTRACTS

After a supplier announced the possibility of defects in components used to build wind turbines, AREVA performed the necessary inspections and replaced components deemed defective. These operations were nearing completion at December 31, 2013. A settlement was reached with the supplier at the end of 2013. It indemnifies AREVA for past and future expenses.

NOTE 35. EVENTS SUBSEQUENT TO YEAR-END

RENEGOTIATION OF MINING AGREEMENTS WITH THE GOVERNMENT OF NIGER

The mining agreements between the government of Niger on the one hand and Somaïr and Cominak on the other, which were signed on November 9, 2001 and came into effect on January 1, 2004, expired on December 31, 2013. They had governed the terms for operation of the uranium deposits, including legal, tax and customs considerations.

By year-end closing 2013, the discussions held in 2013 between the two mining companies and the government of Niger had failed to produce an agreement on the tax provisions in the mining agreements to be applicable starting in 2014.

Nonetheless, to allow the parties to reach an agreement on new provisions applicable to the companies in these areas starting in 2014, the mining companies and the government of Niger agreed in principle to maintain the status quo on the tax and customs provisions until February 28, 2014.

In this context, the value of Cominak and Somaïr assets is sensitive to the taxation system which will ultimately apply to these two companies. These assets include property, plant and equipment and intangible assets relating to the mining facilities of both companies. AREVA's consolidated share of these assets comes to 222.7 million euros in net value at December 31, 2013.

Pending finalization of discussions between the government of Niger and AREVA on the tax system applicable to the two companies starting in 2014, the group decided to recognize these assets based on current estimates and the following assumptions:

- the mining plans of Cominak and Somaïr as updated in 2013, which may change depending on market conditions and the tax environment, leading to possible changes in the production period of the mines;
- the latest price forecasts for uranium as published by Ux in the fourth quarter of 2013;
- extension beyond 2013 of tax provisions applicable to Somaïr and Cominak in 2013, with a sensitivity reflecting assumptions used for future changes in the tax system.

On this basis, the fixed assets of Somaïr and Cominak were not written down at December 31, 2013.

Impairment tests will be performed on all of these assets at June 30, 2014 based on multiyear forecasts reflecting updates to the criteria identified above, in particular the mining agreements applicable to the companies starting in 2014.

IMOURAREN ASSETS

At December 31, 2013, the value of the Imouraren project's property, plant and equipment and intangible assets was 733 million euros. This valuation is supported by an estimate of the net realizable value of the Imouraren asset.

The estimate was calculated based on multiples of uranium resources and reserves in the ground, determined by using a panel of publicly-traded uranium mining companies.

NOTE 36. MAIN CONSOLIDATED COMPANIES AND ASSOCIATES

Name of unit or controlling entity Company name, legal form, corporate office	Country	Business reg. no. (Siren no.)	December 31, 2013 Method	December 31, 2013 Percentage of interest	December 31, 2012 Method	December 31, 2012 Percentage of interest
Nuclear						
AREVA NC SA	France	305 207 169	FC	100	FC	100
AREVA NP SAS – 92400 Courbevoie	France	428 764 500	FC	100	FC	100
AREVA GMBH - 91058 Erlangen	Germany		FC	100	FC	100
AREVA NP, Inc. - Corporate	United States		FC	100	FC	100
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	100	FC	100
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	100	FC	100
MELOX - 30200 Chusclan (*)	France	378 783 237			FC	100
AREVA Resources Southern Africa	Great Britain		FC	100	FC	100
AREVA Resources Canada	Canada		FC	100	FC	100
Katco	Kazakhstan		FC	51	FC	51
Cominak	Niger		PC	34	PC	34
Comurhex (*)	France	712 007 962			FC	100
SET	France	440 252 666	FC	88	FC	88
JSPM	France	341 805 836	FC	100	FC	100
ETC	Great Britain		PC	50	PC	50
AREVA Mines	France	501 493 605	FC	100	FC	100
Somaïr	Niger		FC	63.40	FC	63.40
TN International	France	602 039 299	FC	100	FC	100
SGN (*)	France	612 016 956			FC	100
Renewable Energies						
AREVA Renewables Brazil SA	Brazil		FC	100	FC	100
AREVA Solar Inc.	United States		FC	93.20	FC	93.20
AREVA Wind GmbH	Germany		FC	100	FC	100
Holding company and other operations – Investments						
AREVA SA – 75009 Paris	France	712 054 923	FC	100	FC	100
AREVA BS – 92400 Courbevoie	France	421 356 593	FC	100	FC	100

FC: full consolidation
PC: proportionate consolidation
EM: equity method
(*) Companies merged in 2013

NOTE 37. TRANSITION FROM 2012 FINANCIAL STATEMENTS AS REPORTED TO RESTATED 2012 FINANCIAL STATEMENTS

The items below complete the information appearing in Note 9.

TRANSITION FROM INCOME STATEMENT AS REPORTED TO RESTATED INCOME STATEMENT

(in millions of euros)	2012 reported	Discontinued operations	2012 restated
REVENUE	**9,342**	**(455)**	**8,886**
Other income from operations	63	-	63
Cost of sales	(8,463)	507	(7,955)
Gross margin	**942**	**52**	**994**
Research and Development expenses	(317)	6	(311)
Marketing and sales expenses	(238)	17	(221)
General and administrative expenses	(418)	12	(406)
Other operating expenses	(532)	99	(432)
Other operating income	682	1	683
OPERATING INCOME	**118**	**188**	**306**
Income from cash and cash equivalents	51	-	51
Gross borrowing costs	(236)	4	(232)
Net borrowing costs	**(185)**	**4**	**(181)**
Other financial expenses	(537)	2	(535)
Other financial income	398	-	398
Other financial income and expenses	**(139)**	**2**	**(137)**
NET FINANCIAL INCOME	**(324)**	**6**	**(318)**
Income tax	**120**	**33**	**152**
NET INCOME OF CONSOLIDATED BUSINESSES	**(85)**	**226**	**140**
Share in net income of associates	11	-	11
NET INCOME FROM CONTINUING OPERATIONS	**(74)**	**226**	**151**
Net income from discontinued operations	-	(226)	(226)
NET INCOME FOR THE PERIOD	**(74)**	**-**	**(74)**
Including:			
Group:			
Net income from continuing operations	(99)	214	115
Net income from discontinued operations	-	(214)	(214)
NET INCOME ATTRIBUTABLE TO EQUITY OWNERS OF THE PARENT	**(99)**	**-**	**(99)**
Minority interests:			
Net income from continuing operations	24	12	36
Net income from discontinued operations	-	(12)	(12)
NET INCOME ATTRIBUTABLE TO MINORITY INTERESTS	**24**	**-**	**24**
Number of shares outstanding	383,204,852	-	383,204,852
Average number of shares outstanding	383,204,852	-	383,204,852
Average number of treasury shares	2,182,826	-	2,182,826
Average number of shares outstanding, excluding treasury shares	381,022,026	-	381,022,026
Earnings per share from continuing operations	-0.26	-	0.30
Basic earnings per share	-0.26	-	-0.26
Consolidated net income per diluted share[1]	-0.26	-	-0.26

(1) AREVA has not issued any instruments with a dilutive impact on share capital.

TRANSITION FROM STATEMENT OF COMPREHENSIVE INCOME AS REPORTED TO RESTATED STATEMENT OF COMPREHENSIVE INCOME

(in millions of euros)	2012 reported	Discontinued operations	2012 restated
Net income	**(74)**		**(74)**
Other comprehensive income items			
Items not recyclable to the income statement	(299)		(299)
Actuarial gains and losses on employee benefits	(324)		(324)
Income tax related to non-recyclable items	26		26
Items recyclable to the income statement	**178**		**178**
Currency translation adjustments on consolidated companies and other	(28)	(5)	(33)
Change in value of available-for-sale financial assets	294		294
Change in value of cash flow hedges	1		1
Income tax related to recyclable items	(68)		(68)
Other comprehensive income items from discontinued operations		5	5
Share in other net comprehensive income items from associates	(18)		(18)
Non-current assets held for sale	(3)		(3)
Total other comprehensive income items (net of income tax)	**(121)**		**(121)**
COMPREHENSIVE INCOME	**(195)**		**(195)**
• Attributable to equity owners of the parent	(217)		(217)
• Minority interests	22		22

TRANSITION FROM STATEMENT OF CASH FLOWS AS REPORTED TO RESTATED STATEMENT OF CASH FLOWS

(in millions of euros)	2012 reported	Discontinued operations	2012 restated
Net income for the period	**(74)**		**(74)**
Minus: income from discontinued operations		226	226
Net income from continuing operations	**(74)**	**226**	**151**
Share in net income of associates	(11)		(11)
Net amortization, depreciation and impairment of PP&E and intangible assets and marketable securities maturing in more than 3 months	967	(17)	950
Goodwill impairment losses	94	(94)	-
Net increase in (reversal of) provisions	(147)	(32)	(179)
Net effect of reverse discounting of assets and provisions	432		432
Income tax expense (current and deferred)	(120)	(33)	(153)
Net interest included in borrowing costs	188	(4)	184
Loss (gain) on disposals of fixed assets and marketable securities maturing in more than 3 months; change in fair value	(388)		(388)
Other non-cash items	(152)		(152)
Cash flow from operations before interest and taxes	**789**	**46**	**836**
Net interest received (paid)	(184)	4	(181)
Income tax paid	(201)	(18)	(219)
Cash flow from operations after interest and tax	**404**	**32**	**436**
Change in working capital requirement	309		310
NET CASH FLOW FROM OPERATING ACTIVITIES	**713**	**32**	**746**
Investment in PP&E and intangible assets	(2,103)	82	(2,021)
Loans granted and acquisitions of non-current financial assets	(3,425)		(3,425)
Acquisitions of shares of consolidated companies, net of acquired cash	(5)		(5)
Disposals of PP&E and intangible assets	128		128
Loan repayments and disposals of non-current financial assets	3,510		3,510
Disposals of shares of consolidated companies, net of disposed cash	754		754
Dividends from equity associates	2		2
NET CASH FLOW FROM INVESTING ACTIVITIES	**(1,139)**	**82**	**(1,056)**
Share issues in the parent company and share issues subscribed by minority shareholders in consolidated subsidiaries	4		4
Treasury shares acquired	(46)		(46)
Transactions with minority interests	-		-
Dividends paid to shareholders of the parent company	-		-
Dividends paid to minority shareholders of consolidated companies	(112)		(112)
Increase in borrowings	(15)	(239)	(254)
NET CASH FLOW FROM FINANCING ACTIVITIES	**(167)**	**(239)**	**(406)**
Increase (decrease) in securities recognized at fair value through profit and loss	(179)		(179)
Impact of foreign exchange movements	(12)	(1)	(13)
NET CASH FROM DISCONTINUED OPERATIONS	**-**	**126**	**126**
INCREASE (DECREASE) IN NET CASH	**(784)**		**(784)**
NET CASH AT THE BEGINNING OF THE YEAR	**2,273**		**2,273**
Cash at the end of the year	1,543		1,543
Minus: short-term bank facilities and non-trade current accounts (credit balances)	(60)		(60)
Net cash from discontinued operations	5		5
NET CASH AT THE END OF THE YEAR	**1,489**		**1,489**

20.3. 2013 financial statements

20.3.1. STATUTORY AUDITORS' REPORT ON THE FINANCIAL STATEMENTS

This is a free translation into English of the Statutory Auditors' report on the financial statements issued in French and it 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 modified or not. This information is presented below the audit opinion on the 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 financial statements taken as a whole and not to provide separate assurance on individual account balances, transactions, or disclosures.

This report also includes information relating to the specific verification of information given in the management report and in the documents addressed to shareholders.

This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

To the Shareholders

In compliance with the assignment entrusted to us by your Annual General Meeting, we hereby report to you, for the year ended December 31, 2013, on:

- the audit of the accompanying financial statements of AREVA;
- the justification of our assessments;
- the specific verification and information required by law.

These financial statements have been approved by the Executive Board. Our role is to express an opinion on these financial statements based on our audit.

I. OPINION ON THE FINANCIAL STATEMENTS

We 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 misstatement. An audit involves performing procedures, using sampling techniques or other methods of selection, to obtain audit evidence about the amounts and disclosures in the financial statements. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made, as well as the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

In our opinion, the financial statements give a true and fair view of the assets and liabilities and of the financial position of the Company as of December 31, 2013 and of the results of its operations for the year then ended in accordance with French accounting principles.

II. JUSTIFICATION OF OUR ASSESSMENTS

In accordance with the requirements of article L. 823-9 of the French Commercial Code (code de commerce) relating to the justification of our assessments, we bring to your attention the following matters:

- participating interests were valued in accordance with the accounting methods described in the note 2.2 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 information provided in the note mentioned above, and assessed the assumptions adopted;
- with respect to risks, litigations and contingent liabilities, we assessed the procedures currently used by your Company to identify, assess and record such risks, litigations 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 note 6.8.

These assessments were made as part of our audit of the financial statements taken as a whole, and therefore contributed to the opinion we formed which is expressed in the first part of this report.

III. SPECIFIC VERIFICATIONS AND INFORMATION

We have also performed, in accordance with professional standards applicable in France, the specific verifications required by French law.

We have no matters to report as to the fair presentation and the consistency with the financial statements of the information given in the management report of the Executive Board and in the documents addressed to shareholders with respect to the financial position and the financial statements.

Concerning the information given in accordance with the requirements of article L. 225-102-1 of the French Commercial Code (code de commerce) relating to remunerations and benefits received by the directors and any other commitments made in their favour, we have verified its consistency with the financial statements, or with the underlying information used to prepare these financial statements and, where applicable, with the information obtained by your company from companies controlling your company or controlled by it. Based on this work, we attest the accuracy and fair presentation of this information.

In accordance with French law, we have verified that the required information concerning the purchase of investments and controlling interests and the identity of the shareholders and holders of the voting rights has been properly disclosed in the management report.

Paris La Défense, February 26, 2014

The Statutory Auditors

MAZARS		ERNST & YOUNG Audit	
Juliette Decoux	Jean-Louis Simon	Aymeric de La Morandière	Jean Bouquot

20.3.2. STATEMENT OF FINANCIAL POSITION

Asset (in thousands of euros)	Note	2013 Gross	2013 Amortization & Depreciation	2013 Net	2012 Net
Subscribed capital not issued					
Non-current assets					
Research and Development expenses					
Concessions, patents, licenses, software and similar rights		116,365	60,979	55,386	67,535
Leasehold					
Other intangible assets					
Intangible assets in progress		9,395		9,395	2,384
Advances and prepayments					
Total intangible assets	4.1	**125,760**	**60,979**	**64,781**	**69,919**
Land		204		204	204
Buildings		114	114		
Plant, equipment and tooling		64	60	5	11
Other property, plant and equipment		79,127	54,973	24,154	34,602
Plant, property and equipment in progress		10,840		10,840	5,029
Advances and prepayments on PPE					
Total property, plant and equipment	4.1	**90,349**	**55,147**	**35,202**	**39,846**
Equity associates		6,453,458	5,792	6,447,666	6,446,357
Loans to affiliates		7,430,585	83,885	7,346,700	7,689,724
Portfolio of investments					
Other long-term securities		43,488	23,739	19,749	27,193
Loans					
Other long-term investments		25,545		25,545	72,358
Total long-term investments	4.3	**13,953,076**	**113,417**	**13,839,659**	**14,235,632**
Total non-current assets		**14,169,185**	**229,543**	**13,939,642**	**14,345,396**
Current assets					
Raw materials and supplies					
Goods in process					
Intermediate and finished products					
Goods					
Total inventories and work-in-process					
Advances and prepayments on orders		**1,692**		**1,692**	**4,691**
Accounts receivable and related accounts		97,888		97,888	106,103
Other accounts receivable		471,193	749	470,443	437,129
Subscribed capital – issued and not paid					
Total receivables	4.5	**569,081**	**749**	**568,331**	**543,232**
Marketable securities		1,438,822		1,438,822	1,427,335
Cash instruments		60,692		60,692	6,568
Cash and cash equivalents		1,406,813	1,111	1,405,701	1,189,188
Total cash and marketable securities	4.7	**2,906,327**	**1,111**	**2,905,215**	**2,623,092**
Prepaid expenses		**2,435**		**2,435**	**658**
Total current assets		**3,479,534**	**1,861**	**3,477,674**	**3,171,673**
Deferred charges		16,928		16,928	11,682
Bond redemption premiums		20,376		20,376	20,404
Unrealized foreign exchange gains		170		170	
GRAND TOTAL		**17,686,193**	**231,404**	**17,454,789**	**17,549,156**

Equity and liabilities

(in thousands of euros)	Note	2013	2012
Share capital	4.8	**1,456,178**	**1,456,178**
Additional paid-in capital, merger premiums, share premiums		1,148,130	1,148,130
Legal reserve		145,618	145,618
Reserves provided in the by-laws or by contract			
Other reserves		9,707	9,707
Retained earnings		4,076,332	3,834,648
Net income for the year		-180,155	241,683
Investment subsidies		1,412	1,778
Tax-driven provisions		4,587	2,944
Total shareholders' equity	4.9	**6,661,808**	**6,840,686**
Other shareholders' equity			
Proceeds from issues of equity securities			
Advances subject to covenants		73	73
Total other shareholders' equity		**73**	73
Provisions for contingencies and losses			
Provisions for contingencies		7,807	21,342
Provisions for losses		272,481	195,392
Total provisions for contingencies and losses	4.10	**280,288**	**216,734**
Liabilities			
Convertible bond issues			
Other bond issues		5,093,569	4,911,882
Bank borrowings		430,763	408,797
Miscellaneous loans and borrowings		4,406,942	4,539,546
Advances and prepayments on orders			
Trade accounts payable and related accounts		122,909	158,739
Taxes and employee-related liabilities		23,123	38,692
Accounts payable on non-current assets and related accounts		163	152
Other liabilities		321,954	342,928
Financial instruments		36,424	25,395
Unearned income		76,704	65,533
Total liabilities	4.11	**10,512,549**	**10,491,663**
Unrealized foreign exchange losses		71	
TOTAL SHAREHOLDERS' EQUITY AND LIABILITIES		**17,454,789**	**17,549,156**

20.3.3. STATEMENT OF INCOME

(in thousands of euros)	Note	2013	2012
Operating income			
Sales of goods			
Sales of products			
Services performed		490,444	430,415
Revenue [1]		**490,444**	**430,415**
Production in inventory			
Self-constructed assets		13,095	4,506
Operating subsidies		10	
Reversals of provisions, amortization and depreciation		9,664	223
Transferred expenses		8,998	2,500
Other income		185	2,182
Total operating income		**522,396**	**439,826**
Operating expenses			
Sales of goods			
Change in inventory (goods)			
Purchases of raw materials and other supplies		-105	3
Change in inventory (raw materials and supplies)			
Other purchases and expenses		652,091	540,889
Taxes and related expenses		1,701	4,973
Salaries and other compensation		11,500	25,474
Social security taxes		3,478	16,951
Amortization, depreciation and provisions		30,449	27,996
Other expenses		6,409	10,117
Total operating expenses		**705,522**	**626,403**
Current operating income	5.1	**-183,126**	**-186,577**
Share of net income from joint operations			
Profit allocated or loss transferred			31
Loss allocated or profit transferred			
Financial income			
From equity interests		183,352	170,209
From other marketable securities and capitalized receivables		277	497
Other interest and related income		83,933	215,508
Reversals of provisions, amortization and depreciation		209,666	70,669
Transferred expenses			
Foreign exchange gains		495,957	539,778
Net income from disposals of marketable securities		2,563	4,686
Total financial income		**975,748**	**1,001,345**
(1) including direct exports		*61,233*	*57,585*

STATEMENT OF INCOME (2/2)

(in thousands of euros)	Note	2013	2012
Financial expenses			
Amortization, depreciation and provisions		90,794	167,324
Interest and related expenses		268,627	489,113
Foreign exchange losses		481,212	486,243
Net loss on disposals of marketable securities		55,062	
Total financial expenses		**895,695**	**1,142,680**
NET FINANCIAL INCOME	5.2	**80,054**	**-141,335**
INCOME BEFORE TAX AND EXCEPTIONAL ITEMS		**-103,072**	**-327,881**
Exceptional items			
On financial management transactions		501	545
On capital or non-current asset transactions		2,997	831,911
Reversals of provisions, amortization and depreciation		2,876	64,349
Transferred expenses			
Total exceptional income		**6,374**	**896,805**
Exceptional expenses			
On financial management transactions		4,347	238
On capital or non-current asset transactions		92,168	317,934
Amortization, depreciation and provisions		87,789	72,184
Total exceptional expenses		**184,304**	**390,356**
Exceptional items	5.3	**-177,930**	**506,449**
Employee profit-sharing			
Income tax	5.4	-100,847	-63,115
NET INCOME		**-180,155**	**241,683**

20.3.4. STATEMENT OF CASH FLOWS

(in thousands of euros)	Note	2013	2012
Net cash from operating activities			
Net income for the year		-180,155	241,683
Net depreciation and amortization		38,652	30,352
Net provisions		-51,827	101,912
Net income on disposals of assets		58,669	-512,677
Other calculated items		-366	-366
Cash flow from operations		**-135,027**	**-140,096**
(Increase) / decrease in inventory			
(Increase) / decrease in trade advances and prepayments paid		2,999	-4,477
Increase / (decrease) in trade advances and prepayments received			
(Increase) / decrease in trade accounts receivable and related accounts		-26,876	65,683
Increase / (decrease) in trade accounts payable and related accounts		-61,095	-408,525
Net cash from operating activities (i)		**-219,999**	**-487,415**
Cash flow from investing activities			
Investment in PP&E and intangible assets		-21,726	-10,563
Investment in long-term notes and investments		-2,607,554	-5,685,586
Repayments of loans to equity associates		3,046,408	782,428
Disposals of PP&E and intangible assets			
Disposals and reductions of long-term investments		2,631	831,545
Other cash flows related to investments			-757
Net cash used in investing activities (ii)		**419,759**	**-4,082,932**
Net cash from financing activities			
Increase / (decrease) in capital and additional paid-in capital			
Dividends paid			
Increase / (decrease) in borrowings		322,706	87,721
Net cash used in financing activities (iii)		**322,706**	**87,721**
Change in net cash for the period (i + ii + iii)		**522,467**	**-4,482,627**
Net cash at the beginning of the period		**-1,862,510**	**2,620,116**
CASH AT THE END OF THE PERIOD		**-1,340,043**	**-1,862,510**

20.4. Notes to the financial statements

The notes hereunder supplement the statement of financial position for the period ended December 31, 2013 showing total assets of 17,454,789 thousand euros, and the statement of income, showing a net loss of 180,155 thousand euros. These statements are for the 12-month period beginning January 1 and ending December 31, 2013.

The notes include:

- Highlights of the year
- Accounting principles and methods
- Notes to the statement of financial position
- Notes to the statement of income
- Additional information

These notes and tables are an integral component of the annual financial statements approved by the AREVA Executive Board on February 25, 2014 and examined by the Supervisory Board on February 26, 2014. The financial statements will be presented to the Annual General Meeting of Shareholders for approval on 05/20/14.

20.4.1. HIGHLIGHTS OF THE YEAR

20.4.1.1. BOND ISSUES

AREVA launched a seven-year bond issue maturing on September 4, 2020 in the total amount of 500 million euros with an annual coupon of 3.250%; it also launched a five-year bond issue maturing on September 20, 2018 as part of a private placement in the total amount of 8,000 million yen with an annual coupon of 1.156%.

In 2013, the group bought back some of the bonds it had issued, maturing in 2016 and 2017. These buy-back operations fall under the strategic debt management objective of the Action 2016 strategic action plan. They mark a transition from the financing phase of the group's capital spending plan to a re-financing phase. They strengthen the group's financing mechanism by rebalancing the maturity dates of outstanding bond debt.

A total of 5.030 billion euros was outstanding at December 31, 2013 in equivalent euros.

20.4.1.2. EMPLOYEE SHAREHOLDING PLAN

In June 2013, for the first time, AREVA opened its share capital to group employees in France, Germany and the United States. More than 14,600 French, German and American employees participated in the transaction, representing almost 36% of the workforce. The average subscription was more than 2,200 euros.

The employee shareholding transaction generated 45 million euros in cash for AREVA SA.

In France, more than 39% of the group's employees became shareholders. Employees now hold 1.2% of the group's share capital after this transaction.

20.4.1.3. GROUPING OF SUPPORT FUNCTIONS IN AREVA BUSINESS SUPPORT

As part of the Action 2016 strategic plan, the group implemented a program to simplify its legal structures by reducing organizational complexity, in particular by simplifying the interfaces between operating entities and support functions.

The grouping of the support functions in AREVA Business Support is one of the building blocks of this program. It concerns the group's support functions in the Paris area and the management committees of the Business Groups and E&P, which were brought together in a single company called AREVA Business Support (previously called AREVA Finance Gestion). As a result, a true corporate entity now serves the group. A close connection was established between the operating and the functional managers. Implemented between July 2012 and March 2013, the purpose of this project was to reduce organizational complexity.

A total of 76 people were transferred from AREVA to AREVA Business Support.

20.4.1.4. TRANSFER OF AREVA'S HEAD OFFICE TO LA DÉFENSE

As provided in the twelfth resolution of the General Meeting of Shareholders of May 7, 2013, AREVA's head office was transferred from 33 rue Lafayette to the AREVA Tower in La Défense.

20.4.2. ACCOUNTING PRINCIPLES AND METHODS

The financial statements of AREVA SA for the year ended December 31, 2013 were prepared in accordance with French accounting standards arising from regulation no. 99-03 of April 29, 1999 of the French accounting regulation committee (Comité de la réglementation comptable, CRC).

20.4.2.1. VALUATION OF PROPERTY, PLANT AND EQUIPMENT AND INTANGIBLE ASSETS

Property, plant and equipment (PPE) and intangible assets are recognized at acquisition or production cost, including startup expenses.

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. Depreciation is calculated using the straight line method and rates normally applicable to these categories of assets.

The maximum depreciation periods are as follows:

- 3 years for off-the-shelf software;
- 8 years for integrated management software packages;
- 25 years for buildings;
- 10 years for building improvements and office furniture; and
- 5 years for office equipment, computers and transportation equipment.

A depreciation may be recorded when a specific asset's book value exceeds its net carrying amount. The resulting net carrying amount may be considered to be economically justified.

20.4.2.2. 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 interest in each associate's equity at year end. This assessment also takes into account the subsidiaries' estimated profitability or market value, as well as events or developments subsequent to year-end.

Loans to equity associates are recorded at face value. A provision for impairment is recognized if necessary to reflect the actual value at year end.

20.4.2.3. 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 liabilities 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.

20.4.2.4. 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 derivatives used are mainly forward exchange contracts, currency and interest rate swaps, inflation 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. 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.

20.4.2.5. 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 at 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.

20.4.2.6. NON-TRADE CURRENT ACCOUNTS

Non-trade current accounts are reported under "cash and cash equivalents" on the assets side of the balance sheet; otherwise, they appear in borrowings on the liabilities side.

20.4.2.7. BOND ISSUES

Bond debt is recognized as borrowings, as provided in generally accepted accounting principles in France (*Plan comptable général*).

Redemption premiums and deferred charges related to bond issues are amortized in a straight line over the term of the issue.

20.4.2.8. PROVISIONS FOR CONTINGENCIES AND LOSSES

AREVA's provisions for contingencies and losses are consistent with French accounting board rules on liabilities dated December 7, 2000 (CRC 2000-06).

Provisions are recorded 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 4.10).

AREVA recorded a provision for potential 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 2.12).

20.4.2.9. EMPLOYEE BENEFITS

In the case of defined contribution plans, the group's payments are recognized as expenses for the period to which they relate.

The financial statements also 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 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.

20.4.2.10. EXCEPTIONAL ITEMS

Items related to the company's ordinary operations are recognized in income before tax and extraordinary items, even if they are exceptional in terms of frequency or amount. Only items that are not related to the company's ordinary operations are recognized as exceptional items in the income statement, in addition to transactions specifically qualified as exceptional items under French GAAP (regulated provisions, reversals of investment subsidies, gains on disposals of certain assets, etc.).

20.4.2.11. CASH FLOW STATEMENT

The company uses the "indirect method" to present cash flows. Cash consists of the following items: cash and cash equivalents, bank balances, short-term investments with initial maturities of less than three months, and current financial accounts.

Acquisitions or disposals of marketable securities maturing in more than three months correspond more to cash management decisions than to an investment strategy for the company. They are therefore reflected as an increase or decrease in cash and cash equivalents, which determines the net change in cash position, rather than being included in cash flow from investing activities.

20.4.2.12. TAX DATA

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, 2013.

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.

20.4.3. EVENTS SUBSEQUENT TO YEAR-END CLOSING

None.

20.4.4. NOTES TO THE BALANCE SHEET

20.4.4.1. GROSS VALUES OF PROPERTY, PLANT AND EQUIPMENT AND INTANGIBLE ASSETS

Gross amount *(in thousands of euros)*	Note	2012	Merger Spin-off	Increase	Decrease	Transfers from account to account	2013
Intangible assets							
Research and Development expenses							
Concessions, patents, licenses, software and similar rights		112,984		3,532	150		116,365
Leasehold							
Other intangible assets							
Intangible assets in progress		2,384		10,543	3,532		9,395
Advances and prepayments							
TOTAL INTANGIBLE ASSETS		**115,368**		**14,075**	**3,682**		**125,760**
Property, plant and equipment							
Land		204					204
Buildings:							
- Buildings erected on owned land		114					114
- Buildings erected on third party land							
- Buildings, facilities, fixtures							
Plant, equipment and tooling:							
- Plant, equipment and tooling		64					64
- End-of-lifecycle assets							
Other PPE:							
- Miscellaneous facilities, fixtures and improvements		57,864		3,635			61,499
- Transportation equipment							
- Office equipment, computer equipment and furniture		15,902		1,737	11		17,628
- Other property, plant and equipment							
Plant, property and equipment in progress		5,029		11,183	5,372		10,840
Advances and prepayments on PPE							
TOTAL PROPERTY, PLANT AND EQUIPMENT		**79,177**		**16,555**	**5,383**		**90,349**

The increase in intangible assets mainly concerned the implementation of IT developments related to the company's ERP system.

The increase in property, plant and equipment (PPE) is mainly due to the deployment of improvements and fixtures on certain floors of the AREVA Tower.

20.4.4.2. AMORTIZATION AND DEPRECIATION OF PROPERTY, PLANT AND EQUIPMENT AND INTANGIBLE ASSETS

Amortization and impairment *(in thousands of euros)*	Note	2012	Merger Spin-off	Increase	Decrease	from account to account	2013
Intangible assets							
Research and Development expenses							
Concessions, patents, licenses, software and similar rights		45,449		15,530			60,979
Leasehold							
Other intangible assets							
Intangible assets in progress							
TOTAL INTANGIBLE ASSETS		**45,449**		**15,530**			**60,979**
Property, plant and equipment							
Land and improvements							
Buildings:							
- Buildings erected on owned land		114					114
- Buildings erected on third party land							
- Buildings, facilities, fixtures							
Plant, equipment and tooling:							
- Plant, equipment and tooling		53		6			60
- End-of-lifecycle assets							
Other PPE:							
- Miscellaneous facilities, fixtures and improvements	4.2.1	27,222		13,566			40,788
- Transportation equipment							
- Office equipment, computer equipment and furniture		11,942		2,243	10		14,185
- Other property, plant and equipment							
Plant, property and equipment in progress							
TOTAL PROPERTY, PLANT AND EQUIPMENT		**39,331**		**15,825**	**10**		**55,147**

20.4.4.2.1. Including exceptional impairment of improvements and fixtures at the rue La Fayette site in the amount of 7,356 thousand euros.

20.4.4.3. LONG-TERM INVESTMENTS

Gross amount *(in thousands of euros)*	Note	2012	Merger Spin-off	Increase	Decrease	2013
Equity associates	4.3.1	6,453,458				6,453,458
Loans to equity associates	4.3.2	7,826,867		2,603,060	2,999,342	7,430,585
Investment portfolio						
Other long-term securities	4.3.3	49,398			5,910	43,488
Loans						
Other long-term investments:						
- Receivables related to end-of-lifecycle operations						
- End-of-lifecycle assets - Third party share						
- Other long-term investments	4.3.4	123,551		4,493	102,500	25,545
TOTAL LONG-TERM INVESTMENTS		**14,453,275**		**2,607,554**	**3,107,752**	**13,953,076**

20.4.4.3.1. "Equity associates" in the amount of 6,453,458 thousand euros primarily comprises the following securities:

- AREVA NP 3,042,165 thousand euros
- AREVA Mines 2,356,194 thousand euros
- AREVA NC 523,292 thousand euros
- CERE 251,541 thousand euros
- AREVA Renewables 188,234 thousand euros

20.4.4.3.2. "Loans to equity associates" in the amount of 7,430,585 thousand euros concern medium-term loans made to group companies, including accrued interest (see Note 4.6). At December 31, 2013, these companies were mainly:

- Société Enrichissement Tricastin 2,461,506 thousand euros
- UraMin Holding SAS 1,983,079 thousand euros
- AREVA NP SAS 1,029,028 thousand euros
- CRI Canada 873,700 thousand euros (1,281,805 thousand CAD)
- AREVA Wind GmbH 325,292 thousand euros
- AREVA Renewables Inc. 184,715 thousand euros (254,740 thousand USD)
- FBFC 100,061 thousand euros
- UraMin Centrafrique 83,885 thousand euros (115,686 KUSD)
- AREVA Solar PTY Limited 57,390 thousand euros (88,513 KAUD)
- AREVA Bioenergia Ltda 51,643 thousand euros
- AREVA Solar 51,514 thousand euros (71,043 KUSD)
- AREVA Enrichment Services LLC 50,132 thousand euros (69,138 KUSD)

20.4.4.3.3. "Other long-term securities" chiefly include Japan Steel securities in the amount of 43,305 thousand euros.

20.4.4.3.4. "Other long-term notes and investments" include:

- security deposits related to regular leases for the AREVA Tower in Courbevoie and the rue La Fayette offices in central Paris representing 6,711 thousand euros at December 31, 2013;
- AREVA's equity interest in European Liability Insurance for the Nuclear Industry (Elini), a mutual insurance company, representing 6,741 thousand euros at December 31, 2013, and in the mutual BlueRE in the amount of 320 thousand euros ; and
- treasury shares acquired from the Framépargne employee savings plan under a liquidity agreement in the amount of 9,937 thousand euros, including 100,273 thousand euros for acquisitions in 2013 in connection with the employee shareholding plan.
- The liquidity contract with Natixis in the amount of 1,666 thousand euros.

20.4.4.4. IMPAIRMENT OF LONG-TERM INVESTMENTS

Write-downs *(in thousands of euros)*	**Note**	**2012**	**Merger Spin-off**	**Increase**	**Decrease**	**2013**
Equity associates	4.4.1	7,101		259	1,568	5,792
Loans to equity associates	4.4.2	137,143		83,885	137,143	83,885
Investment portfolio						
Other long-term securities	4.4.3	22,205		1,535		23,739
Loans						
Other long-term investments:						
- Receivables related to end-of-lifecycle operations						
- End-of-lifecycle assets - Third party share						
- Other long-term investments	4.4.4	51,194			51,194	
TOTAL LONG-TERM INVESTMENTS		**217,642**		**85,679**	**189,904**	**113,417**

20.4.4.4.1 The increase in the provisions for equity associates corresponds to the write-down of AREVACom shares in the amount of 256 thousand euros and of AREVACOQ 7 in the amount of 3 thousand euros. The reversals correspond to the provisions for AREVADelfi shares in the amount of 80 thousand euros, AREVA Entreprises Inc. shares in the amount of 929,000 thousand euros and Cilas shares in the amount of 559 thousand euros.

20.4.4.4.2 The change in provisions for loans to equity associates corresponds to provisions for loans to UraMin Centrafrique in the amount of 83,885 thousand euros and the reversal of provisions for loans to UraMin Lukisa and UraMin Centrafrique recognized in 2012 in the amount of 137,143 thousand euros.

20.4.4.4.3 The change in provisions for other long-term securities mainly concerned the impairment of Japan Steel Works shares in the amount of 1,535 thousand euros.

20.4.4.4.4 The change in the provision for other long-term investments corresponds to the recapture of the write-down of AREVA SA treasury shares in the amount of 51,194 thousand euros based on the market price of the AREVA share at December 31, 2013.

20.4.4.5. STATEMENT OF RECEIVABLES

(in thousands of euros)	Note	Gross amount	Maturing in less than 1 year	Maturing in more than 1 year
Non-current assets				
Loans to affiliates		7,430,585	868,366	6,562,219
Loans				
Other long-term investments:				
- Receivables related to end-of-lifecycle operations				
- End-of-lifecycle assets - Third party share				
- Other long-term investments		25,545	1,666	23,879
TOTAL CAPITALIZED RECEIVABLES		**7,456,130**	**870,032**	**6,586,097**
Current assets				
Suppliers: advances and prepayments made		**1,692**	**1,692**	
Working capital: receivables				
Doubtful accounts				
Other trade accounts receivable		97,888	97,888	
Accounts payable to employees and related accounts		1,250	1,250	
Social security administration and other social institutions				
French State and local governments:				
- Income tax		138,703	138,703	
- Value added tax		41,577	41,577	
- Other taxes and related expenses		167	167	
- Miscellaneous French State		459	459	
Group and associates		42,487	42,487	
Trade accounts and other receivables		246,550	246,550	
TOTAL GROSS RECEIVABLES – WORKING CAPITAL		**569,081**	**569,081**	
Prepaid expenses		**2,435**	**2,435**	
TOTAL GROSS RECEIVABLES		**8,029,338**	**1,443,241**	**6,586,097**

20.4.4.6. ACCRUED INCOME

(French decree 83-1020 of November 29, 1983, article 23)

(in thousands of euros)	Note	2013	2012
Long-term investments			
Loans to affiliates	4.6.1.	155,369	50,825
Other long-term investments			
TOTAL LONG-TERM INVESTMENTS		**155,369**	**50,825**
Working capital: receivables			
Trade accounts receivable and related accounts		13,996	18,067
Accounts payable to employees and related accounts			
Social security administration and other social institutions			
French State and local governments:		459	459
Trade accounts and other receivables		220,192	220,708
TOTAL RECEIVABLES – WORKING CAPITAL		**234,646**	**239,235**
Marketable securities		**2**	**241**
Cash and cash equivalents			
TOTAL INCOME RECEIVABLE		**390,017**	**290,301**

20.4.4.6.1. The change in accrued interest on loans to affiliates related mainly to AREVA NP (12,823 thousand euros), SET (69,236 thousand euros) and UraMin Holding (23,770 thousand euros).

20.4.4.7. NET CASH

(in thousands of euros)	Note	2013	2012
Other marketable securities	4.7.1.	1,438,822	1,427,335
Write-downs - other marketable securities			
Cash instruments		60,692	6,568
Non-trade current accounts		1,350,377	1,050,039
Write-downs - non-trade current accounts		-1,111	-13,909
Cash and cash equivalents		56,436	153,059
TOTAL CASH AND MARKETABLE SECURITIES		**2,905,215**	**2,623,092**

20.4.4.7.1. Other marketable securities consisted primarily of certificates of deposit in the amount of 309,200 thousand euros, of money market funds and treasury bonds in the amount of 1,128,828 thousand euros, and of treasury shares acquired in connection with the liquidity contract in the amount of 592 thousand euros.

20.4.4.8. SHARE CAPITAL

(French decree 83-1020 of November 29, 1983, article 24-12)

		Number of shares			
Category of shares	**Par value**	**At the beginning of the year**	**Increase**	**Decrease**	**At year-end**
Common shares	3.80 euros	383,204,852			383,204,852

Since May 30, 2011, the AREVA share is traded on compartment A of the NYSE Euronext stock exchange in Paris under ISIN code FR0011027143.

The share capital of AREVA SA at December 31, 2013 was as follows:

	2013	2012	2011
CEA	61.5%	68.9%	73.0%
French State	21.7%	14.3%	10.2%
Kuwait Investment Authority (KIA)	4.8%	4.8%	4.8%
CDC / BPI France Participations	3.3%	3.3%	3.3%
Total	1.0%	1.0%	1.0%
Employee shareholders	1.2%	0.2%	1.2%
EDF	2.2%	2.2%	2.2%
Public	4.1%	4.0%	4.0%
Treasury shares	0.2%	1.2%	0.3%
TOTAL	**100.0%**	**100.0%**	**100.0%**

20.4.4.9. EQUITY

(in thousands of euros)	Note	2012	Appropriation of the result	Spin-off	Net income for the year	Increase	Decrease	2013
Subscribed capital		1,456,178						1,456,178
Additional paid-in capital, share premiums		1,148,130						1,148,130
Revaluation adjustments								
Legal reserve		145,618						145,618
Blocked reserves								
Regulated reserves		3,304						3,304
Other reserves		6,403						6,403
Retained earnings		3,834,648	241,683					4,076,331
Net income for the year		241,683	-241,683		-180,155			-180,155
Net investment subsidies		1,778					366	1,412
Tax-driven provisions		2,944				1,646	3	4,587
TOTAL SHAREHOLDERS' EQUITY		**6,840,686**	**-**		**-180,155**	**1,646**	**368**	**6,661,808**

20.4.4.10. PROVISIONS FOR CONTINGENCIES AND LOSSES

(in thousands of euros)	Note	2012	Merger-Spin-off	Increase	Decrease	Reclassifications	2013
Provisions for contingencies							
Provisions for litigation							
Provisions for customer warranties							
Provisions for losses at completion							
Provisions for foreign exchange losses				170			170
Other provisions for contingencies	4.10.1	21,342		3,086	16,791		7,638
TOTAL PROVISIONS FOR CONTINGENCIES		**21,342**		**3,255**	**16,791**		**7,807**
Provisions for losses							
Provisions for retirement and similar benefits		2,759		418	477		2,700
Provisions for taxes	4.10.2	188,485		50,280			238,765
Provisions for work completion							
Provisions for accrued expenses							
Provisions for mining site reclamation							
End-of-lifecycle provisions							
Provisions for decontamination of tooling							
Other provisions for losses	4.10.3	4,148		27,990	1,122		31,016
TOTAL PROVISIONS FOR LOSSES		**195,392**		**78,688**	**1,599**		**272,481**
TOTAL PROVISIONS FOR CONTINGENCIES AND LOSSES		**216,734**		**81,943**	**18,390**		**280,288**
Including charges and reversals							
• Operating				2,716	9,664		
• Financial				440	5,853		
• Exceptional				78,787	2,873		

20.4.4.10.1 The change in other provisions for contingencies concerned unrealized losses on inflation swaps and the reversal of a provision for tax audit adjustment.

20.4.4.10.2 The provisions for charges primarily include the provision for potential tax related to AREVA's advance use of certain of its subsidiaries' tax losses in the consolidated tax return. At December 31, 2013, this provision was increased to 238,765 thousand euros after a provision of 50,280 thousand euros for potential tax.

20.4.4.10.3 The change in other provisions for losses corresponds mostly to commitments made in connection with real estate leases devoid of future economic benefit for the company following the restructuring of the company's offices in the Paris area.

20.4.4.11. STATEMENT OF LIABILITIES

(in thousands of euros)	Note	Gross amount	Maturing in < 1 year	Maturing in 1-5 years	Maturing in more than 5 years
Borrowings					
Convertible bond issues					
Other bond issues	4.11.1	5,093,569	63,290	1,830,279	3,200,000
Bank borrowings	4.11.2	430,763	30,763	400,000	
Miscellaneous loans and borrowings	4.11.3	4,406,942	4,406,855		86
TOTAL BORROWINGS		**9,931,273**	**4,500,908**	**2,230,279**	**3,200,086**
Advances and prepayments on orders					
Other liabilities					
Trade accounts payable and related accounts		122,909	122,909		
Taxes and employee-related liabilities:					
• Accounts payable to employees and related accounts		7,414	7,414		
• Social security administration and other social institutions		2,591	2,591		
• French State and local governments:					
• Value added tax		11,439	11,439		
• Other taxes		1,651	1,651		
• Income tax		27	27		
Accounts payable on non-current assets and related accounts		163	163		
Group and associates		105,016	105,016		
Other liabilities		216,938	216,938		
Cash instruments		36,424	36,424		
TOTAL OTHER LIABILITIES		**504,572**	**504,572**		
Unearned income	4.11.4	76,704	12,368	35,304	29,031
TOTAL UNEARNED INCOME		**76,704**	**12,368**	**35,304**	**29,031**
TOTAL GROSS BORROWINGS		**10,512,549**	**5,017,848**	**2,265,583**	**3,229,118**

20.4.4.11.1. Bond issues

(in millions of euros) Issue date	Nominal	Currency	Nominal rate	Due date
September 23, 2009	975	EUR	3.875%	2016
September 23, 2009	1 ,000	EUR	4.875%	2024
November 06, 2009	750	EUR	4.375%	2019
September 22, 2010	750	EUR	3.500%	2021
October 05, 2011	800	EUR	4.625%	2017
April 04, 2012	200	EUR	TEC 10 + 2.125%	2022
September 04, 2013	500	EUR	3.250%	2020
September 20, 2013	8,000	JPY	1.156%	2018
TOTAL	**5,030***			

* *exchange rate used: 1 EUR = 144.72 JPY*

The AREVA group supplemented its bond issue in 2013 in the nominal amount of 500 million euros with a maturity date of September 4, 2020 at the annual coupon of 3.250%. The AREVA group also completed a bond issue as part of a private placement in the amount of 8,000 million yen maturing on September 20, 2018 with an annual coupon of 1.156%.

The AREVA group also bought back some of the bonds it had issued maturing in 2016 and 2017, representing 375 million euros at face value.

The total drawn on the bond issues comes to 5,030 million euros in nominal value. Of this total, 1,300 million euros were hedged for a variable rate in euros with rate swaps.

20.4.4.11.2. Bank borrowings

Loans and borrowings came to 430,763 thousand euros at December 31, 2013, mainly including:

- bank account credit balances of 16,290 thousand euros;
- two European Investment Bank credit facilities in the amount of 400,000 thousand euros;
- a loan of 19,642 thousand US dollars.

20.4.4.11.3. Miscellaneous loans and borrowings

Loans and borrowings came to 4,406,942 thousand euros at December 31, 2013, mainly including:

- commercial paper in the amount of 206,000 thousand euros;
- debt related to associates in the amount of 7,200 thousand euros; and
- non-trade current liabilities in the amount of 4,193,656 thousand euros.

20.4.4.11.4 Unearned income

In 2013, the group bought back some of the bonds it had issued maturing in 2016 and 2017. At the same time, AREVA unwound cross currency swaps that had been set up to cover the bond issues (fixed rate receiver / variable rate payer). In line with market conditions, the swap terminations generated a gain recognized as unearned income, which will be spread out over the remaining period of the borrowings to reflect their effective interest rate over their term. These gains are in addition to unwindings carried out in 2011.

	At December 31, 2013	At December 31, 2012
Unearned financial income	76,704	65,533
TOTAL	**76,704**	**65,533**

20.4.4.12. ACCRUED EXPENSES

(in thousands of euros)	Note	2013	2012
Borrowings			
Convertible bond issues			
Other bond issues		63,290	61,882
Bank borrowings		230	213
Miscellaneous loans and borrowings		3	
TOTAL BORROWINGS		**63,523**	**62,095**
Other liabilities			
Trade accounts payable and related accounts		93,738	118,210
Taxes and employee-related liabilities		10,875	21,079
Accounts payable on non-current assets and related accounts			1
Other liabilities		173,951	230,979
TOTAL OTHER LIABILITIES		**278,565**	**370,269**
TOTAL ACCRUED EXPENSES		**342,087**	**432,364**

20.4.5. NOTES TO THE INCOME STATEMENT

20.4.5.1. CURRENT OPERATING INCOME

Reported revenue includes:

- charge allocations to subsidiaries, corresponding to shared services and the right to use a trademark, for a total of 404,342 thousand euros;

  The trademark license fee is charged to all customer entities of the AREVA brand and associated activities. Three types of activities are concerned:
  - marketing and sales,
  - communications,
  - public affairs.

  By default, the fee is 0.9% of each relevant subsidiary's contribution to consolidated sales. Shared services are billed based on a catalogue of services;
- proceeds from real estate operations (49,959 thousand euros); and

- the charge allocation for personnel expenses (10,985 thousand euros).

Operating expenses reflect holding company activities and services provided to subsidiaries. The operating loss thus came to 183,126 thousand euros.

20.4.5.2. NET FINANCIAL INCOME

Net financial income includes, in particular:

- dividends from equity interests 9,627 thousand euros
- dividends from other securities 277 thousand euros
- investment income 371 thousand euros
- net income on non-trade accounts and loans to equity associates 177,067 thousand euros
- net income on financial instruments 30,800 thousand euros
- interest expenses on loans - 219,206 thousand euros
- foreign exchange gain 14,744 thousand euros
- net recaptures of provisions 67,679 thousand euros(1)
- net gain from disposals of securities 2,306 thousand euros
- net income from the disposal of treasury shares as part of the employee shareholding plan - 3,612 thousand euros

20.4.5.3. EXCEPTIONAL ITEMS

Exceptional items primarily include:

- the loss on the disposal of loans to equity associates relates to UraMin Lukisa in the amount of 55,239 thousand euros and the current financial account in the amount of 959 thousand euros, offset in part by the reversal of a financial provision in the amount of 55,182 thousand euros;
- the negative premium on the purchase by AREVA SA of its own bonds in the amount of 28,276 thousand euros;
- exceptional depreciation of improvements and fixtures at the rue de La Fayette site in the amount of 7,356 thousand euros;
- the provision associated with the restructuring of the company's offices in the Paris area in the amount of 27,990 thousand euros.
- the provision for potential tax of 50,280 thousand euros.

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 2013, AREVA SA and its integrated subsidiaries generated a combined tax loss of 368,786 thousand euros.

The tax income recognized for 2013 came to 51,190 thousand euros

It is broken down as follows:

- tax savings generated by the tax integration regime: 95,053 thousand euros
- income tax on 2012 consolidated income: 1,997 thousand euros
- change in provision for potential tax: - 50,280 thousand euros
- tax credits: 3,797 thousand euros
- Reversal of provisions for tax audit adjustments (on former FCI subsidiaries): 623 thousand euros

20.4.6. ADDITIONAL INFORMATION

20.4.6.1. WORKFORCE

The company employed 33 people on December 31, 2013, as indicated in the following table:

	2013	2012	2011
Management personnel	34	100	94
Supervisors	3	22	26
Support staff	0	0	0
TOTAL	**37**	**122**	**120**

The 2013 changes in workforce are explained for the most part in Note 1.3.

(1) Including UraMin Lukisa in the amount of 55,182 thousand euros.

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 recognized in accordance with the accounting principles defined in Note 2.9. Each year, independent actuaries determine AREVA's commitments at year end.

Balance sheet reconciliation *(in thousands of euros)*	**2013**	**2012**	**2011**
TOTAL PROVISIONS FOR PENSION OBLIGATIONS AND OTHER EMPLOYEE BENEFITS	**2,700**	**2,759**	**2,619**

The main actuarial assumptions used in determining the group's obligations are as follows:

	2013	**2012**	**2011**
Inflation	1.80%	1.90%	2.00%
Discount rate	3.25%	3.25%	4.75%

- Mortality tables used: INSEE 2000-2002 Men/Women
- Retirement age: 64 for management personnel, 62 for non-management personnel.
- Average attrition

	Management personnel	**Non-management personnel**
< 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 personnel	**Non-management personnel**
< 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 defined benefit obligations

(in thousands of euros)	**2013**	**2012**	**2011**
Defined benefit obligation	3,660	3,510	2,840
Fair value of plan assets			
Unrecognized actuarial losses	-903	-667	-89
Unrecognized past service gains	-57	-84	-132
TOTAL DEFINED BENEFIT OBLIGATION	**2,700**	**2,759**	**2,619**

Change in the provision

(in thousands of euros)	**2013**	**2012**	**2011**
Change in the provision:			
Restated opening balance	2,759	2,619	2,289
Mergers and acquisitions / Transfers[1]	-450		
Total expense	418	363	330
Contributions collected/benefits paid	-27	-223	
BENEFIT OBLIGATION AT DECEMBER 31	**2,700**	**2,759**	**2,619**

(1) Change in liability related to incoming transfers from AREVA NC and outgoing transfers to AREVA Business Support.

Total expense for the year

(in thousands of euros)	2013	2012	2011
Current service cost	245	214	201
Interest cost	117	144	124
Expected return on plan assets			
Amortization of actuarial gains or losses	33	5	5
Past service cost	24		
Plan creation, curtailment or liquidation			
TOTAL EXPENSE FOR THE YEAR	**418**	**363**	**330**

20.4.6.3. INFORMATION ON LEASE ARRANGEMENTS

No lease arrangements were recorded in 2013.

20.4.6.4. COMPANY EXPOSURE TO MARKET RISK

General objectives

AREVA 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 Financial Operations and Treasury Management Department (DOFT) makes transactions on financial markets and acts as a central desk that provides services and manages AREVA's financial exposure. This department is organized with a front, middle and back office and accounting, ensuring the separation of functions, and has all the human, technical, and information system resources necessary to accomplish its mission. Transactions handled by DOFT 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, DOFT prepares a monthly report presenting the group's positions and the performance of its financial transactions. The report is sent to the senior management of the AREVA group and to the Finance, Legal and Strategy departments. The reporting system includes weekly reports submitted to the Chief Financial Officer, including a valuation of all positions at their market value. Together, these reports and reviews are used to monitor the counterparty risk.

Foreign exchange risk management

The volatility of exchange rates may impact AREVA's currency translation adjustments, equity and income.

Balance sheet risk: Loans and borrowings granted by AREVA to its subsidiaries are systematically converted into euros through currency swaps.

To limit the currency risk for long-term investments generating future cash flows in foreign currencies, AREVA uses a liability in the same currency to offset the asset.

Trade exposure: AREVA's policy, which was approved by the Executive Committee, is to systematically hedge foreign exchange risk generated by its operations; it recommends hedging potential risks during the proposal phase, to the extent possible, to minimize the impact of exchange rate fluctuations on net income.

AREVA acquires derivatives (principally currency futures) or special 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 made 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).

The Financial Operations and Treasury Management Department covers its exposures directly with its banking counterparties. A system of strict limits, particularly concerning results, marked to market, and foreign exchange positions that may be taken by the trading desk, is monitored daily by specialized teams that are also charged with valuation of the transactions. In addition, analyses of sensitivity to changes in exchange rates are periodically performed.

At December 31, 2013, derivatives used by the group to manage foreign exchange risk were as follows:

(Notional amounts by maturity date at December 31, 2013)	2014	2015	2016	2017	2018	> 5 years	Total	Market value
Forward exchange contracts	1,897	643	332	163			3,034	19
Foreign exchange swaps	1,677	283	254	104			2,318	17
Currency options	257	58	55	29			400	0
Cross-currency swaps		565	148		61		774	61
TOTAL	**3,832**	**1,549**	**789**	**295**	**61**		**6,526**	**96**

Interest rate risk management

AREVA is exposed to the fluctuations of interest rates on its floating rate borrowings and on its financial investments. The Financial Operations and Treasury Management Department manages all interest rate risks.

AREVA 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.

At December 31, 2013, interest rate swaps were the main financial instruments used in the management of external debt. Receiver inflation rate swaps in USD were set up with banks to cover payer inflation rate swaps in USD set up with AREVA Mines.

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.

At December 31, 2013, the following financial instruments were used to hedge interest rate exposure:

Interest rate instruments *(in millions of euros)*	**Total**	**Notional amounts by maturity date at December 31, 2013**						**Market value**
		2014	**2015**	**2016**	**2017**	**2018**	**> 5 years**	
Interest rate swaps – variable lender – EUR								
Fixed borrower – EUR	**400**		200	200				-7
Interest rate swaps – variable lender – EUR								
EUR variable borrower	**100**						100	1
USD variable borrower	**181**		181					0
CAD variable borrower	**532**		384	148				-2
Interest rate swaps – fixed lender – EUR								
EUR variable borrower	**1,505**	205		350			950	43
Interest rate swaps – fixed lender – JPY								
EUR variable borrower	**61**					61		-1
Inflation rate swaps – variable lender – USD								
USD fixed lender	**254**						254	0
GRAND TOTAL	**2,906**	**205**	**765**	**698**	**0**	**61**	**1,177**	**14**

Commodity risk

AREVA does not have significant exposure to commodities.

Equity risk

To manage its long-term investment positions, AREVA may elect to use puts and calls backed by portfolio equities. No such transaction was pending at the end of the year.

Counterparty risk

AREVA is exposed to the credit risk of counterparties linked to its use of financial derivatives to cover its risks AREVA 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. AREVA 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, AREVA's trading desk deals only with diversified, top quality counterparties based on their ratings in the Standard & Poor's and Moody's rating systems, with a minimum rating of Investment Grade. 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 Treasury Operations. During periods of significant financial instability that may involve an increased risk of bank default, which may be underestimated by ratings agencies, AREVA monitors advanced indicators such as the value of the credit default swaps (CDS) of the eligible counterparties to determine if limits should be adjusted.

When conditions warrant (rising counterparty risk, longer term transactions, etc.), market transactions are managed by margin calls that reduce AREVA's counterparty risk to a predetermined threshold: the Credit Support Annex for trades documented under an ISDA master agreement, or the Collateral Annex for trades documented under a French Banking Federation (FBF) master agreement

Market value of financial instruments

The market value of financial instruments pertaining to currency, rate and commodity transactions was calculated based on market data at 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. ASSOCIATES

	Amount concerning related parties in which the company has an equity interest	
(in thousands of euros)	**related parties**	**equity associates**
Advances and prepayments to fund non-current assets		
Intangible assets		
Property, plant and equipment		
Long-term investments		
Equity associates	6,452,101	
Loans to affiliates	7,430,122	
Loans		
Other long-term securities		
Other long-term investments	9	
	13,882,232	
Accounts receivable		
Suppliers: advances and prepayments made		
Accounts receivable and related accounts	93,721	
Other accounts receivable	100,594	
Subscribed capital issued and not paid		
	194,315	
Cash and cash equivalents		
Non-trade current accounts	1,326,539	
	1,326,539	
Miscellaneous loans and borrowings		
Miscellaneous debt	27	
Loans to equity associates	7,200	
Miscellaneous loans and borrowings		
Non-trade current accounts	4,180,759	
	4,187,986	
Liabilities		
Customers: advanced and prepayments received		
Trade accounts payable	75,029	
Accounts payable on non-current assets		
Other liabilities	169,721	
	244,750	
FINANCIAL EXPENSES	**-292,536**	
FINANCIAL INCOME	**287,345**	

20.4.6.6. OFF-BALANCE-SHEET COMMITMENTS

(in thousands of euros)	Note	Total	< 1 year	1 to 5 years	> 5 years
Commitments given					
Bid guarantees					
Performance warranties					
Down payment guarantees					
Guarantees for waivers of warranty retentions					
After-sales warranties					
Environmental guarantees					
Total operating commitments given					
Comfort letters given					
Guarantees and surety		670,604	495,630	122,127	52,847
Liens given					
Mortgages given					
Other funding guarantees		1,200	1,200		
Total commitments and collateral given on financing		**671,804**	**496,830**	**122,127**	**52,847**
Guarantees of assets and liabilities					
Guarantees pertaining to rental obligations given		7,196		1,653	5,543
Other commitments given					
Total other commitments given		**7,196**		**1,653**	**5,543**
I. TOTAL COMMITMENTS GIVEN		**679,000**	**496,830**	**123,780**	**58,390**
Commitments received					
Contract guarantees received		3,787		3,787	
Vendor warranties received		677	677		
Other commitments received					
II. TOTAL COMMITMENTS RECEIVED		**4,464**	**677**	**3,787**	
Reciprocal commitments					
Firm multiyear purchase commitments					
Firm multiyear sales commitments					
Unused lines of credit		2,055,000		2,055,000	
Future minimum payments on operating leases		265,752	61,643	167,400	36,709
Other reciprocal commitments		5,000	5,000		
III. TOTAL RECIPROCAL COMMITMENTS		**2,325,752**	**66,643**	**2,222,400**	**36,709**

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 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 was capped at the sale price of 582 million euros, expired on December 31, 2013.

Reciprocal commitments

Unused lines of credit

In January 2013, the group established a 1.25-billion-euro syndicated line of credit available in euros over a five-year period. At year-end 2013, this line had not been used.

The group also has bilateral lines of credit available to it in the amount of 755 million euros maturing in 2015 and in the amount of 50 million euros maturing in 2016. These lines had not been used at the end of December 2013.

Individual training entitlements (*droits à la formation*, DIF) totaled 2,167 hours. There was no request for training under this quota of hours.

20.4.6.7. COMPENSATION OF DIRECTORS AND OFFICERS

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 2,455 thousand euros.

20.4.6.8. DISPUTES AND POTENTIAL LIABILITIES

Ongoing investigations

On January 24, 2007, the European Commission fined 11 companies, including AREVA SA, for anti-competitive practices in the gas insulated switchgear market (GIS). EBS Networks filed a new claim for damages in Ireland on April 19, 2013, naming jointly AREVA SA and all of the defendant companies subject to the above-mentioned fine by the European Commission. Before any defense on the merits, AREVA decided to file for dismissal of this action on procedural grounds (strike-out), since the plaintiff did not serve his statement of claim in a timely manner. The plaintiff has not yet asserted the amount of his claim.

20.4.6.9. SUBSIDIARIES AND ASSOCIATES (FRENCH COMMERCIAL CODE, ARTICLE L. 233-15)

	Interest held in share capital (in %)	Share capital	Equity other than share capital	Carrying amount of shares held		Unpaid loans and advances	Guarantees given	Revenue before tax of last fiscal year	Income from last fiscal year	Dividends received
				Gross	Net					
A - Detailed financial information on subsidiaries and associates (net carrying amount exceeds 1% of the company's share capital)										
1 - Subsidiaries (more than 50% of the share capital held)										
AREVA NP SAS										
Tour AREVA - 92084 Paris La Défense Cedex – France	100.00	400,000	-327,045	3,042,165	3,042,165	1,013,688		2,533,074	-250,448	
AREVA MINES SAS										
Tour AREVA - 92084 Paris La Défense Cedex – France	99.99	25,207	120,049	2,356,194	2,356,194			1,724,431	182,473	
AREVA NC SA										
Tour AREVA - 92084 Paris La Défense Cedex – France	100.00	100,259	-352,785	523,292	523,292			2,730,503	463,643	
Compagnie d'Etude et de Recherche pour l'Energie (CERE)										
Tour AREVA - 92084 Paris La Défense Cedex – France	100.00	247,500	8,118	251,541	251,541				5,442	
AREVA RENOUVELABLES SAS										
Tour AREVA - 92084 Paris La Défense Cedex – France	100.00	188,081	9,971	188,234	188,234			13,119	-29,272	
CEDEC SA										
Tour AREVA - 92084 Paris La Défense Cedex – France	90.14	36,532	4,878	33,466	33,466				1	
AREVA IR										
Tour AREVA - 92084 Paris La Défense Cedex – France	100.00	6,375	94,000	30,940	30,940				1,958	8,713
2 - Associates (10% to 50% of the share capital held)										
B. - Summary information on other subsidiaries and associates										
1 - Subsidiaries not included in section A 1										
French subsidiaries				15,939	14,643					915
Foreign subsidiaries				4,808	4,765					
2 - Associates not included in section A 2										
French companies				6,098	1,756					
Foreign companies				783	783					

20.5. Five-year financial summary of AREVA SA

(in thousands of euros) **Type of indicator**	**2009**	**2010**	**2011**	**2012**	**2013**
I - Share capital at year end					
a) Share capital	1,346,823	1,452,053	1,456,178	1,456,178	1,456,178
b) Number of common shares outstanding	34,013,593	367,828,237	383,204,852	383,204,852	383,204,852
c) Number of shares with preferred dividend rights	1,429,108	14,291,080	0	0	0
II - Operations and income for the year					
a) Revenue before tax	230,919	395,168	450,606	430,415	490,444
b) Income before tax, employee profit-sharing and amortization, depreciation and provisions (including reversals)	-107,930	1,648,375	1,246,778	310,831	-294,177
c) Income tax	72,360	39,737	34,541	63,115	100,847
d) Employee profit-sharing for the year	0	0	0	0	0
e) Income after tax, employee profit-sharing and amortization, depreciation and provisions (increases-decreases)	-138,672	1,615,734	1,182,443	241,683	-180,155
f) Net income distributed	249,730	0	0	0	0(*)
III - Earnings per share (in euros)					
a) Income after tax and employee profit-sharing, before amortization, depreciation and provisions (increases-decreases)	-5.00	4.00	3.00	0.98	-0.50
b) Income after tax, employee profit-sharing and amortization, depreciation and provisions (increases-decreases)	-4.00	4.00	3.00	0.63	-0.47
c) Dividend per share (rounded to one eurocent)	7.06	0.00	0.00	0.00	0.00
IV - Personnel					
a) Average number of salaried employees during the year	128	123	119	125	45
b) Total payroll for the year	23,269	28,496	25,243	26,994	12,724
c) Payroll taxes and other benefit expenses (social security, benefits programs, etc.)	11,231	11,119	10,431	13,543	2,762

20.6. Summary of accounts payable to AREVA SA suppliers

Accounts payable to suppliers at year-end, in accordance with articles L. 441-6-1 (1) and D. 441-4 of the French Commercial Code, by maturity dates:

(in thousands of euros)	**2013**	**2012**
Matured	-16,939	7,958
0 to 30 days	45,831	32,188
31 to 45 days	334	264
More than 45 days	9	5
TOTAL	**29,234**	**40,415**

20.7. Dividend distribution policy

20.7.1. DIVIDEND PAYMENT (ARTICLE 47 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.

20.7.2. DIVIDEND DATA

(euros)	Dividend	Tax credit	Gross dividend
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
2009	7.06	-	7.06
2010	-	-	-
2011	-	-	-
2012	-	-	-
2013	**-**	**-**	**-**

With consolidated net income of -494 million euros, the application of the group's dividend policy led to the AREVA Supervisory Board recommendation to the Annual General Meeting of Shareholders not to pay a dividend for 2013.

20.7.3. DIVIDEND POLICY

During its meeting of February 26, 2014, the Supervisory Board approved the establishment of a dividend policy balanced with the Action 2016 strategic action plan. Thus, starting with the dividend paid in 2015 based on the financial statements for the year ending December 31, 2014, the distribution rate will be determined within the limit of 25% of the net income attributable to owners of the parent.

20.8. Legal and arbitration proceedings

The group is involved in a number of disputes, with a potentially significant negative impact on AREVA's business, financial position or reputation.

Appropriate provisions are recorded to cover expenses that could result from these disputes, based on case-by-case analysis.

In addition, some disputes involving damages or injury are covered under the group's insurance policies or other forms of guarantee.

Except for the proceedings described in Section 4.2.3. *Risks and disputes involving AREVA*, and to AREVA's knowledge, there is no other administrative, legal or arbitration proceeding pending or threatened that had or could have a significant impact on the financial position, profitability or reputation of AREVA and/or of the group in the past twelve months.

By way of information, on June 21, 2013, CCCM submitted a request for arbitration to the German Institute of Arbitration (Deutsche Institution für Schiedsgerichtsbarketi, DIS) against the consortium of AREVA Renewables GmbH and AREVA Bioenergy Ltd. CCCM is asking, in the first place, for 6,004,167 euros for alleged violations of the Sao Borja EPC contract (construction of a biomass power plant in the State of Rio Grande du Sul, Brazil). In the second place, CCCM asks that the AREVA Renewables and Bioenergy consortium be found liable for all damages suffered by CCCM following the termination of three other biomass construction contracts between those same parties, but is only asking for a conviction in principle, not having indicated the amount of its claim as of this date.

20.9. Significant change in the issuer's financial or trading position

Significant events between year-end closing for 2013 (December 31, 2013) and the date of this Reference Document are mentioned in Note 35 of Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2013* and in Section 9.3. *Events subsequent to year end closing for 2013* of this Reference Document.

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21.1. Share capital

21.1.1. AMOUNT OF SUBSCRIBED CAPITAL

The share capital of the company is fully paid up at December 31, 2013 and stands at 1,456,178,437.60 euros, divided into 383,204,852 common shares with a par value of 3.80 euros.

All of the shares are quoted on Compartment A of NYSE Euronext Paris under Euroclear code 062059150 and ISIN code FR 0011027143.

Custodian and transfer services are provided by

Société Générale Securities Services
Issuer Service

32, rue du Champ de Tir BP 81236
44312 Nantes Cedex 3
France

Tel.: + 33 (0)2 51 85 67 89
www.nominet.socgen.com
www.sg-securities-services.com

21.1.2. SHARES NOT REPRESENTATIVE OF CAPITAL

None.

21.1.3. TREASURY SHARES

AREVA did not purchase any of its own shares pursuant to the authorization of the Annual General Meeting of Shareholders of May 7, 2013.

AREVA held 772,325 of its own shares at December 31, 2013 (740,490 shares in treasury and 31,835 shares under the liquidity contract).

21.1.4. LIQUIDITY CONTRACT

On January 10, 2013, AREVA asked Natixis to manage the liquidity agreement for AREVA shares (Paris – ISIN code FR0011027143) listed for trading on the NYSE Euronext Paris regulated market, as provided in the Ethics Charter adopted by the French association of financial markets (AMAFI, Association française des marchés financiers) on March 8, 2011 and approved by the French market authority (AMF, Autorité des marchés financiers) on March 21, 2011. Two million euros were allocated for implementation of the liquidity contract, which covers a period of 12 months, renewable by tacit agreement.

21.1.5. CONVERTIBLE SECURITIES AND WARRANTS

None.

21.1.6. INFORMATION ON THE TERMS OF ANY ACQUISITION RIGHT AND/OR ANY OBLIGATIONS ATTACHED TO CAPITAL SUBSCRIBED BUT NOT PAID, OR ANY PROJECT TO INCREASE THE SHARE CAPITAL

None.

21.1.7. INFORMATION ON THE CAPITAL OF ANY MEMBER OF THE GROUP WHICH IS UNDER OPTION OR SUBJECT TO A FIRM OR CONTINGENT AGREEMENT CONTEMPLATING AN OPTION

In connection with the shareholders' agreement between the French State, the Commissariat à l'énergie atomique et aux énergies alternatives and Kuwait Investment Authority (KIA)* for a term of ten years as from December 28, 2010, the French State has an option to purchase the shares in the event that KIA violates its commitment regarding the preemptive right. The exercise price for the purchase option shall be calculated based on the average weighted closing price of AREVA shares during the 90 trading days preceding the date of exercise of the option.

* *Kuwait Investment Authority is an autonomous government institution in charge of the management and administration of the general reserve fund and the fund's assets for future generations of Kuwaitis, and of any other funds conveyed by the Ministry of Finance of Kuwait in the name and for the account of the State of Kuwait. KIA was created in 1953. With 296 billion dollars of assets under management in 2011, it was the sixth largest fund in the world in terms of managed assets at year-end 2011 according to the Sovereign Wealth Fund Institute 2011.*

21.1.8. HISTORY OF THE SHARE CAPITAL AND RECENT CHANGES

➔ CHANGES IN SHARE CAPITAL FOR THE PERIOD COVERED IN THE FINANCIAL STATEMENTS

		Number of capital securities issued/canceled			
Transaction date	**Transaction**	**Shares**	**IC**	**NVPS***	**Total**
December 28, 2010	Capital increase reserved for KIA and the French State	27,692,307	0	0	27,692,307
January 25, 2011	Capital increase reserved for IC holders	0	0	1,085,535	1,085,535
May 30, 2011	Recombination of ICs and Voting Right certificates and conversion of NVPS* into common shares	NA	NA	NA	NA

* *NVPS: Non-voting preferred share.*

AREVA's share capital has not been changed since May 30, 2011.

21.1.9. DELEGATION OF AUTHORITY AND AUTHORIZATIONS GRANTED TO THE EXECUTIVE BOARD BY THE SHAREHOLDERS FOR CAPITAL INCREASES

Description	Date of authorization	Period of validity of the authorization/ Expiration date	Maximum amount	Amount issued at December 31, 2013
Increase of the share capital by issuing common shares or securities providing access to share capital, with the preemptive subscription right maintained for the shareholders	AGM May 10, 2012 (13th resolution)	26 months July 10, 2014	290,000,000 euros	None
Emission of common shares or securities providing access to the company's share capital, with cancellation of the preemptive subscription right, through a public offer	AGM May 10, 2012 (14th resolution)	26 months July 10, 2014	290,000,000 euros	None
Emission of common shares or securities providing access to the company's share capital, with cancellation of the preemptive subscription right of the shareholders, through a private placement as provided in article L. 411-2 II of the French Monetary and Financial Code	AGM May 10, 2012 (15th resolution)	26 months July 10, 2014	290,000,000 euros	None
Authorization for the purpose of increasing the number of shares to be issued in the event of a capital increase, with or without preemptive subscription right	AGM May 10, 2012 (16th resolution)	26 months July 10, 2014	290,000,000 euros	None
Determination of the issue price in accordance with the terms set by the Shareholders in the event of an issue of shares or securities of any kind giving access to the share capital immediately or eventually, with cancellation of the preemptive subscription right, for up to 10% of the share capital	AGM May 10, 2012 (17th resolution)	26 months July 10, 2014	NA	None
Emission of common shares as compensation for contributions in kind to the company, in the form of shares of equity or securities providing access to share capital	AGM May 10, 2012 (18th resolution)	26 months July 10, 2014	10% of the company's capital on the date of the Executive Board's decision, within the limit of 290,000,000 euros	None
Capital increase by capitalization of reserves, retained earnings and/or premiums	AGM May 10, 2012 (19th resolution)	26 months July 10, 2014	Global amount eligible for capitalization	None

Number of capital securities after transaction				Par value		
Shares	IC	NVPS*	Total	Shares	IC	Amount of share capital after transaction
367,828,237	14,291,080	0	382,119,317	3.8	3.8	1,452,053,404.60
367,828,237	14,291,080	1,085,535	383,204,852	3.8	3.8	1,456,178,437.60
383,204,852	0	0	383,204,852	3.8	NA	1,456,178,437.60

21.1.10. LIENS

There are no liens on AREVA's share capital as of this date.

21.2. Certificate of incorporation and by-laws

21.2.1. CORPORATE PURPOSE

Article 3 of AREVA's by-laws defines the corporate purpose of the company as follows, in France and abroad:

- to manage any industrial or commercial operation, especially in the nuclear, renewable energies, and information technology and electronics 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,
  - 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.

21.2.2. MEMBERS OF THE MANAGEMENT AND SUPERVISORY BODIES

For information on the members of the executive and supervisory bodies, please refer to Sections 14 and 16 of this Reference Document.

21.2.3. RESTRICTIONS ON SALES OF COMPAGNY SHARES

1. Possession of a share automatically signifies acceptance of the company's by-laws and of the resolutions duly adopted by all General Meetings of shareholders. The Commissariat à l'énergie atomique et aux energies alternatives, as AREVA's principal shareholder, does not hold specific rights attached to the shares it holds.
2. Unless otherwise provided by law, each shareholder has as many voting rights as the number of fully paid-up shares he or she holds and may cast as many votes in shareholder meetings.
3. Shareholders are liable for the company's liabilities only up to the par value of their shares; additional cash calls are prohibited.
4. Each share signifies ownership of the company's equity and a right to share in the profits and liquidating dividend proportionate to the share capital it represents.
5. The shares are freely transferable except as provided by laws and regulations. Decree no. 2011-1883 of December 15, 2011 makes provision for the joint approval of any disposal or exchange of AREVA shares held by the Commissariat à l'énergie atomique by the Minister of Industry and the Minister Delegate of the Economy. The shares are registered in an account and transferred from account to account upon sale.

21.2.4. CONDITIONS FOR CONVENING GENERAL MEETINGS OF SHAREHOLDERS

21.2.4.1. PROVISIONS COMMON TO ALL MEETINGS

Notices of meeting

Meetings are convened as provided by law.

Admission to Meetings – Custody of the shares

1. Any shareholder 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, 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, 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 attend or be represented at the General Meeting.
3. Joint owners of undivided shares 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. The Company Works 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 articles L. 2323-64 and L. 2323-65 of the French Labor Code may attend the General Meetings.

21.2.4.2. RULES GOVERNING ANNUAL GENERAL MEETINGS OF SHAREHOLDERS

Quorum and majority

The Annual General Meeting of Shareholders may deliberate validly after the first notice of meeting only if the shareholders present in person, represented by proxy or voting by mail, or attending through videoconference or a telecommunications medium allowing them to be identified, possess at least one-fifth of the shares 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 present in person, represented by proxy or voting by mail, or attending the Annual General Meeting through videoconference or a telecommunications medium allowing them to be identified.

All shareholders are allowed to send a paper ballot by mail. When the Executive Board allows it in the notice of a meeting, a shareholder may send his ballot electronically.

21.2.4.3. RULES GOVERNING EXTRAORDINARY GENERAL MEETINGS OF SHAREHOLDERS

Quorum and majority

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 are present in person, represented by proxy or voting by mail, or attending the Meeting through 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 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 present in person, represented by proxy, voting by mail, or participating through videoconference or a telecommunications medium allowing them to be identified, in accordance with applicable laws and regulations.

All shareholders are allowed to send a paper ballot by mail. When the Executive Board allows it in the notice of a meeting, a shareholder may send his ballot electronically.

21.2.5. PROVISION HAVING THE EFFECT OF DELAYING, DEFERRING OR PREVENTING A CHANGE OF CONTROL IN AREVA

The French decree no. 83-1116 of December 21, 1983, which establishes AREVA, provides as follows:

- the CEA shall retain the majority of the Company's share capital (article 2, paragraph 1);
- The approval of any capital increase, any disposal or exchange of AREVA shares held by the CEA by the minister(s) concerned (article 2, paragraph 2).

21.2.6. BREACHING SHAREHOLDING THRESHOLDS

Aside from the thresholds provided by law, any natural person or corporate entity, acting alone or in concert, who shall come into ownership, directly or indirectly, a fraction equal to or greater than 0.5% or any multiple thereof of the share capital and/or voting rights of the Company shall declare to the Company within five trading days of exceeding the threshold, by registered letter with return receipt requested to the head office, the number of shares and/or voting rights held and of securities giving access to the share capital and to the voting rights potentially attached thereto.

This same requirement to provide information applies, within the same period of time, when falling below the threshold of 0.5% or a multiple thereof.

21.2.7. CHANGE IN SHARE CAPITAL

The French decree no. 2011-1883 of December 15, 2011 provides in particular that:

- capital increases are subject to the joint approval of the Minister Delegate of Industry and the Minister Delegate of the Economy;
- the majority of the share capital must be held by the CEA.

22

Major contracts

Except for the contracts described in Sections 6 and 9 of this Reference Document, AREVA did not enter into major contracts in 2012 and 2013 other than those entered into in the normal course of its business.

23 Third party information, statements by experts and declarations of interest

Not applicable.

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24.1. Availability of documents

The following documents, or copies thereof, may be consulted at AREVA's head office, Tour AREVA, 1 place Jean Millier, 92400 Courbevoie, France, during the period of validity of this Reference Document:

- the establishing order no. 83-1116 of December 21, 1983 and its amendments, the order no. 2007-1140 of July 27, 2007 published in the Journal officiel on July 28, 2007, the order no. 2010-1613 of December 23, 2010, 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.

24.2. Persons responsible for financial information

The persons responsible for financial information are:

- Pierre Aubouin, Chief Financial Executive Officer;
- Marie de Scorbiac, Financial Communications and Investor Relations Director.

The team is also composed of:

- Sabine Kueny, Marketing, Communication and Retail Shareholding Manager;
- Philippine du Repaire, Investor Relations Manager.

The Shareholders Relations service may be reached at our toll-free number (calls in France only), 0810 699 756, or by e-mail to:

actionnaires@areva.com, and is based at the head office of AREVA, Tour AREVA, 1 place Jean Millier, 92400 Courbevoie, France.

24.3. Financial information programs

It is the Executive Board's objective to report on the group's operations to shareholders. 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 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 through press releases. All of the 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, www.areva.com. Persons 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, as well as the Letter to the Shareholders begun in January 2012 and the Shareholder's Guide that went online in February 2014. 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 quarterly data of the previous year may show significant variations 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.

The group organizes tours of its sites to enhance understanding of its operations and facilities. The first tour specifically for individual shareholders was given on November 15, 2013 at the La Hague site.

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
January 30, 2014	2013 revenue and related information (press release)
February 26, 2014	2013 results (press release, conference and webcast)
April 24, 2014	First quarter 2014 revenue and related information (press release)
May 20, 2014	Combined Annual General Meeting of Shareholders
July 31, 2014	First half 2014 results (press release, telephone conference and webcast)
October 30, 2014	Third quarter 2014 revenue and related information (press release)

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.

In addition, throughout the year, analysts and investors are invited to learn about the group's operations from a technical and financial standpoint through informative tours of the plant sites. On October 3 and 4, 2013, an AREVA Technical Days session specifically devoted to the group's operations in the United States was held in Lynchburg, Virginia.

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25.1. Significant equity interests of the AREVA group

SUEZ ENVIRONNEMENT COMPANY

- Percentage of ownership by AREVA NC: 1.14% of the share capital and 1.14% of the voting rights.
- Business: Suez Environnement supplies equipment and services that are essential for life and to environmental protection: production and distribution of drinking water, collection and treatment of waste water, and waste disposal and recycling.
- Share capital outstanding: 2,040,935,316 euros.
- Trading exchange: Compartment A of Euronext Paris and Euronext Brussels.
- Registered office: Tour CB21 – 16, place de l'Iris – 92040 Paris La Défense Cedex – France.

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 at least 0.5% of AREVA's share capital or voting rights.

SHAREHOLDERS' AGREEMENT BETWEEN THE FRENCH STATE, THE CEA AND KIA

The French State, the CEA and KIA entered into a ten-year shareholders' agreement effective December 28, 2010, whose key provisions are as follows:

- the French State has a preemptive right in the event that KIA sells all or part of its equity interest, except for sales of shares made on the market;
- KIA has an anti-dilution right in the event of a capital increase with cancellation of the preemptive right (except for capital increases reserved for employees of the AREVA group);
- KIA has an absolute right to dispose of its shares in the event of a change in control of AREVA, in the meaning of article L. 233-3 of the French Commercial Code.

The French State has an option to purchase the shares in the event that KIA violates its commitment regarding the preemptive right. The exercise price for the purchase option shall be calculated based on the average weighted closing price of AREVA shares during the 90 trading days preceding the date of exercise of the option.

MEMORANDUM OF UNDERSTANDING BETWEEN THE CAISSE DES DEPÔTS ET CONSIGNATIONS (CDC) AND THE CEA

The memorandum of understanding signed on December 20, 2011 between the CDC and the CEA is no longer in force since the contribution of CDC's equity interest to Bpifrance Participations on July 12, 2013.

MEMORANDUM OF UNDERSTANDING BETWEEN TOTAL CHIMIE, TOTAL NUCLÉAIRE AND AREVA

Under the terms of a memorandum of agreement dated June 27, 2001, Total Chimie and Total Nucléaire agree to retain their AREVA securities until such time as AREVA shares are admitted for trading on a regulated market. Although all AREVA shares are now traded on a regulated market, neither Total Chimie nor Total Nucléaire has yet chosen to dispose of their AREVA shares.

25.2.2. MAIN SHAREHOLDERS' AGREEMENTS CONCERNING AREVA'S EQUITY INTERESTS

SUEZ ENVIRONNEMENT COMPANY

AREVA's interest in Suez Environnement Company was governed by a shareholders' agreement signed on June 5, 2008, among Suez (whose rights and obligations were transferred in their entirety to GDF Suez), AREVA, the CDC, CNP Assurances, groupe Bruxelles Lambert, and Sofina, for a five-year period renewed by tacit agreement. The provisions of this shareholders' agreement ended on July 22, 2013.

EURODIF

AREVA NC holds, directly or indirectly through Sofidif, 60% of Eurodif's capital at present.

As part of a bilateral agreement between France and Iran for cooperation in the field of enrichment, a memorandum of understanding was entered into in 1974 leading to the establishment of Sofidif, 40% of whose share capital is held by the Atomic Energy Organization of Iran (AEOI), with 60% held by AREVA NC.

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, no dividend has been paid to the AEOI since 2007.

AREVA TA

AREVA holds 24.90% of AREVA TA, while 65.10% is held by CEDEC (90.14% AREVA, 9.86% DCN-I), and 10% is held by EDF Développement. A memorandum of understanding concerning AREVA TA's body of shareholders was signed on March 12, 1993 and subsequently amended. It provides in particular that the Board of Directors of AREVA TA is composed of 15 members, 5 of whom are elected by the employees, 6 of whom are appointed on the recommendation of CEDEC, 3 of whom are appointed on the recommendation of AREVA, and 1 of whom is appointed on the recommendation of the EDF group. In the event that EDF group wished to sell all or part of its interest in AREVA TA, AREVA has priority in relation to CEDEC to acquire this interest. 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).

ETC

AREVA NC holds 50% of the shares of Enrichment Technology Company Ltd (ETC), which combines all of URENCO's operations involving the design and construction of facilities and equipment for uranium enrichment by centrifugation. 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.

Appendix 1

Report of the Supervisory Board Chairman on the preparation and organization of the Board's activities and internal control procedures

A1

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1. Legislative and regulatory framework

1.1. LEGAL FRAMEWORK

In accordance with article L. 225-68 of the French Commercial Code, *"In publicly traded companies, the Chairman of the Supervisory Board shall submit a report on [...] the composition of the Board and of application of the principle of balanced representation of its men and women members, 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."*

  AREVA defers to the AFEP-MEDEF code of corporate governance under the conditions mentioned in paragraph 1.2 hereunder.

- *"The [abovementioned] report shall also specify particular methods related to the participation of the shareholders in the Annual General Meeting or refer to the provisions of by-laws setting forth those methods."*

  The by-laws of AREVA do not contain any particular provision concerning shareholder rights, which are exercised according to common law at AREVA, as noted in Section 21 of the Reference Document.

- *"Moreover, the [abovementioned] report presents the principles and rules decided upon by the Supervisory Board to determine compensation and benefits of any kind granted to corporate officers."*

  This information appears in Section 15 of the Reference Document.

- *"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 26, 2014, in accordance with the abovementioned provisions.

At the date that this Report was drawn up, the Supervisory Board is composed of 15 members including 6 women, for a participation rate of 40%. In this respect, AREVA is in advance in meeting the provisions of the French law of January 27, 2011 on parity, which call for women to be represented in a minimum proportion of 20% following the Annual General Meeting of Shareholders of 2014, and a proportion of 40% following the Annual General Meeting of Shareholders of 2017.

1.2. THE STANDARD FOR THE AREVA GROUP: THE AFEP-MEDEF CODE OF CORPORATE GOVERNANCE (1)

IMPLEMENTATION OF THE "APPLY OR EXPLAIN" RULE

AREVA defers to the "Code of Corporate Governance for Publicly Traded Companies" developed jointly by the AFEP and the MEDEF in December 2008 and revised in June 2013.

In accordance with the "apply or explain" principle incorporated in article L. 225-68 paragraph 8 of the French Commercial Code, AREVA provides the following explanations on the reasoning that led it to depart from certain rules stated in the AFEP-MEDEF code. AREVA's capital structure and the composition of the Supervisory Board limit the full application of the governance recommendations in the AFEP-MEDEF code.

(1) The code is available on the MEDEF website (www.medef.fr).

AFEP-MEDEF recommendation	Explanation
The AFEP-MEDEF code recommends that a "relatively significant number" of shares be held by the members of the Supervisory Board – Article 20 of the code	This recommendation is not appropriate in this case, given the very strong concentration of the company's share ownership and the resulting composition of its Supervisory Board. In addition, the regulations do not allow representatives of the French State to hold shares in companies where they serve as directors or officers.
The AFEP-MEDEF code recommends that the term of service of members of the Supervisory Board and of the Executive Board not exceed four years – Article 14 of the code	The five-year terms of the members of the Supervisory Board and of the Executive Board ensures greater stability of directors and officers, 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. The duties of the members Supervisory Board is thus included in the company's continuous improvement and sustainable development initiative.
The AFEP-MEDEF code recommends that the terms be staggered to avoid massive renewals and promote the harmonious renewal of the terms of Board members – Article 14 of the code	The renewal of the terms of members of the Supervisory Board is not staggered. The company considers that the selected length of service ensures a better knowledge of the company issues involved and the related challenges, and that the benefit resulting from staggering the terms would be insufficient in view of these requirements.
The AFEP-MEDEF code gives a definition for "independent director" and for criteria to be examined by the Nominating Committee and the Board to qualify a director as "independent" – Article 9.1 of the code	On February 28, 2013, the Compensation and Nominating Committee made a recommendation to the Supervisory Board, which accepted it, to adopt the AFEP-MEDEF code's concept of independence. An additional criterion was added: "Not to be the representative of a shareholder holding more than 10% of the company's share capital and/or voting rights, to the extent that such shareholder participates in the control of the company."
The AFEP-MEDEF code recommends that at least two thirds of the members of the Audit Committee be independent – Article 16.1 of the code	Half of the members of the Audit Committee are independents. The Audit Committee's composition reflects the different categories of interests present in the Supervisory Board, of which it is a subset. Thus, this Committee includes one member representing the French State, one member representing the CEA and one member representing the employees. Independence and expertise were the primary criteria set by AREVA in choosing the Chairman of the Audit Committee. In addition to being independent, Mrs. Saucier's financial and accounting expertise is recognized in France and abroad, including in her native country of Canada. The CEA representative sitting on the Audit Committee is the CEA's Chief Financial Officer.

2. Reviews performed to prepare this report

This report was prepared based on information forwarded to the Chairman of the Supervisory Board by the Executive Board and the functional departments it coordinates in connection with the annual review of internal control procedures and various meetings of the Supervisory Board and its committees.

The Chairman of the Supervisory Board took cognizance of the comments of the Internal Audit and the Joint Statutory Auditors on internal controls and asked Management to implement the corresponding action plans.

The work and reviews related to the preparation of this report were submitted to the Joint Statutory Auditors.

3. Preparation and organization of the Supervisory Board's activities

3.1. COMPOSITION OF THE SUPERVISORY BOARD

3.1.1. GENERAL RULES RELATING TO THE COMPOSITION OF THE SUPERVISORY BOARD

The members of the Supervisory Board are appointed by the shareholders, except for employee-elected members, who are elected by the employees, and representatives of the French State, who are appointed by decree.

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 French law no. 96-314 of April 12, 1996, which contains various provisions of an economic and financial nature. The three members representing company personnel were elected by an electoral college consisting of engineers and managers (one member) and by an electoral college consisting of the other employees (two members).

Pursuant to article 1 of the decree no 2011-1883 of December 15, 2011, the following persons are invited to participate in the meetings of the Supervisory Board in an advisory capacity: the General Director for Energy and Climate at the Ministry of Energy, serving as Government Commissioner, and the Head of the Control Mission at Commissariat à l'énergie atomique et aux énergies alternatives, as a member of Economic and Financial Control Board.

The Government Commissioner and the Head of the control mission to the CEA may also attend meetings of committees reporting to the Supervisory Board.

Subject to the laws and regulations pertaining to the Government's supervision and control of government-owned companies and their subsidiaries, the decisions of the Supervisory Board are final and enforceable unless the Government Commissioner or the member of Economic and Financial Control Board object within five days if they attended the meeting, or within five days of receipt of the minutes of the meeting.

The Statutory Auditors are invited to participate in meetings of the Supervisory Board called to examine annual or interim financial statements, or any other matter the Board deems it appropriate.

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 convened to approve the financial statements of the year ended and held during the year of expiration of said member's term. 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 either upon announcement of the results of elections, which AREVA is obliged to organize under the conditions provided in the by-laws, or upon the end of said member's employment contract or dismissal, under the conditions provided by laws or regulations in effect at the time of the dismissal.

Only natural persons may be elected by company personnel to serve as members of the Supervisory Board. Members of the Supervisory Board not elected by company personnel may be natural persons or corporate entities.

The Supervisory Board elects a Chairman and a Vice Chairman from among its members who are charged with convening the Board and conducting the 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.

All participants in the meetings of the Supervisory Board are bound to confidentiality.

The Supervisory Board was composed of 15 members at December 31, 2013.

3.1.2. INDEPENDENCE OF MEMBERS OF THE SUPERVISORY BOARD

The following members are considered independent:

- Mr. Pierre Blayau;
- Mrs. Sophie Boissard;
- Mr. François David;
- Mrs. Agnès Lemarchand;
- Mrs. Guylaine Saucier.

The proportion of at least one third of the members as independents, as recommended by the AFEP-MEDEF code of governance, is thus met.

None of the independent members of the Supervisory Board have business relations with the company.

3.1.3. CHANGES IN THE COMPOSITION OF THE SUPERVISORY BOARD DURING 2013

The main changes in 2013 are as follows:

- Mr. Pierre Blayau replaced Mr. Jean-Cyril Spinetta, who had resigned, as a member and Chairman of the Supervisory Board;
- Mrs. Claire Cheremetinski was appointed to the AREVA Supervisory Board as a representative of the French State, replacing Mr. David Azéma;
- Mrs. Laurence Dubois-Destrizais was appointed to the AREVA Supervisory Board as a representative of the French State, replacing Mrs. Marion Guillou;
- Mr. Pascal Faure was appointed to the AREVA Supervisory Board as a representative of the French State, replacing Mr. Luc Rousseau.

3.1.4. MEMBERS OF THE SUPERVISORY BOARD AT DECEMBER 31, 2013

MEMBERS COOPTED BY THE SUPERVISORY BOARD/ APPOINTED BY THE SHAREHOLDERS

Pierre Blayau (age 63)

Mr. Pierre Blayau was coopted by the Supervisory Board at its meeting of June 24, 2013 as member and Chairman of the Supervisory Board, replacing Mr. Jean-Cyril Spinetta, who has resigned.

Ratification of Mr. Pierre Blayau's cooptation will be submitted to the Annual General Meeting of Shareholders of May 20, 2014. Subject that that approval, his term will expire at the Annual General Meeting of Shareholders convened in 2016 to approve the financial statements for the year ending December 31, 2015.

Mr. Pierre Blayau is a graduate of the École normale supérieure of Saint Cloud, of the Institut d'études politiques and of the École nationale d'administration.

Other offices held

- Director of Edition de Canal Plus and of Fimalac;
- Member of the Investment Committee of Arkéa Capital Partenaire;
- Chairman of Harbour Conseils.

Other offices held during the past five years

- CEO of Geodis until October 2012;
- Chairman of the Board of Directors of Geodis until June 2013;
- Chairman of the Board of Directors of Transport et Logistique Partenaires until June 2013;
- Chairman of the Board of Directors of Ermewa Holding until July 2013;
- Chairman of the Supervisory Board of Société de transports de véhicules automobiles (STVA) until June 2013.

Bernard Bigot (age 63)

Mr. Bernard Bigot's term as a member of the Supervisory Board was renewed by the Annual General Meeting of Shareholders on April 27, 2011; the Supervisory Board renewed his term as Vice Chairman of the Supervisory Board on that same date. His term will expire at the Annual General Meeting of Shareholders convened in 2016 to approve the financial statements for the year ending December 31, 2015.

Mr. Bernard Bigot is Chairman of the CEA and Chairman of the Board of Directors of the CEA. He is a graduate of École normale supérieure of Saint Cloud and holds the agrégation in physical sciences and a PhD in chemistry.

Other offices held

- Director representing the French State, on behalf of the minister of Industry, to the Board of Directors of AREVA NC;
- Chairman of the Fondation de la Maison de la Chimie and of the Association de l'École supérieure de chimie électronique of Lyon;
- Vice Chairman of the Fondation Jean Dausset and of the Association du Laboratoire des energies du Sud Rhône-Alpes;
- Chairman of the Coordinating Committee of Alliance nationale de coordination de la recherche pour l'energie (ANCRE);
- Chairman of l'École supérieure de chimie électronique of Lyon (CPE).

Other offices held during the past five years

- Chairman of the Board of Directors of the Institut national de la recherche pédagogique until December 2010.

Christophe Béhar (age 56)

Mr. Christophe Béhar's term as a member of the Supervisory Board was renewed by the Annual General Meeting of Shareholders on April 27, 2011. His term will expire at the Annual General Meeting of Shareholders convened in 2016 to approve the financial statements for the year ending December 31, 2015.

Mr. Christophe Béhar is Director of Nuclear Energy at the CEA. He is an engineer and graduate of the École centrale of Paris.

Other offices held

- Permanent representative of the CEA to the Boards of Grand équipement national de calcul intensif (GENCI) and of AREVA TA;
- Representative of France to the Joint Research Centre (European Commission) and to the Gen 4 International Forum;
- Member of the Board of Directors of STMI.

Commissariat à l'énergie atomique et aux énergies alternatives (CEA), represented by Christophe Gégout

The CEA's term as a member of the Supervisory Board was renewed by the Annual General Meeting of Shareholders on April 27, 2011. Its term will expire at the Annual General Meeting of Shareholders convened in 2016 to approve the financial statements for the year ending December 31, 2015.

The CEA is represented by Mr. Christophe Gégout (age 36), a graduate of Institut d'études politiques of Paris and an alumnus of École Polytechnique and of the Paris Graduate School of Economics, Statistics and Finance (ENSAE). He is Chief Financial Officer and head of the Management Control and Information Systems Division of the CEA.

Other offices held by the CEA

- Director of CEA Investissement, AREVA TA, FT1CI, La Route des Lasers and Minatec Entreprise.

Other offices held during the past five years

None.

Other offices held by Mr. Gégout

- Chairman of the Board of Directors of CEA Investissement;
- Director of AREVA NC and AREVA Mines;
- Permanent representative of the CEA to the Board of Directors of FT1CI.

Other offices held during the past five years

- Member of the Supervisory Board of Emertec Gestion and of Avenium Consulting until February 2010;
- Permanent representative of the CEA to the Board of Directors of GIP Sources HA until April 2011;
- Director of Co-Courtage Nucléaire until June 2011.

François David (age 72)

Mr. François David's term as a member of the Supervisory Board was renewed by the Annual General Meeting of Shareholders on May 7, 2013. His term will expire at the end of the Annual General Meeting of Shareholders convened in 2018 to approve the financial statements for the year ending December 31, 2017.

Mr. François David is a graduate of the Institut d'études politiques of Paris and of the École nationale d'administration. He is Honorary Chairman of Coface and Senior Advisor to Moelis & Company.

Other offices held

- Member of the Supervisory Board of Lagardère SCA;
- Member of the Supervisory Board of Galatée Films;
- Director of Rexel;
- Director of Natixis Coficine SA;
- Member of the Board of the Order of the Legion of Honor.

Other offices held during the past five years

- Chairman of the Board of Directors of Coface SA until May 15, 2012;
- Director of Vinci;

Agnès Lemarchand (age 59)

Mrs. Agnès Lemarchand was appointed to the Supervisory Board by the Annual General Meeting of Shareholders on April 27, 2011. Her term will expire at the Annual General Meeting of Shareholders convened in 2016 to approve the financial statements for the year ending December 31, 2015.

Mrs. Agnès Lemarchand is Executive Chairman of Steetley Dolomite Ltd (formerly Lafarge Lime).

A graduate of Massachusetts Institute of Technology (MIT) and of Insead, Mrs. Agnès Lemarchand spent most of her career in the Rhône-Poulenc and Lafarge groups.

Other offices held

- Director of Saint-Gobain;
- Director of CGC;
- Member of the Supervisory Board of SICLAE representing Bpifrance Participations;
- Member of the Economic, Social and Environmental Board, Economic Activities Section.

Other offices held during the past five years

- Member of the Supervisory Board of Mersen until May 2013.

Sophie Boissard (age 43)

Mrs. Sophie Boissard was appointed to the Supervisory Board by the Annual General Meeting of Shareholders on April 27, 2011. Her term will expire at the Annual General Meeting of Shareholders convened in 2016 to approve the financial statements for the year ending December 31, 2015.

Mrs. Boissard is Executive Vice President for Strategy and Development of SNCF.

A graduate of École normale supérieure and École nationale d'administration, Mrs. Boissard is also a member of the Grand Corps of the French State (Conseiller d'État).

Other offices held

- Director of Sanef;
- Director of Eurostar International Limited;
- Chairman of SNCF Participations.

Other offices held during the past five years

- Director of Giat Industrie until October 2013;
- Director of AREP until June 2012;
- CEO of A2C until June 2012.

Guylaine Saucier (age 67)

Mrs. Guylaine Saucier's term as a member of the Supervisory Board was renewed by the Annual General Meeting of Shareholders on April 27, 2011. Her term will expire at the Annual General Meeting of Shareholders convened in 2016 to approve the financial statements for the year ending December 31, 2015.

Mrs. Guylaine Saucier is a chartered accountant and a graduate of HEC Montreal.

Other offices held

- Director of AREVA Canada Inc.;
- Director of SCOR SE;
- Director of Junex Inc..

Other offices held during the past five years

- Director of the Danone group until April 26, 2012;
- Director of Axa Canada until 2011;
- Director of Petro-Canada until 2009;
- Director of CHC Helicopter Corp until 2008;
- Director of the Bank of Montreal until 2013.

MEMBERS REPRESENTING THE FRENCH STATE, APPOINTED BY MINISTERIAL ORDER

Claire Cheremetinski (age 37)

Mrs. Claire Cheremetinski was appointed to the AREVA Supervisory Board as a representative of the French State by ministerial order of March 26, 2013, published in the *Journal officiel* on April 5, 2013, replacing Mr. David Azéma. Her term will expire at the end of the Annual General Meeting of Shareholders convened in 2016 to approve the financial statements for the year ending December 31, 2015.

Mrs. Claire Cheremetinski has exercised most of her career in the French Treasury Department.

Mrs. Claire Cheremetinski is a high-ranking civil servant, Director of Shareholdings, Energy Division Director with the French State shareholding agency APE *(Agence des participations de l'État)*.

Other offices held

- Member of the Supervisory Board of RTE EDF Transport representing the French State;
- Member of the Supervisory Board of Électricité Réseau Distribution France (ERDF) representing the French State;
- Member of the Supervisory Board of La Française des jeux representing the French State;
- Member of the Board of Directors of Eramet representing the French State.

Other offices held during the past five years

- Member of the Board of Directors of AREVA NC representing the French State until March 25, 2013.

Laurence Dubois-Destrizais (age 51)

Mrs. Laurence Dubois-Destrizais was appointed to the AREVA Supervisory Board as a representative of the French State by ministerial order of June 24, 2013, published in the *Journal officiel* on June 28, 2013, replacing Mrs. Marion Guillou. Her term will expire at the end of the Annual General Meeting of Shareholders convened in 2016 to approve the financial statements for the year ending December 31, 2015.

Mrs. Laurence Dubois-Destrizais is a graduate of the École nationale d'administration. She is Minister-Counselor for economic and financial affairs and head of the regional economic service for the United Kingdom and Republic of Ireland at the French Embassy in London.

Other offices held

None.

Other offices held during the past five years

None.

Pascal Faure (age 50)

Mr. Pascal Faure was appointed to the AREVA Supervisory Board as a representative of the French State by ministerial order of January 29, 2013, published in the *Journal officiel* on February 6, 2013, replacing Mr. Luc Rousseau. His term will expire at the end of the Annual General Meeting of Shareholders convened in 2016 to approve the financial statements for the year ending December 31, 2015.

Mr. Pascal Faure is a graduate of École Polytechnique and École nationale supérieure des télécommunications of Paris, and is ingénieur général in the Corps des mines. Mr. Faure is Director General of Competitiveness, Industry and Services at the Ministry of Industrial Renewal.

Other offices held

- Government Commissioner to La Poste, the Commission nationale d'aménagement commercial, and GIP Guichet entreprises; and
- Member of the Boards of Directors, representing the French State, of Renault, Bpifrance Participations, Bpifrance Investissement, the Agence nationale de la recherche, and Mines Paris Tech.

Other offices held during the past five years

- Member of the Boards of Directors, representing the French State, of École Polytechnique, Institut Mine-Télécom, Française des jeux, France Telecom, and École Normale Supérieure.

Pierre Sellal (age 61)

The term of Mr. Pierre Sellal, Ambassador of France, as representative of the French State to the AREVA Supervisory Board was renewed by ministerial order of April 27, 2011, published in the *Journal officiel* on May 8, 2011. His term will expire at the Annual General Meeting of Shareholders convened in 2016 to approve the financial statements for the year ending December 31, 2015.

Mr. Pierre Sellal is a graduate in law and an alumnus of the École nationale d'administration. He is a former ambassador, former permanent representative of France to the European Union in Brussels, former Chief of Staff of Mr. Hubert Védrine and currently Secretary General of the French Ministry of Foreign Affairs.

Other offices held

- Director of EDF, of École nationale d'administration, of the Institut français de l'Audiovisuel Extérieur de la France, of the Agence nationale des titres sécurisés, of the Commission de récolement des dépôts d'œuvres d'art, of the Établissement de préparation et de réponse aux urgences sanitaires and of France média monde;
- Member of the Comité de l'énergie atomique (French atomic energy board);
- Member of the Board of the Institut du monde arabe (Arab World Institute).

Other offices held during the past five years

None.

MEMBERS ELECTED BY AND REPRESENTING EMPLOYEES

Jean-Michel Lang (age 51)

Elected by the employee electoral college on May 24, 2012, his five-year term began on June 21, 2012 and will expire after the elections to be held in 2017.

Mr. Jean-Michel Lang is an expert to the head of the service that deals with product quality deviations at MELOX [1].

Other offices held

- Member of the Board of Directors of MELOX [1], representing employees.

Other offices held during the past five years

None.

Françoise Pieri (age 46)

Elected by the employee electoral college on May 24, 2012, her five-year term began on June 21, 2012 and will expire after the elections to be held in 2017.

Mrs. Françoise Pieri is a technical specialist for the Integrated Management System at Socatri [2].

Other offices held

None.

Other offices held during the past five years

None.

Philippe Pinson (age 57)

Elected by the electoral college consisting of engineers and managers on June 19, 2012, his five-year term began on June 21, 2012 and will expire after the elections to be held in 2017.

Mr. Philippe Pinson is department head in the Marketing and Sales Department of AREVA NC's Recycling Business Unit.

Other offices held

- Member of the Board of Directors of AREVA NC, representing employees.

Other offices held during the past five years

- Member of the Board of Directors of AREVA NC, representing employees, from 2004 to 2009.

In 2013, Mr. Marcel Otterbein, representing AREVA's Work Council, attended the meetings of the Supervisory Board in an advisory capacity.

Economic and Financial Comptroller General

Mr. Bruno Rossi was appointed 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 and attends meetings of the Supervisory Board and of its specialized committees.

Government Commissioner

In application of article 1 of decree no. 2011-1883 of December 15, 2011, the Director General for Energy and Climate serves as Government Commissioner for the company. In that capacity, he attends the meetings of the Supervisory Board and may also attend sessions of the committees reporting to it. Mr. Laurent Michel was appointed Director General for Energy and Climate by decree on December 19, 2012, replacing Mr. Pierre-Franck Chevet.

Censors

AREVA's by-laws provide that the Supervisory Board may appoint one or several censors, whose mission is to assist the Supervisory Board in its control functions, and who attend the meetings of the Supervisory Board without the right to vote.

No censor had been designated to date.

Secretary of the Board

Mr. Pierre Charreton, General Counsel and Chief Administrative Officer of the AREVA group, serves as Secretary of the Supervisory Board.

Mrs. Malak Tazi, Legal Director of Governance, Companies, Securities & Finance, serves as Deputy Secretary to the Supervisory Board.

The members of the Executive Board may be contacted at the head office located at Tour AREVA, 1 place Jean Millier, 92400 Courbevoie, France.

(1) At December 31, 2013, the MELOX company was merged into AREVA NC.

(2) Mrs. Françoise Pieri has been attached to AREVA NC, Pierrelatte establishment, since December 31, 2013.

3.2. FUNCTIONING OF THE SUPERVISORY BOARD

The Supervisory Board, whose functioning is specified in rules of procedure [1], exercises ongoing control of the Executive Board's management of AREVA. The Executive Board regularly informs the Supervisory Board of the business and operations of AREVA and of the group through quarterly reports. The Supervisory Board performs such verifications and procedures as it deems necessary.

The Supervisory Board appoints the Chairman and members of the Executive Board. The Supervisory Board may recommend the dismissal of Executive Board members to the Shareholders. The Supervisory Board may convene meetings of the 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 observations on the Executive Board's report and on the financial statements to the Annual General Meeting of Shareholders.

The Supervisory Board also authorizes the Executive Board to conclude certain transactions that the latter cannot accomplish without such authorization. It deliberates on the overall strategy of AREVA and of the group. Annual budgets and multiyear plans of AREVA, its direct subsidiaries and the group are subject to its approval, as are subsidiary operations when these fall under article 22-2 of the below-mentioned by-laws and involve an amount exceeding the previously established authorization threshold in that article.

STATUTORY LIMITATIONS ON THE POWERS OF THE EXECUTIVE BOARD

Pursuant to article 22-2 of the by-laws, the following Executive Board decisions are subject to the prior authorization of the Supervisory Board insofar as they involve an amount exceeding 80 million euros:

(i) the issuance of 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 an establishment or a direct or indirect subsidiary), or by acquiring an equity interest; 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 sales of equity interests in any company, existing or to be established;

(v) exchanges of goods, securities or certificates, 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.

The following Executive Board decisions are also subject to the prior authorization of the Supervisory Board pursuant to article 22-3 of the by-laws insofar as they involve an amount exceeding 20 million euros:

(i) projects and investment decisions in respect of the creation of a site or capacity increase of an existing site;

(ii) acquisitions or purchases of equity interests in any company, existing or to be established.

In addition, proposals by the Executive Board for allocations of earnings for the company year are subject to the prior approval of the Supervisory Board.

The Supervisory Board regularly updates its rules of procedure, which stipulate in particular:

- the establishment and functioning of the five 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 company personnel.

3.3. ACTIVITIES OF THE SUPERVISORY BOARD

In 2013, the Executive Board met nine times with an attendance rate of 91.85%.

The Supervisory Board's work concerned the Executive Board's quarterly reports; the group's operations; examination of the annual and half-year financial reports and the observations submitted by the Statutory Auditors on these documents; renewal of the term of the Statutory Auditors; the report of the Chairman of the Supervisory Board on the Supervisory Board's activities and internal control procedures; the report on internal control prepared in accordance with article 7 of the order of February 23, 2007 on the securement of funding for nuclear expenses;

(1) The rules of procedure of the Supervisory Board are available at the registered office of the company, Tour AREVA, 1 place Jean Millier, 92400 Courbevoie or on the areva.com website.

the Executive Board's objectives; and divestiture projects presented by the Executive Board. To facilitate the Supervisory Board's decision-making, certain subjects were examined by the different committees in their respective areas of specialization. The Board heard the reports and recommendations of its specialized committees.

In addition, the Supervisory Board voted on the following subjects:

- implementation of the 2013 employee shareholding offer to AREVA group employees;
- renewal of the authorization to issue bond debt under Euro Medium Term Notes program (EMTN);
- cooptation of Mr. Pierre Blayau to replace Mr. Jean-Cyril Spinetta as member and Chairman of the Supervisory Board and as Chairman of the Strategy and Investments Committee;
- implementation of evaluation on the composition, organization and functioning of the Board as recommended by the AFEP-MEDEF code of governance;
- contemplated partnership related to the Hinkley Point EPR™ reactor in the United Kingdom.

3.4. ACTIVITIES OF THE FIVE COMMITTEES OF THE SUPERVISORY BOARD

In application of article 22 of the by-laws and chapter I of the Rules of Procedure of AREVA's Supervisory Board, the Board formed five committees whose role is to provide it with additional information, recommendations and advice to facilitate decision-making on matters subject to its control. Therefore, each meeting of the Board may be preceded by in-depth work by the specialized committees, whose report is systematically sent to the members of the Board.

The five committees are as follows: the Strategy and Investments Committee, the Audit Committee, the Compensation and Nominating Committee, and the End-of-Lifecycle Obligations Monitoring Committee and the Ethics Committee. Each committee met throughout 2013 to delve deeper into the matters reviewed hereunder.

3.4.1. STRATEGY AND INVESTMENTS COMMITTEE

At December 31, 2013, the Strategy and Investments Committee was composed of seven members, chosen from among the members of the Supervisory Board: Pierre Blayau [1], Chairman, Claire Cheremetinski, Bernard Bigot, Agnès Lemarchand [1], Pascal Faure, Pierre Sellal and Philippe Pinson. The State Controller and the Government Commissioner may attend this Committee's 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 mission of the Strategy and Investments Committee, which does not have inherent powers, is to enlighten the Supervisory Board about the strategic objectives of AREVA and of its main subsidiaries and to assess the risks and merits of the most important strategic decisions proposed by the Executive Board to the Supervisory Board. It ensures application of AREVA's strategic plan and its implementation at the subsidiary level.

The Committee is charged with examining projects and decisions to commit as well as transactions affecting the consolidation scope referred to in article 22.3 of the by-laws. During the annual budget review, it examines a medium-term, three-year plan with precise figures setting forth in detail the planned capital expenditures and anticipated production costs, in particular for each of the mining sites.

In 2013, the Supervisory Board met five times, with an attendance rate of 86%.

In particular, it examined:

- the contemplated strategic partnership concerning the subsidiary Euriware;
- AREVA's strategy in China;
- the contemplated partnership for the Hinkley Point EPR™ reactor in the United Kingdom;
- AREVA's renewable energies strategy.

3.4.2. AUDIT COMMITTEE

At December 31, 2013, the Audit Committee was composed of six members, chosen from among the members of the Supervisory Board [1]: Guylaine Saucier [2], Chairman, Claire Cheremetinski, Sophie Boissard [2], François David [2], Christophe Gégout and Françoise Pieri. The State Controller and the Government Commissioner may attend this Committee's meetings.

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 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 the proper assessment of mineral resources and reserves.

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 study 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 plans, the Values Charter and other

(1) Independent members of the Supervisory Board.
(2) Employee member.

relevant reports, including the annual report of the Mineral Resources and Reserves Committee, which reports to the Executive Board.

Several presentations are made to the Committee during its meetings: by the Statutory Auditors on key points of the statutory audit and the accounting options adopted; by the Director of Risk Management and Insurance on the group's exposure to risks of all types; and by the Chief Financial Officer on financial risks. The Committee also hears the members of the Executive Board and the Head of Internal Audit. It may call on outside experts. The Committee makes recommendations to the Supervisory Board based on its findings and may suggest modifications or additional investigations as it deems necessary.

Upon the expiration of the terms of the Statutory Auditors, the Audit Committee considers competitive offers and makes recommendations to the Supervisory Board to renew the terms of the current auditors or to appoint a new firm.

The Audit Committee establishes an annual schedule of work in fulfillment of its duties. In general, there is a period of at least five days between the Audit Committee meeting and the Supervisory Board meeting.

In 2013, the Audit Committee met seven times, with an attendance rate of 90%.

It examined the subjects that are specifically under its purview: half-year and annual financial statements (and the corresponding press releases); quarterly publications on revenue; the risk map; review of the conclusions of the Statutory Auditors and the Internal Audit department on internal controls; quarterly review of major capital projects and major customer projects (in particular the status of the OL3 EPR™ project); summary of internal audits; etc.

3.4.3. COMPENSATION AND NOMINATING COMMITTEE

At December 31, 2013, the Compensation and Nominating Committee was composed of four members, chosen from among the members of the Supervisory Board: François David [1], Chairman, Claire Cheremetinski, Agnès Lemarchand [1] and Françoise Pieri [2]. The State Controller and the Government Commissioner may attend this Committee's 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.

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 the candidates for positions on 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.

In 2013, the Compensation and Nominating Committee met three times, with an attendance rate of 92%.

In particular, it examined the following subjects:

- the total amount of attendance fees, the independence of members of the Supervisory Board, and the objectives of the members of the Executive Board for 2013;
- the resignation of Mr. Jean-Cyril Spinetta as Chairman and member of the Supervisory Board and his replacement by Mr. Pierre Blayau;
- the outcome of the 2013 employee shareholding offer.

3.4.4. END-OF-LIFECYCLE OBLIGATIONS MONITORING COMMITTEE

At December 31, 2013, the End-of-Lifecycle Obligations Monitoring Committee was composed of four members, chosen from among the members of the Supervisory Board: Christophe Gégout, Chairman, Christophe Behar, Sophie Boissard [1] and Jean-Michel Lang. The State Controller and the Government Commissioner may attend this Committee's 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 helping to monitor the earmarked asset portfolio set up by AREVA subsidiaries to cover their future cleanup and dismantling expenses. In this capacity, and based on pertinent documentation submitted by AREVA, including a management charter, the Committee reviews the multiyear schedule of future cleanup and dismantling expenses for affected companies of the AREVA group; the criteria for establishing, managing and controlling the funds earmarked to cover expenses by those 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 hear financial consulting firms chosen by the fund management companies.

The End-of-Lifecycle Obligations Monitoring Committee met three times in 2013, with an attendance rate of 75%.

It examined the following subjects in particular:

- the status of end-of-lifecycle liabilities at the end of 2012, as well as the management of assets and liabilities and the rate of coverage at year end 2012;
- changes in cost estimates for current and future dismantling operations.

(1) Independent members of the Supervisory Board.
(2) Employee member.

3.4.5. ETHICS COMMITTEE

At December 31, 2013, the Ethics Committee was composed of three members, chosen from among the members of the Supervisory Board: Sophie Boissard [1], Chairman, Laurence Dubois-Destrizais and Jean-Michel Lang. The State Controller and the Government Commissioner may attend this Committee's 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 monitor the group's compliance with the best international practices in matters of business ethics. Within this framework and with a view to submitting recommendations to the Supervisory Board, the Committee examines (i) the standards and procedures adopted by the group, both for the company and for the subsidiaries it controls directly or indirectly in France and abroad, and in particular those governing the use of business intelligence studies, and (ii) the group's Values Charter and its updates. It ensures that they are widely disseminated and applied. Concerning the foreign subsidiaries, the Committee takes into consideration the legal and regulatory framework in the countries in which they conduct their operations.

In 2013, the Ethics Committee met twice, with an attendance rate of 100%.

It examined the following subjects:

- the results of AREVA's 2012 business ethics initiative;
- external hearings on business ethics and compliance programs in comparable companies.

4. System of internal controls

4.1. INTRODUCTION

This section, which describes the group's system of internal controls, is structured according to the frame of reference for internal controls published by the Autorité des marchés financiers (French stock market authority AMF) in July 2010.

The scope of internal controls 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 culture of ethics and the expression of its commitments, in particular those concerning sustainable development. The AREVA group's values were reaffirmed after the Fukushima accident and are safety and security, transparency, integrity, responsibility, 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.

In accordance with the Values Charter, the AREVA group intends to focus its main efforts on:

- being exemplary in the fields of nuclear safety, occupational safety and transparency;
- improving its performance and the satisfaction of its customers;
- its development, relying on the integrated model;
- maintaining a high quality of social dialogue.

AREVA University continued to pursue its programs to sensitize management to the Values Charter, working jointly with the group's Business Ethics Advisor. Supported by the Institute of Business Ethics of London, the business ethics pages of the Intranet (in the pages of the Office of the Chief Administrative Officer) present the main characteristics of the British anti-corruption law which came into effect in mid-2011 and emphasizes the law's supranational reach, similar to that of the US anti-corruption law (FCPA) which previously served as the great international benchmark.

With respect to human rights in business, programs to raise management awareness continued with Entreprises pour les Droits de l'Homme (EDH), an association of French multinationals of which AREVA is an active member. The Business Ethics Advisor also worked to ensure that the management of the relevant AREVA units continues to pursue the implementation of the Nuclear Power Plant Exporters' Principles of Conduct, an industry initiative announced in September 2011 by the Carnegie Endowment for International Peace, which AREVA actively helped define.

Since November 2012, the group's business ethics advisor serves as the secretary of the Ethics Committee created at the initiative of the Supervisory Board, meeting on February 14, 2012. The Ethics Committee held its second meeting on June 4, 2013. One of the Committee's missions is to monitor the group's compliance with the best international practices in matters of business ethics.

Lastly, the group ensures, to the maximum extent possible, employee compliance with competition law requirements to which it is subject. To this end, the Legal Department in charge of European and Competition Law is asked to review the group's projects and serves as an advisor on competition law at every level of the company. The department distributed a series of practical guidelines aimed in particular at enabling

(1) Independent members of the Supervisory Board.

the Legal Department to better identify and handle early in the process competition issues with which the group is regularly confronted, such as requests for proposals, meetings with competitors, and consortiums. These guidelines are supplemented with training sessions for the operating teams.

4.1.2. INTERNAL CONTROL STANDARDS

The AREVA group defers 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 Income), which was carried out to ensure that all the standards are met (see Section 4.6, *Continuous oversight of the internal control system*).

4.1.3. INTERNAL CONTROL OBJECTIVES

Internal controls contribute to the effective management of operations. They aim in particular to ensure:

- compliance with laws and regulations;
- implementation of instructions and guidelines set by the Executive Board;
- efficient implementation of the group's processes, in particular those contributing to the preservation of its assets;
- the reliability and quality of the information generated and communicated, with particular emphasis on financial information.

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 by themselves 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, particularly as regards the Values and Sustainable Development Charter.

4.2. ORGANIZATION, GOVERNANCE, RESOURCES, INFORMATION SYSTEMS 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 Management Board (EMB) design and oversee internal control systems.

The composition of the Executive Board and the distribution of responsibilities among the members of the Executive Board are described in Section 16 of the Reference Document.

In addition to the powers given to it by law, the Executive Board is in charge of:

- defining the group's strategy and its implementation;
- defining the group's performance objectives (financial, commercial, operational, nuclear and occupational safety, etc.) and their breakdown by business, and monitoring their achievement;
- allocating the group's resources (human, financial, etc.), in particular the decision to launch capital spending programs and appointments of senior executives; and
- defining organizational principles and processes to serve customers and build talent.

Within the framework of this organization, the Executive Board involves the following persons in its work to support activities in connection with bimonthly meetings of the Executive Management Board, whose members are:

- the Chief Commercial Officer;
- the Senior Executive Vice President of Communications;
- the Senior Executive Vice President of Human Resources;
- the Senior Executive Vice President of Safety, Security and Operations Support;
- the Senior Vice President of Public Affairs;
- the Chief Administrative Officer;
- the Secretary of the Executive Management Board.

The group's operating organization, established in 2010 and confirmed in July 2011, is led by the Executive Board and its Executive Management Board, based on:

- five Business Groups (BG);
- crosscutting Departments, in particular an Engineering & Projects organization (E&P);
- Functional Departments and Regions.

The Business Groups provide operational leadership for the group's operations, while the Marketing & Sales Department provides commercial leadership, in particular for the international network of sales offices.

The Business Groups, Engineering & Projects organization, International Commercial Organization, Functional Departments and Regions report to the Executive Board.

The Executive Board relies on six coordination and steering committees, which report to it directly and have broad delegation of authority:

- the Operations Committee examines and arbitrates between operational matters across the Operating Departments (Business Groups and Engineering & Projects organization), the Operations Support Departments and the Regions, in bimonthly Committee meetings;
- the Major Proposals Committee, which meets weekly, is charged with approving sales offers;
- the Major Projects Committee monitors major projects led by the group, meeting twice a month;
- the Human Resources Committee;
- the Risk Committee is charged with coordinating the analysis of the group's principal risks and setting up the necessary action plans to manage them;
- the Resources and Reserves Committee includes independent experts and validates the data relating to the group's mining resources and reserves.

The missions and rules of procedure of these six committees are the subject of specific organizational notes.

Lastly, the Executive Board established a monthly Business Review process so that its members can ensure that the group's Performance Plan is moving forward in a manner consistent with the strategy and objectives. It is also with this process that risk management action plans prepared by the line managers are now reviewed periodically.

4.2.2. DEFINITION OF RESPONSIBILITIES AND AUTHORITY

The group has a frame of reference that clearly defines powers and duties. It is based on the following parts:

- formal written and duly signed organizational notes describing missions and responsibilities at the level of the group, the Business Groups, the Engineering & Projects organization and the Functional Departments;
- formal written delegations of authority in the procedure "Delegation of Authority – Thresholds and Decision Channels", which defines internal rules for authorization and decision for the leading operational processes; and
- delegations of authority and signature authority throughout and at each level of the group to conduct business as appropriate and in a manner consistent with applicable laws and regulations.

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. In addition, a management model for the functional corporate departments was formalized in 2013. The model clarifies the distribution, nature and economic conditions in which the corporate functions carry out their control missions or provide services.

4.2.3. HUMAN RESOURCES MANAGEMENT PLAN

The Executive Management Board approves the group's Human Resources management policy, which is implemented by the group's Human Resources Department. The plan has four major thrusts:

- to strengthen the group's culture by sharing core values and common practices;
- to facilitate recruitment, mobility and talent development, particularly through training, so as to increase the group's market leadership;
- to develop an innovative, responsible social policy that promotes diversity; and
- to develop tools for human resources management performance.

4.2.4. INFORMATION SYSTEMS

The mission of the Information Systems and Services Department is to ensure the availability, confidentiality and integrity of the group's information systems. To accomplish this, it is organized to meet the following objectives:

- to orient the information system towards services to the group's businesses, in alignment with the organization of the group's business processes; and
- to standardize, streamline and consolidate the technical and functional infrastructure to ensure its performance and reliability, taking into account economic, geographic and security-related considerations.

The department follows a customer-oriented approach to supporting the group's businesses and 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

The group's internal control procedures consist of rules, directives and operating procedures defined by the Executive Board and the Functional Departments.

The preparation, distribution and implementation of these internal control procedures are a component of the group's action principles.

Supplementing this, the businesses have translated their internal control systems into charters and policies.

The charters establish rules of governance and principles for internal controls, particularly in the following areas:

- the Nuclear Safety Charter, which spells out the group's commitments in the field of nuclear safety and radiation protection to ensure that requirements are met throughout the facility operating period;
- the Audit Charter, which describes the purpose, missions, roles and responsibilities and applicable procedures of the group's internal audit; and
- the Network Security Charter, which defines the basic principles of the AREVAnet computer information network and the rules to be followed to access various services.

The policies define the operating principles and procedures that are a step above specific business procedures. In particular, the group has established 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 secure payment methods and the means to be used to limit the risk of fraud;
- the personnel protection policy, designed to give all group employees an equal level of protection, whether they are traveling on business or live in France or abroad;
- the occupational safety and environmental policies, which establish rules of conduct for continuing risk reduction; and
- the human resources policy, otherwise known as the "Talent Builder", which aims to increase the company's collective performance by developing each individual's skills and talents in a spirit of transparency, equity and diversity.

Consistent with the principle of subsidiarity and to ensure the assimilation of these principles, the Business Groups 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.

Overall organization of risk management

Information is collected and processed at three operational levels: the operating entities (level 1 of information production), the Business Units (consolidated level 1 of information production) and the Business Groups (base unit for management and performance analysis throughout the group).

Instructions for consolidation are issued by the group's Financial Management and Accounting 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 the 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 crosscutting analyses for the entire group (corresponding to the notes to the consolidated financial statements).

The group's Finance department modeled the group's main financial processes and provides a complete, up-to-date database shared by all of the parties involved in these processes (Corporate Departments and Business Groups). This system:

- documents the processes while acting as an interface for applicable group procedures;
- ensures appropriate control of the processes, including identification of the persons involved, the risks and the related control systems; and
- identifies areas for performance improvement and process optimization.

The processes modeled can be consulted on a dedicated intranet page.

Financial communications revolve around the five Business Groups – Mining, Front End, Reactors & Services, Back End and Renewable Energies – and are based on data in the consolidated financial statements.

Implementation and control of accounting principles

The reporting entities' financial statements are prepared in accordance with the group's accounting and financial principles. 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 Management and Accounting Control 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 Business Groups, and include procedures and instructions dealing specifically with internal controls and fraud.

The "standards and procedures" function of the Management and Accounting Control Department defines and distributes information relating to implementation of the management control 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 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 rolled out the AREVA Segregation of Tasks & Roles Optimization project (ASTRO) to strengthen internal controls and streamline access to the management information system. The main objective of this project is to make the management process for access secure by ensuring that user roles are defined according to best practices for the separation of duties and by automating their management with the SAP Governance, Risk and Compliance suite (SAP GRC).

Following a pilot phase completed in 2008, ASTRO was deployed in all of the group's core SAP systems as new SAP applications were started up in the entities.

4.2.7. PRACTICES

Internal control relies on all of these elements as well as on the practices of all employees, which are themselves based on the group's commitments (Values Charter, compliance with the principles of sustainable development, 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.

Lastly, the "internal control" function jointly led by the Audit Department and the Finance Department as part of the Internal Control Committee relies on a network of "internal control coordinators" appointed in each of the Business Groups, whose particular objectives are to:

- ensure the distribution of information concerning decisions made and their application by the entities ("top-down");
- roll up points requiring attention from the entities to the committee ("bottom-up").

The Audit Department provides follow-up of measurement indicators and of the performance of the internal control system for the group's governance bodies, particularly through the self-assessment exercise. In connection with this mission, it supports operational management and the Functional Departments in strengthening existing systems by means of preventive and remedial actions.

The person responsible for internal "accounting and finance" controls is tasked more specifically with issues related to internal accounting and finance controls, and works closely with the Audit Department.

These two functions make sure that an internal control culture is disseminated and development within the group, that best practices are shared internally, and that regulatory change and established best practices are monitored.

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),
  - monthly business reviews are used to measure the progress of the action plans that are indicative of performance and the achievement of strategic objectives;
- top-down information:
  - the relevant departments and the group's entities are informed of resolutions by the corporate decision-making bodies, and
  - the group monitors laws and regulations on safety, security, health, the environment, accounting and tax, and disseminates this information throughout the group as appropriate, with organizational memoranda, rules, standards and procedures disseminated in accordance with applicable organizational rules, standards and procedures.

Communications with stakeholders follow 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 strategic and operational objectives. AREVA's Risk and Insurance Department, working with the Risk Managers of the five Business Groups and the Engineering & Projects organization (which themselves have a network of Risk Managers in their operating entities), carries out an annual update which is now reviewed by the Risk Committee and submitted to the Executive Board for validation and presentation to the Supervisory Board's Audit Committee, with the Audit Director attending. In particular:

- the management teams of the Business Groups and the Engineering & Projects organization 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 mitigation plans and management procedures to minimize the risk and have designated the people in charge and the schedule for completion;
- the main risk factors identified are 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 occupational safety, which are an absolute priority for the group, are discussed in that section.

In addition, the Safety, Health, Security, Sustainable Development Department is tasked with supervising industrial risk management and, on a practical level, working with the relevant Business Groups to ensure the implementation and effectiveness of action plans used to control and ultimately reduce risk.

Moreover, the risks associated with each heading of the balance sheet, income statement and off-balance sheet information are identified as a minimum by one of the group's tools, the Income Self Audit Income 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 those projects.

4.4.2. SETTING OBJECTIVES

The process of setting the group's objectives takes place within the framework of the "Action 2016" strategic action plan drawn up by the Executive Board and approved by AREVA's Supervisory Board at the end of 2011.

This action plan targets performance improvement by relying on the values of safety, security and transparency.

It is based on decisive strategic choices:

- **marketing priority given to value creation**, which includes solutions for the installed base (integrated offers in the front end of the cycle, safety upgrades necessary in the post-Fukushima environment, upgrades and operational extension of existing reactors worldwide, and used fuel management solutions) and the construction of new reactors meeting the most demanding criteria for nuclear and occupational safety;
- **selectivity in capital spending**, which means focusing operating Capex through 2016 on ongoing nuclear safety, occupational safety and maintenance programs and projects already launched; several capital projects having been suspended due market uncertainties;
- **strengthening the balance sheet** by improving performance and maintaining an appropriate level of liquidity.

From now to 2015, **performance improvement** is underpinned by five pillars: nuclear and occupational safety, economic competitiveness, operations and customers, technologies and human resources.

Concerning the economic competitiveness, as part of the "Action 2016" performance improvement plan, the group identified and is implementing a set of initiatives aimed at reducing costs (with a total savings target of 1 billion euros on an annual basis) and improving the working capital requirement by 500 million euros (a reduction of around 15 days of revenue) by 2015.

These objectives are cascaded down and translated into action plans in the Business Groups and in the Functional Departments. The Executive Management Board monitors the action plans regularly and ensures that they are implemented correctly.

4.5. CONTROL ACTIVITIES

The Functional Departments are responsible to the Executive Board for the correct implementation of their policies. In particular, the Management and Accounting Control Department defines and ensures the application of management control rules, documents accounting and finance management processes, and ensures 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 continually optimizes its internal control systems under the supervision of the Executive Board and the Executive Committee and with the oversight of the Supervisory Board through its Audit Committee.

The Office of the Chief Administrative Officer is responsible for implementing an annual compliance letter process that applies to all executives in the subsidiaries, the Business Group's Senior Executive Vice Presidents, the Heads of the Business Units and the Regions, and the Directors of the group's Corporate Functions.

AREVA's Internal Audit Department may intervene everywhere in the group and in any area relevant for internal controls. This Department is headed by a Director reporting directly to the Executive Board and functionally to the Audit Committee. Its activities are carried out independently pursuant to an audit charter and according to international standards for the profession. Its IFACI certification *(Institut français de l'audit et du contrôle interne)* was renewed for three years in 2012 without any non-compliance.

The Internal Audit Department performs its missions in accordance with the annual audit plan approved by the Executive Board and reviewed by the Audit Committee. It ensures that internal control systems deployed in the group are efficient and complied with. In particular, this assessment takes into account the risks identified using the full range of the group's tools (business risk map, internal control self-assessment tools, interviews carried out by the Audit Department with the General Inspectorate, a hundred of the group's top managers and the Statutory Auditors, etc.).

The recommendations resulting from these missions give rise to performance improvement plans, which are monitored in liaison with the managers involved.

Lastly, the Audit Director presents his internal controls review report to the Executive Management Board and to the Audit Committee.

In addition to audits scheduled in the audit plan, the group's entities have performed a self-assessment of their internal controls every year since 2007 following a standard questionnaire (the "Self Audit Income"), duly validated by their operational management, that complies with the "Implementing guidelines for internal controls of accounting and financial information" of the frame of reference published by the AMF. The questionnaire, reviewed by the Joint Statutory Auditors, was deployed in 2013 across the entire consolidation scope of the group, representing 106 entities in some 20 countries. For each entity, it covered some 200 control points divided into 14 business cycles and ensured that continuous improvement applies to internal controls as well, particularly by the entities' development and gradual deployment of action plans addressing the weaknesses brought to light.

The entities' responses to this self-audit questionnaire are reviewed by the Audit department and shared with the network of internal control coordinators and the Statutory Auditors. This review and its sharing mechanism contribute to the oversight of the overall system; the results are presented to the appropriate levels of the organization (Business Groups, crosscutting Operational Departments, and Functional Departments). The main elements are summarized in the annual report by the Audit Director on the examination of internal controls.

In addition, the network of internal control coordinators is jointly managed by the Finance Department and the Audit Department, thereby contributing to a stronger culture of internal controls in accounting and finance.

In 2013, 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 evaluative section. This is consistent with practices in France and the recommendations of the Autorité des marchés financiers, as described in its December 13, 2011 report on corporate governance and internal controls.

The Chairman of the Supervisory Board

5. Business addresses of members of AREVA's Supervisory Board

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Chairman of AREVA's Supervisory Board

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Mr. Bernard BIGOT

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Appendix 2
Statutory Auditors' reports

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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 339

2. STATUTORY AUDITORS' SPECIAL REPORT ON RELATED PARTY AGREEMENTS AND COMMITMENT 341

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

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, we hereby present our report dealing with the report prepared by the Chairman of your Company in accordance with article L. 225-68 of the French Commercial Code for the financial year ending December 31, 2013.

The Chairman is responsible for preparing and submitting for the approval of the Supervisory Board, a report describing the internal control and risk management procedures implemented by the company and disclosing other information as required by article L. 225-68 of the French Commercial Code dealing in particular with corporate governance.

Our own responsibility is to:

- communicate to you any observations we may have as to the information contained in the Chairman's report and relating to the company's internal control and risk management procedures in the area of the preparation and processing of financial and accounting information; and
- attest that the report includes the other disclosures required by article L. 225-68 of the French Commercial Code. It should be noted that we are not responsible for verifying the fair presentation of those other disclosures.

We have performed our work in accordance with the professional standards applicable in France.

INFORMATION RELATING TO THE COMPANY'S INTERNAL CONTROL AND RISK MANAGEMENT PROCEDURES IN THE AREA OF THE PREPARATION AND PROCESSING OF FINANCIAL AND ACCOUNTING INFORMATION

Our professional standards require the application of procedures designed to assess the fair presentation of the information contained in the Chairman's report and relating to the company's internal control and risk management procedures in the area of the preparation and processing of financial and accounting information.

Those procedures involve in particular:

- obtaining an understanding of the underlying internal control and risk management procedures in the area of the preparation and processing of financial and accounting information presented in the Chairman's report, and of the related documentation;
- obtaining an understanding of the work performed as a basis for preparing that information and the existing documentation ;
- determining if any major internal control weaknesses in the area of the preparation and processing of financial and accounting information identified by us during the course of our engagement have been appropriately disclosed in the Chairman's report.

On the basis of the procedures performed, we have nothing to report on the information relating to the company's internal control and risk management procedures in the area of the preparation and processing of financial and accounting information contained in the report of the Chairman of the Supervisory board prepared in accordance with article L. 225-68 of the French Commercial Code.

OTHER DISCLOSURES

We hereby attest that the report of the Chairman of the Supervisory board includes the other disclosures required by article L. 225-68 of the French Commercial Code.

Drawn up in Paris La Défense, on February 26, 2014

The Statutory Auditors

MAZARS		ERNST & YOUNG Audit	
Juliette Decoux	Jean-Louis Simon	Aymeric de La Morandière	Jean Bouquot

2. Statutory Auditors' special report on related party agreements and commitment

To the Shareholders,

In our capacity as Statutory Auditors of your company, we hereby report on certain related party agreements and commitments.

We are required to inform you, on the basis of the information provided to us, of the terms and conditions of those agreements and commitments indicated to us, or that we may have identified in the performance of our engagement. We are not required to comment as to whether they are beneficial or appropriate or to ascertain the existence of any such agreements and commitments. It is your responsibility, in accordance with Article R. 225-58 of the French Commercial Code *(Code de commerce)*, to evaluate the benefits resulting from these agreements and commitments prior to their approval.

In addition, we are required, where applicable, to inform you in accordance with R. 225-58 of the French Commercial Code *(Code de commerce)* concerning the implementation, during the year, of the agreements and commitments already approved by the General Meeting of Shareholders.

We performed those procedures which we considered necessary to comply with professional guidance issued by the national auditing body *(Compagnie Nationale des Commissaires aux Comptes)* relating to this type of engagement. These procedures consisted in verifying that the information provided to us is consistent with the documentation from which it has been extracted.

AGREEMENTS AND COMMITMENTS SUBMITTED FOR APPROVAL BY THE GENERAL MEETING OF SHAREHOLDERS

We hereby inform you that we have not been advised of any agreements or commitments authorized in the course of the year to be submitted to the General Meeting of Shareholders for approval in accordance with Article L. 225-86 of the French Commercial Code *(Code de commerce)*.

AGREEMENTS AND COMMITMENTS APPROVED IN PRIOR YEARS

In accordance with Article R. 225-57 of the French Commercial Code *(Code de commerce)*, we have been advised that the implementation of the following agreements and commitments which were approved by the General Meeting of Shareholders in prior years continued during the year.

WITH AREVA NC

Persons concerned

Mr Luc Oursel and Mr Philippe Knoche (members of your company's Executive Board and directors of AREVA NC), Mr Christophe Gégout (permanent representative of CEA on your company's Supervisory Board and director of AREVA NC) and Mr Philippe Pinson and Mr Bernard Bigot (members of your company's Supervisory Board and directors of AREVA NC).

Nature, purpose and conditions

On 8 July 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 and on behalf of AREVA NC, assets earmarked to cover dismantling and radioactive waste management costs. This agreement has an indefinite term with three months' notice required for termination by either party.

This agreement did not give rise to any billing in financial year 2013.

WITH EDF AND CEA

Persons concerned

For the three companies, the State represented by: Ms Claire Cheremetinski, Ms Laurence Dubois-Destrizais, Ms Marion Guillou, Mr Pascal Faure, Mr David Azema, Mr Luc Rousseau, and Mr Pierre Sellal.

For CEA and AREVA: Mr Bernard Bigot, member of your company's Supervisory Board, Chairman of CEA, and Mr Christophe Gégout, permanent representative of CEA on your company's Supervisory Board.

Nature, purpose and conditions

On 28 March 2011, the Supervisory Board authorized the signature of an agreement between CEA, EDF and AREVA, the primary purpose of which was to set out the terms under which the grouping formed between the parties was to be organized in order to implement, at the initiative of the *Direction Générale de l'Energie et du Climat*, a program of audits of the valuation tools used by the parties to assess their end-of-cycle obligations. This agreement did not give rise to any billing in financial year 2013.

WITH MR LUC OURSEL, MR PHILIPPE KNOCHE AND MR PIERRE AUBOUIN, MEMBERS OF THE EXECUTIVE BOARD

Nature, purpose and conditions

The Supervisory Board at its meeting on 21 October 2011 and the General Meeting of Shareholders on 10 May 2012 had respectively authorized and approved the commitments made by AREVA corresponding to indemnities or benefits owed or liable to be owed to the members of the Executive Board who are not under employment contracts (Mr Luc Oursel, Mr Philippe Knoche and Mr Pierre Aubouin) as a result of their duties being terminated or changed. Mr Olivier Wantz has an employment contract which is suspended for the duration of his term of office. No indemnity shall be paid in respect of his office as member of the Executive Board.

The Supervisory Board at its meeting on 19 December 2012 and the General Meeting of Shareholders on 7 May 2013 had authorized and approved the revision of the commitments made by AREVA, previously authorized by the Supervisory Board at its meeting on 21 October 2011 and approved by the General Meeting of Shareholders on 10 May 2012, corresponding to indemnities or benefits liable to be owed to Mr Luc Oursel and Mr Philippe Knoche as a result of their duties being terminated or changed.

The commitments made by your company, previously authorized by the Supervisory Board at its meeting on 21 October 2011 and approved by the General Meeting of Shareholders on 10 May 2012, corresponding to indemnities or benefits liable to be owed to Mr Aubouin, continued to have effect in the same conditions in 2013.

The terms of these commitments are as follows:

- in the event of interruption of the terms of office of the members of the Executive Board before their agreed expiry date, under the conditions defined by the Supervisory Board at its meeting on 21 October 2011:
  - Mr Pierre Aubouin may receive a termination benefit for a maximum amount fixed at twice the amount of the last fixed portion of his remuneration, on an annual basis, as of the date on which his duties terminate, and the average of the variable portion of his remuneration, on an annual basis, for the last three years,
  - Mr Luc Oursel and/or Philippe Knoche may receive a termination benefit equal to twice the amount of their annual remuneration as of the date on which their duties terminate;
- the above-mentioned termination benefits shall only be paid in the event of removal from office, unless for just cause, notably in the event of a change in control or strategy, and shall be subject to the following performance conditions:

FOR MR LUC OURSEL AND/OR MR PHILIPPE KNOCHE

- if the average achievement rate of the quantitative and qualitative objectives for the last two financial years is equal to or greater than 60%, the termination benefit will be paid automatically,
- if the average achievement rate of the quantitative and qualitative objectives for the last two financial years is less than 60%, the Supervisory Board will assess the performance of the person concerned with regard to the circumstances that have affected business activity for the financial year then ended.

Each year, the Supervisory Board fixes the objectives that must be reached for the payment of the termination benefit.

FOR MR PIERRE AUBOUIN

In the event that Mr Pierre Aubouin's removal from office or forced departure occurs before he has discharged his duties for three financial years, the payment of the termination benefit shall be subject to the following performance conditions:

- if the average variable portion of his remuneration during his term of office (on a pro rata basis for incomplete years) is greater than 70% of the maximum variable portion of his fixed remuneration, the termination benefit will be paid,
- if the average variable portion of his remuneration during his term of office (on a pro rata basis for incomplete years) is less than 60% of the maximum variable portion of his fixed remuneration, the termination benefit will not be paid,
- if the average variable portion of his remuneration during his term of office (on a pro rata basis for incomplete years) is between 60% and 70% of the maximum variable portion of his fixed remuneration, the decision to pay all or part of the termination benefit will be made by the Supervisory Board, without the termination benefit being automatically due;

In the event that Mr Pierre Aubouin's removal from office or forced departure occurs after he has discharged his duties for three financial years, the payment of the termination benefit shall be subject to the following performance conditions:

- if two out of the three previous financial years have given rise to the payment of more than 70% of the maximum variable portion of remuneration, this variable portion being based both on quantitative and qualitative objectives, the termination benefit will be paid automatically,
- if two out of the three previous financial years have given rise to the payment of less than 60% of the maximum variable portion of remuneration, the termination benefit will not be paid,
- if two out of the three previous financial years have given rise to a payment less than or equal to 70% of the maximum variable portion of remuneration, but this proportion was between 60% and 70% for at least one financial year, the decision to pay all or part of the termination benefit will be made by the Supervisory Board.

- Executive Board members (i) who wish to receive their retirement benefits shortly after the end of their terms of office, regardless of the reasons therefor, even if forced, or (ii) whose term of office ends prematurely due to the transformation of the company into a société anonyme (public limited liability company) with a board of directors, or (iii) who are moved to another position within the AREVA Group, shall not claim any termination benefit.
- In the event that Mr Philippe Knoche's term of office is terminated before the end of his current term of office, or in the event of the non-renewal of his term of office, he shall be offered an employment contract with an equivalent level of responsibility. Such a contract shall not be cumulated with the payment of an indemnity for termination of his term of office as provided for by the Supervisory Board at its meeting on 21 October 2011.
- The Supervisory Board may decide to grant compensation as consideration for a non-compete clause to the Executive Board member. The amount of such compensation shall be charged against the termination payment made, if applicable, to the Executive Board member under the above terms and conditions. If no termination payment is made, the amount of compensation due in consideration of a non-compete clause shall be fixed by the Supervisory Board in accordance with customary practice.
- Executive Board members shall be granted the unemployment insurance provided for by the MEDEF, the contributions to which shall be borne 65% by the Company and 35% by the beneficiary Board member.

Any payment in respect of termination benefits must receive the prior consent of the Supervisory Board in accordance with Article L. 225-90-1 paragraph 5 of the French Commercial Code *(Code de commerce)* and be approved by the Minister of the Economy pursuant to Decree No. 53-707 of 9 August 1953, as amended.

These commitments did not give rise to any payment in financial year 2013.

Paris-La Défense, 26 February 2014

The Statutory Auditors

MAZARS

Juliette Decoux

Jean-Louis Simon

ERNST & YOUNG Audit

Aymeric de La Morandière

Jean Bouquot

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Appendix 3
Environmental report

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AREVA's sustainable development initiative

For more than ten years, sustainable development has been a keystone of AREVA's development. The group's commitments as concerns social, environmental and societal responsibility, together with the AREVA group's Values Charter, contribute to the company's performance while respecting human rights and the environment, in the broadest sense of the laws that protect them.

Enhancing performance in nuclear and occupational safety means reinforcing risk prevention through eco-design approaches, periodic reassessment of risk studies and analyses, and the development of a culture of safety at the workplace.

The group's ambition is to design, build and market safe, competitive and environmentally friendly that rely on its technology solutions for producing energy with less carbon. Energy is a basic requirement for worldwide economic development, particularly in developing countries, but the greenhouse effect depends to a great extent on how that energy is produced. AREVA feels a strong sense of responsibility towards our neighbors on this planet and towards the generations that will succeed us. AREVA subscribes to the United Nations' Global Compact, to the OECD Guidelines for Multinational Enterprises, to the Extractive Industries Transparency Initiative (EITI) and to the Nuclear Power Plant Exporters' Principles of Conduct published by the Carnegie Endowment.

The values reflected in AREVA's Values Charter (see Appendix 6) express the group's sense of responsibility to its customers, shareholders and all stakeholders concerned by the group's operations, whether directly or indirectly

1. Social information

Human resources information is presented in Section 17. Human Resources. Summary data is presented in a table at the end of Appendix 3.

2. Environmental information

2.1. GENERAL ENVIRONMENTAL POLICY

2.1.1. ORGANIZATION SET UP FOR ENVIRONMENTAL RISK PREVENTION

On behalf of AREVA's Executive Board and reporting to the Senior Executive Vice President of Safety, Security and Operations Support, the department of Safety, Health, Security and Sustainable Development (SHSSD) is responsible for nuclear safety in the group's nuclear facilities and related operations, for radiation protection, for the occupational health and safety of all employees and subcontractors, for the prevention of industrial and environmental risk, for the management of crisis situations, and for providing sustainable development leadership.

In these areas, SHSSD provides leadership for the group's relations with major external authorities, in particular in France, establishes rules and monitors their implementation in the operating entities, and provides expertise and support for performance improvement actions taken through its operational line throughout all of the group's entities.

The different policies deployed by the group aim for responsiveness to the regulations and cultures specific to the countries in which AREVA's sites are based, and to the issues expressed by the stakeholders.

2.1.2 TRAINING AND INFORMATION FOR EMPLOYEES

A training program dedicated to safety, health security and the environment

AREVA is strengthening awareness and training in safety, security and the environment through its Safety Excellence program, set up in 2012 and co-piloted by the SHSSD's Health, Safety and Environment departments and the Human Resources Department.

After assessing Safety-Security-Environment (SSE) skills in 2012 based on AREVA's SSE skills baseline for operational positions of responsibility, a professional training program was set up for site directors and facility managers. The program has a core curriculum of required training and includes a two-day module devoted specifically to the management of safety, health, security and environment (MSHE) whose content was bolstered in 2013. Forty site directors or deputies with operational delegation of authority have taken this module to date.

The SHE skills of the facility managers were also assessed in the first half of 2013 according to the same standards. A program of required, pre-appointment training was defined and will be rolled out in early 2014. This program includes two modules and personal work devoted specifically to the management of safety, health, security and environment (MSHE). Sixty facility managers have taken this training to day and another 40 are schedule to take it in 2014.

In addition to the training required by regulation and the training on risk and the safety and security culture given at the operator and site level, the group has set up and dispenses training in nuclear safety, human and organizational factors (HOF) and occupational safety for target groups: safety engineers, through a five-day module for the generalist nuclear safety engineer; local managers, through training modules on analyzing events and on HOF awareness; and members of the Management Committees, through a module to raise awareness on crisis management and organization. More than 300 employees took this training in 2013.

In 2014, new training modules will be developed and dispensed to risk prevention professionals and subcontractor supervisors, representing about 500 employees.

Induction sessions for new hires

AREVA organizes day-long induction sessions on company operations for each newcomer to the group in France. A special module was set up with AREVA University in which the SHSSD Department presents risk prevention as relates to safety, health, security and the environment in an educational format.

2.1.3. RESOURCES DEVOTED TO ENVIRONMENTAL RISK PREVENTION

AREVA's environmental policy

The environmental policy was updated in 2013 and applies until 2016. Its goals are to prevent environmental risks, both chronic and accidental, through better integration of today's environmental challenges of climate change and biodiversity erosion and by treating the environment as a public asset, as codified in AREVA's Values Charter. The group's six major commitments are organized along three main lines:

Performance in managing environmental challenges

1. Develop and maintain a shared culture of environmental risk prevention;
2. Strengthen facility design by taking their entire lifecycle into account.

Preventing and managing accident-related environmental hazards

3. Strengthen the prevention and management of accidental technological risks;
4. Prevent risks related to facility aging and accidental spills.

Preventing and managing chronic health and environmental hazards

5. Strengthen the prevention and management of chronic health hazards;
6. Control the environmental footprint of activities to prevent damage to biodiversity.

The quantification of environmental objectives is adjusted based on ongoing risk mapping efforts, stakeholder expectations, best internal and external practices, environmental reporting, an external benchmark, and dialogue with the operating entities.

The environmental policy applies to all of the group's entities, both in France and abroad. The operating entities implement the policy through action plans.

Safety – Health – Security – Environmental mapping

Since 2009, the Safety, Health, Security, Sustainable Development Department has led a process for assessing the SHSSD status of the group's sites and establishments called "SHSSD Mapping". The objectives of SHSSD mapping are to:

- identify priority sites and issues;
- share these priorities with the operational entities involved;
- orient inspection and entity assistance programs.

The mines, nuclear sites and major industrial sites (Seveso sites and environmentally regulated sites subject to licensing or equivalent procedures) are concerned by this assessment process.

In particular, the assessment concerns risk management related to the facilities, processes and substances used, SHSSD management performance, compliance with regulations, management of standards, change management, and the relevance, deployment and effectiveness of SHSSD action plans.

The top-down assessment draws on the conclusions of internal and external inspections, on support missions, and on any other available information, in particular correspondence with the regulatory authorities. The annual updating of the SHSSD mapping process is documented, scheduled and shared by those involved, including the operating entities.

Regulatory intelligence

AREVA's EVR2 computer software has been used by the French sites since 2010 to identify applicable regulations, record the status of site compliance, and monitor action plans for compliance if applicable, in accordance with the principle of the legal liability of the site managers and of those to whom they delegate authority.

In 2012, an optimization project was launched to pool certain tasks, improve control of the regulatory intelligence process, reduce costs and ultimately increase the level of compliance by the sites and entities. The new process and corresponding organization have been defined in which an expert is designed (from corporate or from a Business Group, BU or site) for each field and sub-field of the regulations. His or her mission is to analyze new regulations and to break them down into clear operational requirements to be used by all of the French entities concerned by the regulation. This stage will facilitate assessment of compliance with requirements, which remains the responsibility of each entity. The new process has been operational since January 1, 2014.

Prevention plan for risks of manmade and natural origin

The French law of July 30, 2003 on the prevention of risks of technological and natural origin and compensation for damages, together with its implementing regulations, introduced a new tool for controlling urban development around the group's four "high threshold" Seveso sites in France: the defluorination facility at the AREVA NC Tricastin establishment, the conversion facilities of AREVA NC Malvési and Tricastin, and the CEZUS Jarrie site. The tool is the Technological Risk Prevention Plan (TRPP), used to:

- reduce risk;
- deal with existing situations and plan for the future; and
- stimulate dialogue among stakeholders, including local governments.

Progress at the four sites in question varies, depending on the priority level set by the Ministry of Sustainable Development and Energy. The TRPP for CEZUS Jarrie was approved in January 2011. The TRPP for AREVA NC Malvési was approved in September 2012. At the Tricastin platform, the AREVA NC hazards studies were reviewed by independent experts, a new TRIPP requirement was signed in December 2012, and draft rules of procedure are under discussion with the stakeholders.

Outside France, AREVA continued to deploy the guide on performing risk analyses. The hazard studies for the mining sites have been finalized. They point up best practices as well as a certain number of topics on which the sites must make progress. Based on these findings, multiyear action plans were deployed at the Somaïr, Cominak, Katco and McClean sites to improve the overall management of accident hazards. By way of example, at Katco, the ammonia water tanks were replaced and a retention-lined emptying station for the new acid and ammonia water facilities was built in 2013.

In addition, in the field of crisis management related to chemical hazards, the AREVA group uses the emergency back-up unit (CASU) of the French national institute of risk and the industrial environment (INERIS, Institut national de l'environnement industriel et des risques) as needed, under an AREVA-INERIS agreement renewed every two years. The agreement was renewed for the 2012-2013 period. For instance, an internal operation plan was carried out at AREVA NC Malvési with support from the Casu on November 8, 2013.

Maintaining a high level of safety and managing risk

The Safety, Health, Security and Sustainable Development Department defines, leads and coordinates the group's nuclear safety and radiation protection policy, carries out a program of annual inspections, ensures that nuclear safety skills are developed throughout the group, and spearheads a network of specialists. It reports on achievements, best practices and events, and it ensures that experience is shared.

In 2013, the General Inspectorate for nuclear safety, radiation protection and industrial hazards carried out 35 inspections relating to nuclear safety (management, organization, criticality, 10-year safety reviews, skills and certification, radiation protection, etc.), as well as to different aspects of occupational safety (management of work authorizations, lockout/tagout procedures and simultaneous operations, and occupational safety) and to the environment. Inspections were also carried out in response to the most significant events to examine their root causes and harvest major lessons learned. In addition to the facilities' compliance reviews, the General Inspectorate analyzes functional and operational processes, and existing systems and their operation are analyzed to identify potential deficiencies. The sites must respond to the recommendations made by the inspectors. Follow-up to these responses gave rise to special reports, with 16 of them produced in 2013.

More specifically relating to 2013, the General Inspectorate performed environmental inspections on the following topics:

- assessment of the sites' health, safety and environmental organizations;
- management of chemicals used in the plants and prevention of the related pollution risk.

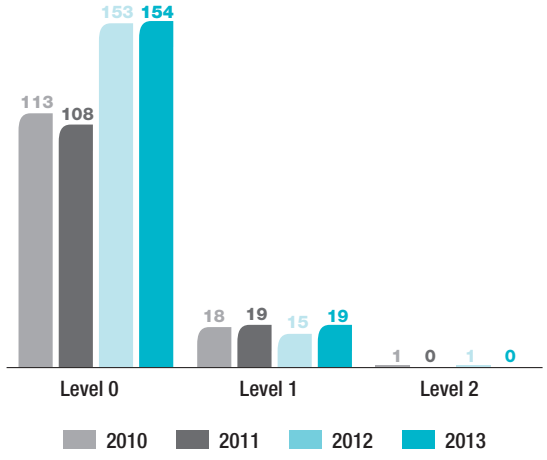
These inspections pointed to generally satisfactory conditions, although they identified areas for improvement to the efficiency of the inspected processes.

Other inspections on more general topics, such as skills management, subcontractor control, safety management in the projects and the management of working conditions during repairs identified areas for improvement, helping to improve environmental management even more through deployment of the corresponding action plans.

Since the end of 2010, the harvesting and sharing of experience from events in the fields of nuclear safety, radiation protection, health, occupational safety, the environment and transportation are managed with a computer program for sharing experience known as AHEAD (AREVA Happened Events Advanced Database), available to all operating entities.

With the same objective, a visual management publication entitled "Do you feel secure?" was designed for all of the group's operating personnel to help each of them question his or her own practices based on real internal and external events.

NUMBER OF EVENTS RANKED ON THE INES SCALE IN THE AREVA GROUP'S NUCLEAR ENTITIES (OWNERS, OPERATORS, SERVICE PROVIDERS) OR DURING THE SHIPMENT OF RADIOACTIVE MATERIALS IN 2013



Beyond the practice of accounting for events, the operating experience process also applies to crisis management exercises at the industrial sites within the framework of annual programs. Fourteen such exercises were conducted in 2013 at the corporate level, in addition to those organized by the sites. These exercises provide an opportunity to train and broaden the skills and experience of those involved, to test organizations, procedures and equipment, and to identify new areas for improvement. AREVA has strengthened its organization in this field since 2012 by creating a Nuclear Safety Crisis Management Department within the Safety, Health, Security and Sustainable Development Department. The group is also making changes to its prevention, mitigation and crisis management resources for beyond-design-basis scenarios, consistent with the current thinking at the government level and in association with other nuclear operators.

Supplementary safety assessments

Nuclear safety analyses and processes already take into account the possible loss and subsequent restoration of power supply and cooling functions. Following the Fukushima disaster, the European safety authorities and the French nuclear safety authority ASN asked the nuclear operators to perform supplementary safety assessments of their facilities, for which AREVA submitted its first report in September 2011. The initiative was based on one premise: the complete and sustained loss of electrical power and cooling in all of the site's facilities following extreme stresses of natural origin. In general, the robustness of the group's facilities in the extreme scenarios assessed was demonstrated. The nuclear facilities in the back end of the fuel cycle (La Hague and MELOX)

have heightened robustness to withstand the stresses considered. In the front end of the fuel cycle (the Tricastin and Romans-sur-Isère sites), a major plant replacement program had already been launched. Thus, all of the group's nuclear facilities will meet the most recent and stringent nuclear safety, occupational safety and radiation protection standards in the near future.

Following its analysis of the group's report, ASN deemed that the facilities assessed present an adequate level of safety; it asked the operators to improve even more the robustness of certain functions to withstand extreme situations going beyond their existing safety margins. Three objectives attach to this request:

- to prevent a serious accident or to limit its progression;
- to minimize releases to the environment;
- to allow the operator to meet its responsibilities in managing a crisis going beyond current emergency or backup systems. To meet this requirement, each site will be endowed with watertight crisis management premises designed to withstand earthquakes and flooding, in particular with a higher threshold. These new command posts will be equipped with additional warning and communication systems (satellite transmission of data and videos, internet and satellite phones), technical response capabilities, radiation protection resources and environmental measurement equipment.

The sites concerned – La Hague, MELOX, Romans and Tricastin – submitted their technical and organizational proposals to the ASN in late June 2012. Each site must establish a "hardened core", *i.e.* a series of robust physical and organizational measures to control critical functions in extreme situations, such as the cooling of certain equipment, the neutralization of acidic releases (HF, UF_6), the dilution of flammable gases (hydrogen), or the prevention of aggravating events (fire, explosion, etc.), even if circumstances significantly exceed the assumptions used during the design of the facilities.

The methods for implementing these measures were the subject of a review by the safety authority and its technical arm in 2013. The review generally validated the methods defined by AREVA. Project organizations were set up to implement these measures, with operational availability planned to run through the end of 2016.

In addition to physical measures, AREVA wants to make sure that human resources are equal to the task, quantitatively and qualitatively. This also involves verifying that the actions may in fact be carried out, considering the response conditions likely to be encountered in the major scenarios identified, and preparing the employees concerned through specific training and suitable drills.

2.1.4. AMOUNT OF PROVISIONS AND GUARANTEES FOR ENVIRONMENTAL HAZARDS

Provisions and guarantees related to the group's end-of-lifecycle obligations and environmental hazards

Provisions totaling 6.857 billion euros had been set aside at December 31, 2013 for environmental hazards, including the dismantling and rehabilitation of mining sites and facilities, nuclear facility dismantling, radioactive waste retrieval and packaging, final waste disposal, routine cleanup, and pollution control and reclamation of industrial sites and mines. Nuclear facility dismantling and waste retrieval and packaging accounted for 6.437 billion euros of this amount, of which 6.238 billion euros are borne by AREVA (see in particular Note 13 to the consolidated financial statements for the year ended December 31, 2013, End-of lifecycle operations of the AREVA Reference Document 2013). Since June 28, 2011, the French law of June 28, 2006 on the sustainable management of radioactive materials and waste requires that provisions for end-of-lifecycle operations be covered by dedicated assets at 100% of their value. AREVA had 102% coverage at December 31, 2013.

2.2. POLLUTION CONTROL AND WASTE MANAGEMENT

2.2.1. PREVENTION, REDUCTION OR MITIGATION OF RELEASES IN THE AIR, WATER AND GROUND

Monitoring releases and the environment

AREVA devotes considerable resources to monitoring releases and to environmental monitoring, irrespective of monitoring performed by the French authorities.

The resources deployed take into account regulatory reporting requirements, including in particular declarations for the European Pollutant Emission Register (EPER), reduction of greenhouse gas emissions under the National Quota Allocation Plan, and renewal of release permits for the nuclear facilities. The "INB order" of February 7, 2012 sets, among other things, the general rules for reporting releases from regulated nuclear facilities.

Regarding radioactive releases, AREVA is strongly committed to the standardization program for measurements of effluent radioactivity established in 2007 by the M60-3 Committee of the Bureau de normalisation des équipements nucléaires (BNEN, the French nuclear equipment standards organization) and has designated a representative from each major nuclear site to participate in this effort. A first draft of a general normative document (document FD M60-821) related to sampling and analysis of radioactive effluents was published in August 2010. Two working groups are developing standards on the measurement of gaseous tritium and carbon 14 releases and on liquid effluent sampling. The M60-825, M60-822-1 and M60-822-2 standards, for example, regarding respectively the sampling of liquid effluents, the sampling of tritium and carbon-14 gases, and the determination of tritium activity were sent to the BNEN and should be published in 2013. The M60-822-0 and M60-822-3 standards, regarding respectively the calculation of tritium and carbon-14 activity and the determination of carbon-14 activity are under preparation. The standard on rare gases will follow but has not yet been initiated.

Concerning the monitoring of environmental radioactivity, it has been possible since February 2010 for any member of the public to go to the website managed by IRSN (www.mesure-radioactivite.fr) to see all of the environmental radioactivity measurements carried out in connection with the prescribed environmental monitoring by the operators in the vicinity of their sites. Each site has acquired the tools needed to manage and submit required data. The AREVA group's six laboratories – AREVA NC La Hague, AREVA NC Pierrelatte, Eurodif Production, FBFC Romans, SEPA Bessines and Comurhex Malvési – were issued licenses by the French nuclear safety authority ASN for the analyses that they must carry out.

ASN has inspected both the laboratories and the data sent to the network. AREVA had also carried out special inspections on this topic in 2011 as part of its annual program. The result of these inspections pointed to strong involvement by the teams and good control of the process for contributing to the network.

A guide to water sampling was produced in 2010 and submitted to the BNEN (French national nuclear equipment standardization office) at the end of that year; it is available to the various operators and gives them a robust and shared data repository in this field. The guide to air sampling was finalized in 2011 and sent in late 2012 to ASN, the BNEN, the Cetama, IRSN and the DSND with an official letter signed by each operator. The guide to bio-indicators is being finalized. Guides such as this will ultimately become standards documents; they supplement existing standards and already constitute a common reference for ensuring the operational control of sampling for radioactivity measurement purposes.

The AREVA group performs some 100,000 measurements annually on samples taken at 1,000 locations to monitor environmental radioactivity around its sites.

AREVA draws on its expertise to contribute to efforts to define an environmental radioactivity index in the environment as part of a task force of the HCTISN [1].

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 (CO_2) and with nitrogenous releases (N_2O) from operations related to the treatment of uranium oxide;
- indirect emissions of greenhouse gases associated with the use of electricity and thermal power; and
- gaseous releases such as volatile organic compounds (VOC), acid-forming gases, or ozone-depleting gases. A total of 1,248 metric tons of VOC were released in 2013, about 10% less than in 2012. This change is due to a reduction in emissions related to the mining operations.

Releases in water

In 2013, only releases characteristic of AREVA's operations for which the measured concentrations were above the detection thresholds were reported.

A total of 84 metric tons of nitrogen was released in 2013, excluding AREVA NC La Hague, compared with 88 metric tons in 2012 and 133 metric tons in 2011. When data is included from AREVA La Hague, the largest contributor at around 600 metric tons per year, releases have declined considerably for several years. These releases are directly related to the level of site output (nitric acid is used in the process); major efforts have been deployed since 1995 to reduce them (*e.g.* by recycling the acid to the facilities).

Uranium releases to aquatic environments by all of the group's sites combined amounted to 474 kilograms in 2013 (excluding AREVA NC La Hague, for which data from the reporting period, estimated at 20 kilograms per year, are not available), compared with 414 kilograms in 2012 and 444 kilograms in 2011 at comparable consolidation scope. Essentially unchanged for the past several years, observed variations are mostly attributable to the former mining sites, now shut down, where residual uranium releases are directly related to rainfall volumes. It is also explained by changes in production volumes at the sites.

Radioactive releases

Radioactive releases have fallen sharply in the past 30 years, reflecting the continuous improvement initiatives deployed by the group's entities. For example, the radiological impacts of the La Hague site have been divided by five, and the impacts on the reference group have been stable for several years now at around 10 µSv/year, down from about 70 µSv in 1985. These efforts paved the way for compliance with more stringent regulatory standards in the European Union, which were transposed into French law, and which set the maximum added effective dose to the public at 1 mSv per year, compared with about 2.4 mSv per year for natural exposure in France and 1 mSv per year to 10 mSv per year in the rest of the world. Nevertheless, AREVA is continuing its research on the feasibility of reducing radioactive releases from the La Hague plant even further, particularly in connection with the plant's release permit. These actions are also consistent with the ALARA principle ("As Low As Reasonably Achievable") and the use of best available technology (BAT) to the extent that this is technically and economically reasonable, considering the characteristics of the facility, its geographic location and local environmental conditions.

The environmental reports published by the group's French nuclear sites since 1995 and the annual safety reports made available to the public in application of article 21 of the TSN Law list radioactive releases and their trends. Measurements of these releases are subject to independent verification and unannounced inspections by the French nuclear safety authority ASN.

The radiological impacts of nuclear sites on the most exposed members of adjacent populations (reference groups) are estimated each year. These impacts are expressed as the added effective dose in millisieverts per year (mSv/yr.), which is an indicator of health effects. The radiological

(1) Haut comité pour la transparence et l'information sur la sécurité nucléaire (senior committee for transparency and information on nuclear security).

impacts are calculated based on actual gaseous and liquid radioactive releases measured during the year and account for the different possible exposure pathways to the populations in question.

The highly complex radiological impact assessment model of La Hague factors in the various types of radiation (alpha, beta and gamma), the two potential exposure pathways (external exposure and internal exposure by ingestion or inhalation), and the specific behavior of each radionuclide in the human body. It is the result of collaborative efforts by French and international experts and associations under the umbrella of the Groupe Radioécologie Nord-Cotentin (GRNC, the Nord-Cotentin radioecology group). Following the recommendations of the GRNC, the site performs sensitivity analyses each year. The radiological impacts are calculated for five nearby villages, where radiological monitoring stations are located. If the impacts on one of the villages are greater than on the reference populations, this is made public. Independent experts conducted epidemiological studies to assess the direct 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 few impacts, with the added effective dose for one year being equivalent to about one day of exposure to naturally occurring radioactivity in the Nord-Cotentin region of France.

The group has set a goal of optimizing its control of radiological impacts and standardizing its radiological impact assessment models at all sites with radioactive releases, taking into account local circumstances related to the life style and eating habits of the population. The order of magnitude of the impacts from the group's nuclear facilities is very low, at equal to or less than 0.01 mSv (1).

In France, AREVA provides all of the necessary information to the Local Information Commissions (CLI) set up by the government in the vicinity of major energy facilities to foster dialogue with local populations.

The group is also taking measures to limit as much as possible the impacts of added 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. More realistic exposure scenarios are taken into consideration when acceptable solutions on an economic and employment level cannot be found. To ensure the continuity of the program to reduce the dose at the site boundary, the sites have when necessary bolstered dosimetry-based monitoring systems.

Soil management

AREVA's environmental policy was updated in 2013 and applies through 2016. It carries on from the policies of previous years, whose objectives were to reduce and manage all of our environmental liabilities. In particular, it reinforces the prevention of accidents, chronic risks and risks related to facility aging. These risks can in fact lead in some cases to the creation of environmental liabilities. The objective is to harmonize our environmental liability management practices by pursuing programs begun in 2002, particularly in mapping, monitoring resources and measures, consolidation of the institutional memory of our industrial sites, and proposed restrictions on the use of the surrounding environment if necessary.

By way of example, the Tricastin site continued to deploy its environmental action plan, which aims to reduce trace contamination in the alluvial sheet: the North and South protection systems for the Gaffière stream which crosses the site are now operational, and work to cap the North mound has been completed. In-depth monitoring of the site and its immediate environment continues.

The Malvési site completed containment work at the decanting basins by installing a cast wall and strengthening the basins.

In the mining operations, a situational analysis of the water tables was carried out at the Niger production sites in accordance with the environmental policy. At the same time, a study is being conducted to improve waste management at the industrial sites. For the exploration project in Mongolia, an environmental risk assessment was initiated together with monthly participatory monitoring aimed at involving the public and the administration. Depending on the stage of the mining project, rehabilitation plans for some sites are being finalized or optimized pursuant to supplementary studies carried out in 2013.

In the Back End Business Group, cleanup of SICN's Veurey and Annecy sites by the Dismantling & Decommissioning business unit was completed. Project completion and decommissioning reports were filed in 2013 and are now being reviewed by the local authorities. Restricted easements were proposed to maintain industrial use. Already, both sites are being redeveloped for industrial use. At the Annecy site, a machine-working company occupies the current buildings. In the northeast corner of the Annecy site, an urban biomass heating plant is scheduled to be built in cooperation with the city. Sofradir, a company specialized in the development, production and marketing of infrared detectors, has moved to the Veurey site.

Rehabilitation work at the Miramas site pursuant to the prefectorial order continues with the treatment of mercury in the soil. The materials are either treated by thermal desorption or washed with water, depending on the type of material, and the mercury is recovered for disposal as waste. In parallel, the soils containing organo-nitrated compounds undergo biological treatment. To limit the impacts and promote bacterial activity, the treated soil is covered with a geomembrane and the bio-mound is placed in a building.

2.2.2. PREVENTION MEASURES FOR MINIMIZING AND MANAGING WASTE

Conventional waste

The gross production of conventional waste totaled 60,671 metric tons in 2013, as follows:

- 18,172 metric tons of hazardous waste, including 7,338 metric tons from exceptional operations;
- 42,500 metric tons of non-hazardous waste, including 21,582 metric tons from exceptional operations.

(1) To be compared with the average of about 2.4 mSv per year for naturally occurring exposure in France.

In 2013, continuing work at Comurhex Pierrelatte, AREVA NC La Hague and AREVA NC Miramas resulted in the production of a large amount of hazardous and non-hazardous waste.

Following an adjustment to the reporting procedure in 2010, the breakdown of waste processing between normal operations and exceptional operations is now possible. For example, the recycling rate for waste from normal operations went from:

- 32% in 2004 to 55% in 2013 for hazardous waste;
- 44% in 2004 to 64% in 2013 for non-hazardous waste.

To achieve the objective of final waste volume reduction, programs are being implemented in all of the group's facilities to:

- minimize and control waste generation at the source;
- promote sorting by providing bins for separate waste collection or by creating in-house waste sorting centers;
- recycle materials and reuse waste by selecting the most suitable methods; and
- improve the processing and packaging of non-reusable waste.

PCBs and PCTs

AREVA's subsidiaries had anticipated the 2010 deadline for eradicating polychlorinated biphenyls (PCBs) and polychlorinated terphenyls (PCTs) set by the European directive 96/59 of September 16, 1996. The group had 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 the decree of February 26, 2003. This first plan called for equipment containing less than 500 ppm to be removed at the end of their useful life at the latest. Consequently, all transformers and capacitors containing more than 500 ppm of PCBs had been eliminated in France at December 31, 2010, closing the chapter on the eradication plan. In Niger, these transformers were removed from the facilities and stored in special areas pending the availability of a safe method for their disposal.

In France, a second elimination plan was established by order no. 2013-301 of April 10, 2013. That plan concerns equipment containing 50 to 500 ppm of PCBs or PCTs. The sites must gradually phase out this equipment according to a schedule set by regulation determined according to the manufacturing date of the equipment. The new plan concerns approximately 80 equipment items.

Radioactive waste

Radioactive waste is produced mainly during operations, dismantling and cleanup of nuclear facilities. It is characterized based on its radiological activity (very low-level, low-level, medium-level or high-level) and by the half-life of the radioelements it contains (very short-lived, short-lived or long-lived waste). Each type of waste requires a specific management method, as shown in the table below.

<table>
<tr><th></th><th>Very short-lived
(half-life < 100 days)</th><th colspan="2">Short-lived
(half-life ≤ 31 years)</th><th>Long-lived
(half-life > 31 years)</th></tr>
<tr><td>Very Low-level Waste (VLLW)</td><td rowspan="3">Management through radioactive decay at the production site</td><td colspan="2">Very Low-level Waste Surface Disposal Center (Aube department)</td><td></td></tr>
<tr><td>Low-level Waste (LLW)</td><td rowspan="2">Each type of waste requires a specific management method, as shown in the table below.</td><td>Research carried out under French law of June 28, 2006 (near-surface disposal at 15-200 meters)</td></tr>
<tr><td>Medium-level Waste (MLW)</td><td>Research carried out under French law of June 28, 2006 (deep disposal, 500 meters)</td></tr>
<tr><td>High-level Waste (HLW)</td><td>followed by conventional disposal</td><td colspan="2">Research carried out under French law of June 28, 2006 (disposal in deep geological repository, 500 meters)</td></tr>
</table>

This waste is managed in compliance with the principles deriving from French legislation on waste management [1]:

- prevention and reduction of waste volumes and toxicity at the source, to the extent that this is reasonably achievable, through the use of appropriate sorting and segregation;
- strategy of containment and concentration, unless otherwise justified;
- optimization of transportation (limiting the volumes and the distances);
- value creation to the extent possible (reuse or recycling);
- information to the public on the environmental and public health effects of long-term waste disposal operations.

These principles are formalized along the following lines in the law of June 28, 2006:

(i) definition of a management policy for radioactive waste and materials,

(ii) improvement of transparency and democratic control,

(iii) arrangements for funding and economic support. Article 6 of the law defines the objectives of the national radioactive materials and waste management plan.

The principal objectives of the national radioactive materials and waste management plan (PNGMDR), whose requirements are set by decree and which is updated every three years, are reiterated below:

- establish an inventory of existing management methods;

(1) Chapter I of Title IV of Book V of the French Environmental Code, law no. 75-633 of July 15, 1975.

- identify foreseeable needs for storage and disposal facilities and specify the required capacities and storage durations; and
- set objectives for the management of radioactive waste for which no final disposal method is yet available; in particular, the plan structures research and studies to be carried out and sets deadlines for implementing new management methods and creating or modifying facilities.

In France, the "INB order" of February 7, 2012, which entered into effect on June 30, 2013, defines the management of radioactive waste from regulated nuclear facilities.

The waste produced by AREVA in the course of its industrial operations (process and technological waste) and the waste from dismantling and cleanup operations represent only a small fraction – just a few percent – of the radioactivity contained in all of the waste generated by the nuclear power industry. Through the group's efforts, the volume of waste generated by its operations was reduced even further. To the extent possible, waste destined for surface disposal (low-level and very low-level waste) is shipped as it is produced, remaining in interim storage at the industrial site for only a limited time.

Performance improvement indicators are consolidated and summarized at the AREVA group level. A special evaluation was conducted to optimize and streamline their use, and continuous improvement initiatives continue to optimize them.

Following a thorough inventory and characterization of legacy waste and materials pending processing at some sites, operational resources were deployed to optimize their management and reduce the quantities in storage.

Significant improvement initiatives were implemented in 2013, including:

- deployment of the ultrasound decontamination process at MELOX, which significantly reduced the radiological activity of the waste and limited the impacts of its management;
- optimization of the operating waste management process at the Malvési facility, including optimization of the management method; these practices are expected to continue in 2014;
- creation of a centralized organization, the Radioactive Materials and Waste Department (RMWD), to pool optimized solutions and manage local activities at the corporate level in order to harmonize performance improvement actions. These actions are organizational in nature (creation of performance improvement pillars) or relate to the inclusion of specific technical aspects (BAT, waste zoning, waste with no designated disposal method).
- characterizations and studies were carried out in 2013 on the disposal of mill tailings at the former mining sites in France to gain better knowledge of their evolution over time and of the behavior of the containment structures. The results will enable an assessment of their stability over the long term and confirm the acceptability of the protection solutions implemented.

Dissemination of information

Information related to waste flows and volumes stored in AREVA's nuclear facilities is communicated to the competent authorities in the form of annual waste inventories, supplemented by declarations to the national inventory.

In France, AREVA is contributing actively to the national inventory of the Agence nationale pour la gestion des déchets radioactifs (Andra, the national radioactive waste management agency), which is published every three years. The latest edition gives data on waste and materials inventories at the end of 2012, along with forecasts through 2020 and 2030, and for end of the operating period of existing or licensed facilities.

The inventory also gives:

- the storage capacities for radiferous and tritiated high-level waste (HLW), long-lived medium-level waste (LL/MLW) and long-lived low-level waste (LL/LLW);
- storage requirements for HLW and LL-MLW destined for deep disposal;
- the quantities of radioactive materials, sites that are contaminated by radioactivity, and information on mill tailings storage sites.

AREVA contributes to the responsible management of radioactive waste generated by the nuclear power industry by offering power companies solutions for safely storing, processing, packaging and, if necessary, shipping their waste.

2.2.3. CONSIDERATION OF ENVIRONMENTAL THREATS AND OTHER FORMS OF POLLUTION

The impact study of a nuclear facility is updated at each stage of its lifecycle – its creation, modification, shutdown and dismantling. One of the key purposes of these studies is to characterize the potential health effects and environmental impacts of releases and disturbances from the facility in question.

Among these studies, those in which the chemical hazards are assessed look at the neighboring population that might be chronically exposed to facility releases. They are carried out based on normal facility operating scenarios, both in France and abroad, and factor in different potential exposure paths to the neighboring populations in approaches that are as realistic as possible. They are repeated at each material modification of the facilities, based on the latest available scientific knowledge.

Environmental impact studies using risk assessment methods are also used to prevent environmental hazards (threats to plant and animal life). The studies are performed for each new facility and for each notable change in existing facilities. For these types of studies, environmental monitoring regulations also include specific measures to assess their impact on the environment (such as monitoring of radiological and/or chemical markers in different environmental matrices, supplemented as necessary by measures to monitor plant and animal life). The Tricastin site, for instance, added eco-monitoring measures to its environmental

monitoring program to assess the impacts on local plant and animal life (periodic inventories and standardized ecological indices).

Following the update of the asbestos directive in 2009, asbestos reviews performed in 2010 and the sites' self-assessments were used to draw up a site inventory of the asbestos hazard in the group's facilities.

Since September 2008, the carcinogenic, mutagenic and reprotoxic substances directive (CMR) has applied to all sites where the group is the principal operator. Of the two sections in the directive, one deals with managing workstation risk, while the other addresses environmental risk management. The objectives of this directive include identifying and eliminating all class 1A and 1B CMRs if it is technically and economically feasible to do so, and ensuring the traceability of employee exposure through measurement and follow-up.

Prevention of legionnaires' disease is also a priority for the entities involved, particularly as concerns domestic hot water systems.

Lastly, the prevention of noise, olfactory, light and visual pollution is managed locally by each site to ensure compliance with applicable regulatory requirements

2.3. SUSTAINABLE USE OF RESOURCES

To minimize its environmental footprint, the group takes action to reduce withdrawals from the natural environment and its consumption of materials and energy, and continually searches for opportunities to recycle waste.

In the projects, AREVA's eco-design approach contributed to the early identification of the environmental impacts of major projects and thus to optimization efforts, in particular as concerns projects in the Mining, Front End and Back End Business Groups, with support from the group's engineering companies.

Concrete examples of projects contributing to a sustainable use of resources and a reduction in the consumption of raw materials are presented in the following sections on energy management at AREVA, on the reduction of water usage and on management of the group's waste.

2.3.1. WATER CONSUMPTION AND SUPPLY BASED ON LOCAL CONDITIONS

The group consumed a total of 13.5 million m^3 of water in 2013, compared with 15.7 million m^3 in 2012. At constant activity (based on revenue), this change corresponds to a decrease of -59% from 2004 to 2011.

A total of 16.9 million m^3 was withdrawn for site requirements in 2013, compared with 22.8 million m^3 in 2012. This volume includes mine drainage water linked to the operation of the mines and water used for cooling or geothermal systems.

Group-wide, the tapping and consumption of water has continually declined since 2004, thanks to technical systems and actions set up by the sites such as:

- the installation of a recirculating cooling loop at the Comurhex Malvési site, which started up in August 2007, resulted in annual water savings of about 1.3 million m^3 and a reduction in the site's water consumption of more than 80% compared with 2006; this change offsets the significantly lower flow-rate of the spring supplying water to the site;
- the optimization of cooling tower operations at Creusot Forge, which continued to reduce water withdrawals;
- water recycling systems at the CEZUS Jarrie site.

For some sites, most notably the Trekkopje site in Namibia, water consumption fell in 2013 due to reduced activity or shutdowns for maintenance. Due to the postponement of project startup, the Trekkopje site was shut down and a facility maintenance program was implemented in 2013.

Water withdrawals nonetheless rose at some sites, usually due to increased activity, but also due to water supply system losses or to malfunctions in water cooling or recirculation systems.

Facilities with significant environmental aspects continue to implement optimization plans to conserve water resources, particularly in arid areas.

In 2013, the operations of Somaïr, Cominak and Imouraren in Niger represented about 44% of the group's total water consumption. To optimize water withdrawals and consumption, the Niger sites reuse part of their waste water as well as the water from ore processing operations.

The Erongo Desalination Plant (EDP) was built in Namibia to meet the water requirements of the Trekkopje mining site. Located nearly 50 kilometers from the mine, this mine will supply all of the water consumed by the Trekkopje mine during its operation. Surplus potable water produced by the plant will be able to be used for domestic and industrial purposes in the Erongo region.

While the Trekkopje project is mothballed, the EDP will continue to operate, producing water for local industries. In particular, AREVA Namibia and Namibia Water Corporation Ltd (NamWater) signed an initial contract in 2013 for the distribution of the water produced by the AREVA plant to several mines in the Erongo region.

By investing in this desalination plant, AREVA is contributing to the security of water supply and to the preservation of water resources in the Erongo region.

2.3.2. ENERGY CONSUMPTION AND MEASURES TO IMPROVE ENERGY EFFICIENCY

The group's total energy consumption came to 3,193,661 MWh in 2013. This compares with 5,020,439 MWh in 2012. Contrary to previous years, with the shutdown of the Georges Besse I plant, the Front End Business Group is no longer the principal contributor. The Back End Business Group was the largest contributor in 2013, with nearly 32% of the group's energy consumption.

It should be noted that the Georges Besse II enrichment plant built at the Tricastin site, which is based on the ultracentrifugation enrichment process, uses 50 times less energy than the Georges Besse enrichment plant based on the gaseous diffusion process, which was shut down in 2012.

All of the group's other sites continued their efforts to improve energy efficiency through targeted audits, particularly as concerns the production and distribution of compressed air, and through the systematic valuation of energy savings investments by drawing on the regulatory system of the second period of Energy Savings Certificates (ESC). For example, AREVA identified 130 GWh of cumulative discounted savings at its sites with its partner EDF in 2013.

AREVA can offer renewable energies solutions to its customers. For example, following the shutdown of the gaseous diffusion process at the Tricastin site, the heat previously produced by the plant – which was used to heat the site, neighboring greenhouses and the city of Pierrelatte – was replaced with a biomass power plant supplied by AREVA.

2.3.3. CONSUMPTION OF RAW MATERIALS AND MEASURES TO IMPROVE THEIR EFFECTIVE USE

Controlling the consumption of raw materials is one of our objectives in waste recovery, which includes materials recovery and energy recovery. Some of the group's waste is recovered internally or externally and is then recycled into the process, limiting raw materials consumption. For example:

- 96% of "used" nuclear fuel is recoverable: these materials are extracted at the AREVA NC La Hague site and used in the MOX fabrication process (mixed oxide fuel) at the MELOX industrial site to resupply the reactors, limiting our consumption of natural uranium;
- the chips produced by the manufacture of large forgings and castings at the AREVA NP Creusot site are recycled externally to foundries and recycled into the process;
- potassium diuranate from the conversion of uranium ore, generated by the AREVA NC Pierrelatte site, is recovered at the AREVA NC Malvési site.

2.3.4. LAND USE

AREVA's industrial and mining activities use land. While land use in its main industrial operations remains practically unchanged throughout the group, land use by its mining operations depends directly on the mining technologies employed: an underground mine requires little land compared with an open-pit mine, which requires a larger land area. Roads and related supply systems to the facilities may also influence land use. AREVA is aware of these issues and tries to minimize them. For example, as part of the development work for the Trekkopje project in Namibia, a fresh water supply pipe was moved approximately ten kilometers to protect an area in which a species of endemic lichen [(1)] is found and that was initially in the pipeline's path. The design of this infrastructure and the creation of a protected zone preserve corridors and refuge areas used by local species, thus preventing the deterioration of a remarkable habitat.

In addition, it is important to include the operating cycle into land management efforts. Rehabilitation at the end of operations will condition the return to a state of equilibrium. In France, where mining operations ceased nearly 15 years ago, AREVA manages about 250 former mining sites representing some 14,000 hectares of land. To ensure public health and safety, former mines are reclaimed and replanted to limit the residual impacts and integrate the sites into the natural landscape while restoring habitat for different species, in harmony with the natural environment and in agreement with the local stakeholders. An inventory of these sites shows that nearly half of the land occupied and managed by AREVA is considered remarkable from an ecological point of view and is ranked either as a Natura 2000 area or other (*e.g.* natural area of ecological interest, ZNIEFF).

2.4. CLIMATE CHANGE

Adapting to the consequences of climate change is reflected in the safety assessments carried out periodically in the facilities. Assumptions are regularly reviewed to factor in the latest scientific knowledge in terms of global warming and the impacts on water resources and on extreme climate phenomena.

These assessments are used to adapt facility designs if necessary and to establish significant margins of safety against foreseen natural events and an appropriate crisis management organization (detection of extreme weather phenomena, protection of the facilities).

(1) i.e. specific to a given location or region.

2.4.1. GREENHOUSE GAS RELEASES

The AREVA group's direct greenhouse gas emissions amounted to 422,021 metric tons of CO_2 equipment in 2013. Seventy-three percent of these emissions are linked to fossil energies.

2.5. BIODIVERSITY PRESERVATION

AREVA pays close attention to monitoring and preserving biodiversity. The protection of plant and animal life begins in the design phase and continues throughout the facility operating period and into site rehabilitation. Special care is devoted to native species and to how species introduced during reclamation adapt to the local biotope (habitat for plant and animal life).

For example, as early as 2006, AREVA began an in-depth review of interactions between its operations and biodiversity, supplemented in 2008 with an "AREVA and biodiversity" report. The conclusion was that, as for all industrial activities, the group's sites:

- use the natural environment;
- benefit from all of the ecosystem services offered by biodiversity (natural resources, climate regulation, regulation of effluents, etc.);
- contribute as a consequence of their activities to biodiversity erosion (waste production, greenhouse gas emissions, use of resources, dividing up of existing ecosystems).

AREVA integrated these themes into its environmental policy with the goal of preventing, limiting and if necessary offsetting the impacts of its operations on biodiversity.

Comprehensive mapping showed that the main impacts on biodiversity from the group's facilities came from the mining operations and from the operations of some sites with significant environmental aspects. After extensive work in cooperation with international biodiversity experts, AREVA developed a tool to assess interactions between the group's operations and biodiversity. The tool offers a means for increasing employee awareness, methods for assessing the impacts on biodiversity, and a guide for setting up action plans, and may be used by each site.

In addition, to gain a better grasp of the challenges related to local biodiversity, targeted ecological inventories were established at the major industrial sites. The most important of these concerned the Tricastin site. The study, conducted over a period of more than one year, consisted of a literature search on existing nature data in the far field of the site and of fauna/flora data mining in the near field of the site (site inventories). These inventories provide a clear picture of the biodiversity existing at the site and were used to map the ecological challenges related to the preservation of remarkable species.

More generally, the AREVA group's facilities strive to continually reduce their environmental footprint and, more specifically, to take action simultaneously on the five mechanisms known to erode biodiversity. The main actions undertaken involve:

1. **the fight against climate change**, which requires programs to reduce greenhouse gas emissions and offset residual emissions (see Section 2.4 of Appendix 3 to AREVA's 2013 Reference Document);
2. **managing the risks associated with a change of land use** resulting from the development of industrial activities, in particular mining operations, based on a prior ecological assessment, whether for the production sites themselves or for the related supply systems that would have to be developed;
3. **minimizing the potential impacts of releases and other industrial disturbances**

   Environmental impact studies for the group's facilities assess their impact not only on humans but also on the environment and on plant and animal life. Conventional chemical or radioactive releases, whether in liquid or gaseous form, are first targeted for volume reduction at the source and toxicity minimization. The residual impacts on health and the environment are measured regularly, assessed, and monitored, as are the impacts of other disturbances that the site may generate;
4. **preventing the risk of proliferation of invasive species**

   Teams in charge of environmental preservation ensure that the rehabilitation programs carried out in the group's properties introduce only native species or species whose compatibility with the natural environment has been demonstrated;
5. **action to promote the sustainable use of natural resources**, in particular the continuation of the global eco-efficiency initiative (see Section 2.3. of Appendix 3 to AREVA's 2013 Reference Document for concrete examples of actions designed to reduce the use of energy, water and materials, and to recycle waste).

2.6. FOLLOW-UP OF SELECTED ENVIRONMENTAL INDICATORS

	2013	2012	2011
Consumption			
Quantity of energy consumed (MWh)	3,193,661	5,020,439	2,765,631 (1)
Total quantity of water taken for site requirements (m^3)	16,883,168	22,785,564	31,102,780
Quantity of water tapped (m^3)	13,475,084,72	15,744,784	17,233,258
Consumption of hazardous chemicals			
Chlorinated solvents (MT)	17.36	17.75	171
Conventional waste			
Total tonnage of conventional waste (normal and exceptional operations)	60,671	52,242	51,867
Quantity of hazardous waste (MT) related to normal operations	10,834	10,745	9,514
Quantity of non-hazardous waste (MT) related to normal operations	20,917	25,816	26,414
Recycled share in % of hazardous waste related to normal operations	62	54	51
Recycled share in % of non-hazardous waste related to normal operations	55	76	71
Releases			
Total nitrogen releases into aquatic environments (MT)	84.5 (2)	679.62	661.44
Aqueous releases of uranium (kg)	473.8 (2)	434.1	460.9
Direct greenhouse gases (MT CO_2) ✓ (3)	422,021	444,944	465,836
CO_2 emissions from facilities subject to the National Quota Allocation Plan (MT CO_2)	55,669	40,330	41,620
Toxic gas releases: volatile organic compounds (kg VOC)	1,248,000	1,394,907	1,588,727
Releases of acid-forming gases: SOx (MT)	1,301	1,308	2,017
Releases of acid-forming gases: NOx (MT)	431	478	904
Releases of acid-forming gases: NH_3 (MT)	25	31	41
Releases of ozone-depleting gases (kg CFC-111e)	525	269	573

(1) Excluding Eurodif.
(2) Excluding AREVA NC La Hague and Lynchburg: data not available at the time of publication.
(3) Indicator subject to reasonable assurance.

3. Societal information

3.1. LOCAL, ECONOMIC AND LABOR IMPACTS OF THE BUSINESS

CONTRIBUTING TO THE ECONOMIC DEVELOPMENT OF COMMUNITIES

AREVA pursues its commitment to community involvement through regional activities. In the labor pool of its French plant sites, AREVA provides funding in the form of owners' equity to small and mid-sized companies that create employment. AREVA's Reindustrialization and Economic Development Department (REDD) has a venture capital fund called AREVADelfi whose mission is to provide capital or profit-sharing loans to them. The fund has supported more than 140 projects since its establishment. In 2013, nine new applications representing 235 new jobs were received and approved. In Avignon, for example, IDCAPT specializes in innovative RFID applications for authentication, traceability and anti-counterfeiting efforts; it received venture capital in 2013 against a promise to create 20 jobs. In Veurey-Voroize, near Grenoble, a proposed spin-off company was funded: a former AREVA employee bought a small earth moving company and will create four jobs. In Commercy, a company from Nancy is setting up business to manufacture and sell automatic bread-making equipment called "*Compagnon du boulanger*" and will create 47 jobs in the Meuse department of France.

In addition, Mine Societal Committees (MSC) were created to replace the Mine Integration Committee in regions in which the Mining Business Group is based. Their mission is to identify the challenges, priority projects and outlook for local development and commitment with stakeholders, country by country, along with multiyear action plans. Three MSCs are

now in place in Niger, Gabon and Mongolia. AREVA supports societal projects through this committee, which examines and approves projects for local economic development programs, an important and ongoing concern for AREVA and the neighboring communities of the group's mining sites.

3.2. STAKEHOLDER RELATIONS

We set up and manage organizations for dialogue and consensus building in each of the countries in which we are based. They are integral to an approach committed to the long term with our local and internal stakeholders. They reflect a need to identify our stakeholders, to understand their concerns and expectations, and to undertake the actions that will build trust and cooperation for mutual development.

Consensus building near the French sites is already well under way, having begun some fifteen years ago at some sites, with legislation laying the foundation for the creation of local information organizations. These organizations, which have been institutionalized, especially since 2006, include the Local Information Commissions (CLI) and the Site Monitoring Commissions (CSS). They bring together several different groups of people: local elected officials and communities, government representatives, resident associations, environmental protection associations, industry and employee representatives. AREVA maintains regular relations with the commissions. For example, it attends information seminars on radioactive waste management, Human and Organizational Factors, and the results of the Supplementary Safety Assessments (SSA) put on by the members of the CLIs, as well as one of the round tables held during the national conference of CLIs. The group also participates in multi-party forums such as the Senior Committee for Transparency and Information on Nuclear Safety (HCTISN) and the National Radioactive Waste and Materials Management Plan (PNGMDR).

Multiple opportunities for dialogue with our external stakeholders are available in the mining operations. In France, they are offered through the local information and monitoring commissions (CLIS), which serve as a special forum with local players for information sharing, discussion and dialogue. In Canada, there are a number of community-based organizations for dialogue in the regions in which AREVA operates. All of the information is collected in a "Stakeholders issues management database". In Niger, the group reports to local stakeholders on its industrial and sustainable development performance once a year during meetings of the local information commissions (CIL). It also has a space for dialogue and discussion of key local challenges and stakeholder expectations. In Mongolia, a stakeholder mapping exercise has been carried out and was used to establish societal programs corresponding to stakeholder concerns.

At the same time, AREVA has a proactive continuous improvement initiative in the mining sector based on best international practices for corporate social responsibility, anchored in particular in the 10 principles of the International Council on Mining and Metals (ICMM).

AREVA CORPORATE FOUNDATION

The AREVA corporate foundation was created in 2007 to support humanitarian and public-interest projects in three fields:

- health: the fight against AIDS and malaria, both through research and in the field with access to healthcare and the acquisition of medical equipment;
- education: the elimination of illiteracy, access to education and support for students;
- culture: cultural outreach for members of the public without easy access.

The Foundation supports concrete, targeted and sustainable actions, especially those benefitting disadvantaged people, with the priority being children, women and students.

It also fosters commitment by employees of the group through projects developed specifically for them: calls for internal projects, volunteering opportunities, humanitarian leave and mentoring of young scholars.

In 2013, the AREVA corporate foundation supported 49 projects in 10 countries in which the group is based, nearly half of them involving its employees.

With a budget of 7.5 million euros until 2017, the Foundation is pursuing a multiyear program with large national and international partners such as the French Red Cross, Institut Pasteur, Institut Curie, Secours populaire français, the National Agency for the Fight against Illiteracy, the Quai Branly Museum and the Guimet Museum.

3.3. SUBCONTRACTING AND SUPPLIERS

As part of its Responsible Purchasing policy, the group integrates its social and environmental commitments into the supply chain process and into the management of its supplier relations.

This policy contributes to the company's economic performance while respecting human rights, protecting its environment, complying with the laws that protect them, anticipating risk, and committing to responsible initiatives with suppliers that create innovation and value.

The Responsible Purchasing policy rests on four pillars:

- buyer training and awareness;
- integration of sustainable development into the supply chain;
- supplier commitment;
- assessment of our suppliers' corporate responsibility commitment and performance.

In late 2008, the Supply Chain Department set up a training module devoted to Responsible Purchasing as part of a two-year professional training program. A total of 332 people had received the training at the end of 2013.

In 2013, the Supply Chain Department set up a supplier listing and comparative evaluation system for purchases characterized by safety, health, security, environment and sustainable development challenges.

Corporate social responsibility was thus integrated into the group's supply chain process and is now a requirement for new suppliers seeking to be listed for requests for proposals and during performance reviews.

In 2006, AREVA asked its service providers to support its sustainable development policy by signing its "Sustainable Development Commitment applicable to suppliers", which identifies the standards and commitments expected by the group.

The first corporate social responsibility audits of suppliers were carried out in late 2008 by an external partner.

Since 2009, the corporate social responsibility evaluation standards contain 22 environmental, social, ethical and supplier relations criteria and cover all of the commitments in the "Sustainable Development Commitment applicable to suppliers".

Corporate responsibility evaluations are carried out on an evaluation platform operated by a service provider; approximately 140 evaluations have been completed on a cross-cutting panel of suppliers.

3.4. FAIR PRACTICES

Actions taken to prevent corruption and support human rights are described in Appendix 6 of the 2013 Reference Document.

4. Summary of data from the Grenelle II environmental law

Article 1 of Decree no. 2012-557 of April 24, 2012	Section of the 2013 Reference Document
Social information	**Section 17**
Employment	**Section 17.1.**
Total workforce and distribution by gender, age and geographical area	Section 17.1.1.
Staffing and layoffs	Section 17.1.2.
Compensation and trends	Section 17.1.3.
Organization of work	**Section 17.2.**
Organization of working hours	Section 17.2.1.
Absenteeism	Section 17.2.2.
Labor relations	**Section 17.3.**
Organization of social dialogue, in particular procedures for information, consultation and negotiation with personnel	Section 17.3.1.
Status of collective bargaining agreements	Section 17.3.2.
Health and safety	**Section 17.4.**
Health and occupational safety conditions	Section 17.4.1.
Status of agreements on health and occupational safety signed with labor organizations or employee representatives	Section 17.4.2.
Frequency and severity rates of occupational injuries and accounting of occupational diseases	Section 17.4.3.
Training	**Section 17.5.**
Training policies	Section 17.5.1.
Total hours of training	Section 17.5.2.
Equal treatment	**Section 17.6.**
Measures in favor of gender equality	Section 17.6.1.
Measures in favor of employment and integration of persons with disabilities	Section 17.6.2.
The fight against discrimination	Section 17.6.3.
Promotion and compliance with the stipulations of fundamental agreements of the International Labor Organization concerning:	**Section 17.7.**
Respect for the freedom of association and the right to collective bargaining	Section 17.7.1.
Elimination of discrimination related to employment and occupation	Section 17.7.2.
Elimination of forced or compulsory labor	Section 17.7.3.
Effective abolition of child labor	Section 17.7.4.
Environmental information	**Appendix 3**
General environmental policy	**Section 2.1.**
Company organization for addressing environmental issues and environmental assessment or certification initiatives as applicable	Section 2.1.1.
Employee training and information concerning environmental protection	Section 2.1.2.
Resources devoted to preventing pollution and environmental risk	Section 2.1.3.
Amount of provisions and guarantees for environmental risk, unless this information could seriously prejudice the company in an ongoing dispute	Section 2.1.4.
Pollution control and waste management	**Section 2.2.**
Prevention, reduction or mitigation of releases in the air, water and ground seriously impacting the environment	Section 2.2.1.
Measures to minimize, recycle and dispose of waste	Section 2.2.2.
Consideration of noise pollution and any other form of pollution specific to an activity	Section 2.2.3.

Article 1 of Decree no. 2012-557 of April 24, 2012	Section of the 2013 Reference Document
Sustainable use of resources	**Section 2.3.**
Water consumption and supply based on local conditions	Section 2.3.1.
Energy consumption and measures to improve energy efficiency and the use of renewable energies	Section 2.3.2.
Consumption of raw materials and measures to improve the effectiveness of their use	Section 2.3.3.
Land use	Section 2.3.4.
Climate change	**Section 2.4.**
Greenhouse gas releases	Section 2.4.1.
Consideration of the impacts of climate change	Section 2.4.
Biodiversity preservation	**Section 2.5.**
Measures to preserve or increase biodiversity	Section 2.5.
Societal information	**Appendix 3**
Local, economic and labor impacts of the business	**Section 3.1.**
- in terms of employment and regional development	Section 3.1.
- on the local or neighboring population	Section 3.1.
Stakeholder relations	**Section 3.2.**
Conditions for dialogue with stakeholders	Section 3.2.
Partnership and philanthropic programs	Section 3.2.
Subcontracting and suppliers	**Section 3.3.**
Inclusion of social and environmental aspects in the purchasing policy	Section 3.3.
Importance of subcontracting and social and environmental responsibility in relations with suppliers and subcontractors	Section 3.3.
Fair practices	**Section 3.4.**
Actions taken to prevent corruption	Section 3.4.
Measures in favor of consumer health and safety	Section 3.4.
Other actions taken in favor of human rights	Section 3.4.

Appendix 4

Non-financial reporting methodology and independent third-party report on social, environmental and societal data

A4

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1. Reporting methodology

The indicators published in Section 17 and Appendix 3 of this report are used to measure the leading social, environmental and societal impacts and challenges related to the AREVA group's activities.

These indicators were developed by a group of experts representing the group's different businesses and departments, and reflect the regulatory framework of article R. 225-105-1 of the French Commercial Code and international standards such as GRI version 3 (1) and WBSCD (2).

(1) Global Reporting Initiative (www.globalreporting.org).

(2) The Greenhouse Gas Protocol is developed by the World Business Council for Sustainable Development (WBCSD) [www.wbcsd.org] and the World Resources Institute (WRI).

SCOPE AND CONSOLIDATION

Reporting period: The reporting period is the calendar year (January 1 to December 31).

Scope of reporting: The scope of reporting covers all of the group's worldwide operations. By "group", we mean AREVA, its subsidiaries and all of the operational and functional entities in which AREVA's interest is 50% or more at December 31, 2013. Some minority-owned subsidiaries are included on an exceptional basis, along with the majority-owned subsidiaries, to reflect the group's operational involvement; this is the case for example for Cominak in Niger. Units whose sale was in progress and irreversible in 2013 were not included in the scope of reporting. Newly acquired entities are not consolidated in the year of their acquisition so that systems for collecting and inputting data can be set up and data reliability ensured.

Office buildings with a total surface area of less than 1,000 m^2 must as a minimum report indicators in the fields of occupational safety, health, employment and dosimetry (if applicable) and, if possible, the other fields of the reporting procedure if the issue is a major one.

Consolidation rules: For "Environment, Health and Safety" data, the full consolidation method is used (data from majority-owned subsidiaries are fully consolidated). The consolidation method selected for data pertaining to human resources is aligned with the method used for financial consolidation. Thus, data for subsidiaries in which AREVA has a minority interest are reported in proportion to AREVA's interest. For projects conducted at customer locations, social data (security, health, workforce, dosimetry) and governance data (ISO 14001 certification) are consolidated at the group level. For AREVA investment projects (*e.g.* Comurhex II and Georges Besse II), all of the environmental, health, security and social data are consolidated at the group level.

Changes in consolidated group: The main changes in the consolidated group were as follows in 2013:

- deconsolidated: Erwin US, Technoplus Industrie, AREVA Solar Philadelphia US, Corys Tess - AREVA TA.

METHODOLOGY

Reference base: The measurement methods used for environmental, social and safety indicators and the related Reporting Criteria are documented in an "AREVA sustainable development and continuous improvement measurement and reporting procedure". This procedure, which is updated in the first quarter of each year, is provided to anyone, at any level, involved in developing and reporting data;

Tools used: Dedicated software – STAR for environmental indicators, AHEAD for safety, and CYRIUS and POLYPHEME for social data – are used to report the indicators presented in Section 17 and in Appendix 3.

Internal control: To increase data reliability, the HSE managers of the Business Groups and subject-matter specialists check the data reported by the sites for consistency.

Independent verification: The group had an independent third-party organization verify its key environmental, social and societal performance indicators. The scope of this verification was defined for all 42 categories of information identified in the implementing order for article 225 of the Grenelle II law. In accordance with these regulations, the verifications concern the consolidated social, environmental and societal data presented in Chapter 6 of the management report. The data are presented in Section 17 and Appendix 3 of this Reference Document. The independent third-party report is presented below in this Appendix 4.

ADDITIONAL INFORMATION ON SELECTED INDICATORS

Dosimetry: The performance indicators for dosimetry are collected every six months and concern a reference period of 12 consecutive months, with a 6-month lag for data acquisition. For the annual campaign of January 2014, the data concerns the period from July 2012 to June 2013. The mean internal and external dose calculation includes all monitored personnel, including personnel that received a non-detectable dose or no dose at all. For reasons of confidentiality, the independent third-party organization did not review internal dosimetry data. For this indicator, the review is limited to the sum of individual external doses resulting from occupational exposure to radiation by the group's employees.

Direct greenhouse gas emissions: The following gases were taken into account: CO_2, CH_4, N_2O and halogen compounds (CFC, HCFC, HFC, PFC and SF6). The figures disclosed in this report do not include indirect greenhouse gas emissions related to purchases of electricity, heating or cooling.

2. Independent verifier's attestation and assurance report on consolidated social, environmental and societal information presented in the management report

To the Shareholders,

In our quality as an independent verifier of which the admissibility of the application for accreditation has been accepted by the COFRAC, under the number n° 3-1050, and as a member of the network of one of the statutory auditors of AREVA, we present our report on the consolidated social, environmental and societal information established for the year ending on December 31st, 2013, presented in chapter 6 of the management report, hereafter referred to as the "CSR Information," pursuant to the provisions of the article L. 225-102-1 of the French Commercial Code *(Code de commerce)*.

RESPONSIBILITY OF THE COMPANY

It is the responsibility of the Board of Directors to establish a management report including CSR Information referred to in the article R. 225-105-1 of the French Commercial Code *(Code de commerce)*, in accordance with the company's internal reporting standards (the "Guidelines"), a summary of which is provided in annex 4 of the Reference Document (the "Methodological note").

OUR INDEPENDENCE AND QUALITY CONTROL

Our independence is defined by regulatory requirements, the Code of Ethics of our profession *(Code de déontologie)* as well as the provisions in the article L. 822-11 of the French Commercial Code *(Code de commerce)*. In addition, we have implemented a quality control system including documented policies and procedures to ensure compliance with ethical requirements, professional standards and applicable laws and regulations.

RESPONSIBILITY OF THE INDEPENDENT VERIFIER

It is our role, based on our work:

- to attest whether the required CSR Information is present in the management report or, in the case of its omission, an appropriate explanation has been provided, in accordance with the third paragraph of R. 225-105 of the French Commercial Code *(Code de commerce)* (Attestation of presence of CSR Information);
- to express a limited assurance on whether the CSR Information is presented, in all material aspects, in accordance with the Guidelines (Opinion on fairness of CSR Information);
- to express, at the request of the company, a reasonable assurance on whether the scope 1 greenhouse gas emissions identified by the sign (✓) in chapter 6 of the management report is presented, in all material respects, in accordance with the Guidelines (Reasonable assurance report);

Our verification work was undertaken by a team of six people and took place from November 2013 to February 2014 for an estimated time period of nineteen weeks.

We conducted the work described below in accordance with the professional standards applicable in France and the Order of May 13th, 2013 determining the conditions under which an independent verifier performs its mission, and in relation to the opinion of fairness and the reasonable assurance report, in accordance with the international standard ISAE 3000 (1).

(1) ISAE 3000 – Assurance engagements other than audits or reviews of historical information.

2.1. Attestation of presence of CSR Information

We obtained an understanding of the company's CSR issues, based on interviews with the management of relevant departments, a presentation of the company's strategy on sustainable development based on the social and environmental consequences linked to the activities of the company and its societal commitments, as well as, where appropriate, resulting actions or programmes.

We compared the information presented in the management report with the list as provided for in the Article R. 225-105-1 of the French Commercial Code *(Code de commerce)*.

In the absence of certain consolidated information, we verified that the explanations were provided in accordance with the provisions in Article R. 225-105-1, paragraph 3, of the French Commercial Code (Code de commerce).

We verified that the information covers the consolidated perimeter, namely the entity and its subsidiaries, as aligned with the meaning of the Article L. 233-1 and the entities which it controls, as aligned with the meaning of the Article L. 233-3 of the French Commercial Code *(Code de commerce)*, with the limitations specified in the Methodological Note presented in Annex 4 of the registration document.

Based on this work, and given the limitations mentioned above, we confirm the presence in the management report of the required CSR Information.

2.2. Opinion on fairness of CSR information

NATURE AND SCOPE OF THE WORK

We undertook about twenty interviews with people responsible for the preparation of CSR Information, for information gathering and for internal control procedures and risk management to:

- assess the appropriateness of the Guidelines as regards their relevance, completeness, neutrality, clarity and reliability, taking into consideration, where applicable, the good practices in the sector;
- verify the implementation of a process for the collection, compilation, treatment and control of the CSR Information for its completeness and consistency of the CSR Information, as well as obtain an understanding of internal control and risk management procedures related to the preparation of the CSR Information.
- We determined the nature and extent of our tests and controls based on the nature and importance of the CSR Information in terms of company characteristics, social and environmental issues related to its activities, its orientation in terms of sustainable development and sectorial best practices.
- For the CSR Information which we considered the most important [1]:
  - at the level of the consolidating entity, we consulted documentary sources and conducted interviews to corroborate the qualitative information (organization, policies, actions, etc.), we implemented analytical procedures on the quantitative information and verified on a test basis the calculations and data consolidation and we verified their coherence and consistency with the other information contained in the management report;
  - at the level of the representative selection of sites which we chose [2], based on their activity, their contribution to the consolidated indicators, their location and a risk analysis, we undertook interviews to verify the correct application of the procedures and undertook detailed tests on a basis of samples, consisting in verifying the calculations made and linking them with the information in supporting documentation. The sample selected represented on average 18% of the total workforce and between 39% and 72% of quantitative environmental information;
  - for the other consolidated CSR Information published, we assessed its fairness and consistency in relation to our knowledge of the company.

(1) *Environmental and societal information: company's organization to taking into account environmental issues (the environmental assessment approach or certification), pollution and waste management (actions taken in support for the prevention, reduction or compensation for air pollution, and for the prevention, recycling and waste disposal), sustainable use of resources and climate change (energy consumption, water consumption); relationships with stakeholders (dialogue conditions, actions of partnership or sponsorship), importance of subcontracting and addressing the social and environmental responsibility of suppliers.*

Social information: total number of employees and its distribution, hirings and dismissals, health and safety conditions at work, occupational accidents, including the frequency and severity rates, as well as professional illnesses, diversity, equal opportunities and equal treatment (including measures in favor of equality between women and men and measures taken to fight discrimination).

(2) *Somaïr (Niger), ARC (Canada), AREVA Wind Bremerhaven (Germany), SOCATRI (France), Cadarache (France), Melox (France), Eurodif Pierrelatte (France), AREVA NC Pierrelatte (France), AREVA NC La Hague (France).*

- Finally, we assessed the relevance of the explanations given in the event of the absence of certain information.
- We consider that the sampling methodologies and the size of the sample that we considered, by exercising our professional judgment, allows us to formulate a limited assurance on the CSR Information, considered as a whole; an assurance of a higher level would have required more extensive verification work. Due to the necessary use of sampling techniques and other limitations inherent in the functioning of any information and internal control system, the risk of non-detection of a significant anomaly in the CSR Information cannot be entirely eliminated.

CONCLUSION

Based on our work, we have not identified any significant misstatement that causes us to believe that the CSR Information, taken together, have not been presented sincerely, in compliance with the Guidelines.

COMMENTS

Without qualifying our conclusion above, we draw your attention to the following point:

Concerning the indicator referring to water consumption, the Guidelines are not accurate enough regarding the exclusion rules applicable for non mining sites to the withdrawal of underground water further rejected in the environment without major modification (cooling or drain water).

➔ 2.3. Reasonable assurance report for a selection of CSR Information

NATURE AND SCOPE OF THE WORK

Regarding the scope 1 greenhouse gas emissions identified by the sign (✓) in chapter 6 of the management report, we undertook work of the same nature as those described in paragraph 2 above for the CSR Information considered the most important, but in a more in-depth manner, in particular in relation to the number of tests.

We consider that this work allows us to express a reasonable assurance opinion for this information.

CONCLUSION

In our opinion, the scope 1 greenhouse gas emissions identified by the sign (✓) in chapter 6 of the management report are presented, in all material aspects, in accordance with the Guidelines.

Paris-La Défense, February the 26th, 2014

The Independent Verifier

ERNST & YOUNG et Associés

Christophe Schmeitzky
Partner
Sustainable development

Bruno Perrin
Partner

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Appendix 5

Ordinary and Extraordinary General Shareholders' Meeting of May 20, 2014

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Resolutions coming under the authority of the Ordinary General Meeting 367

Resolutions coming under the authority of the Extraordinary General Meeting 369

Agenda

RESOLUTIONS COMING UNDER THE AUTHORITY OF THE ORDINARY GENERAL MEETING

- Approval of corporate financial statements for the 2013 financial year **(1st resolution)**
- Approval of consolidated financial statements for the 2013 financial year **(2nd resolution)**
- Allocation of 2013 financial year results **(3rd resolution)**
- Agreements and commitments subject to the provisions of articles L. 225-86 *et seq*. and L. 225-90-1 of the French Commercial Code **(4th resolution)**
- Setting of attendance fees for Supervisory Board members for 2014 **(5th resolution)**
- Ratification of the appointment of Mr Pierre Blayau to the Supervisory Board **(6th resolution)**
- Opinion on the items of remuneration due or allocated for 2013 to Mr Luc Oursel, Chairman and member of the Executive Board **(7th resolution)**
- Opinion on the items of remuneration due or allocated for 2013 to Messrs. Philippe Knoche, member of the Executive Board and Chief Operating Officer, Olivier Wantz, member of the Executive Board and Senior Vice-President and Pierre Aubouin, member of the Executive Board and Senior Vice-President **(8th resolution)**
- Authorisation to be granted to the Executive Board to trade the Company's shares **(9th resolution)**

RESOLUTIONS COMING UNDER THE AUTHORITY OF THE EXTRAORDINARY GENERAL MEETING

- Authority to be delegated to the Executive Board to decide on the issue of ordinary shares and/or securities giving access to the Company's capital, maintaining the preferential subscription right **(10th resolution)**
- Authority to be delegated to the Executive Board to decide on the issue of ordinary shares and/or all securities giving access to the Company's capital, removing the preferential subscription right, by a public offer **(11th resolution)**
- Authority to be delegated to the Executive Board to decide on the issue of ordinary shares and/or all securities giving access to the Company's capital, removing the preferential subscription right, by a an offer under article L. 411-2, II, of the French Financial and Monetary Code **(12th resolution)**
- Authority to be delegated to the Executive Board to increase the number of shares to be issued in the event of an issue, with or without preferential rights for the shareholders **(13th resolution)**
- Powers to be delegated to the Executive Board to issue, without a preferential subscription right, shares or securities giving access to the capital, within the limit of 10% of the capital, to remunerate contributions in kind granted to the Company and consisting of capital shares or securities giving access to the capital **(14th resolution)**
- Authority to be delegated to the Executive Board to increase the share capital by capitalization of reserves, profits or premiums **(15th resolution)**
- Authority to be delegated to the Executive Board to increase the share capital by issuing ordinary shares reserved for members of a corporate savings plan run by the Company or its Group **(16th resolution)**
- Overall limits on issue authorisations **(17th resolution)**

POWERS

- Powers in order to fulfil all formalities **(18th resolution)**

Draft resolutions for the combined General Meeting of Shareholders of May 20, 2014

RESOLUTIONS COMING UNDER THE AUTHORITY OF THE ORDINARY GENERAL MEETING

FIRST RESOLUTION

Approval of the corporate financial statements for the financial year 2013

The General Meeting, voting under the conditions of quorum and majority required for ordinary general meetings, having read the Executive Board's report, the comments of the Supervisory Board on this report, and on the accounts, and the Auditors' report on the annual financial statements, approves the corporate financial statements for the year ending December 31, 2013, as submitted to it, and the transactions represented in these accounts or summarised in these reports, showing a net loss of 180,155,045.82 euros. It therefore grants full, unreserved discharge to the members of the Executive Board and the Supervisory Board for performance of their duties for the year ending December 31, 2013.

The General Meeting acknowledges the report by the Chairman of the Supervisory Board on the composition of the Supervisory Board and application of the principle of balanced representation of men and women on the Board, the conditions of preparing and organising the Supervisory Board's work, and on the internal control and risk management procedures implemented by the Company, and the Auditors' report on this report.

Pursuant to the provisions of article 223 quater of the General Taxation Code, the General Meeting approves the total amount of expenditure and charges referred to at point 4, article 39 of the General Taxation Code, which amounts to 143,402.38 euros during the past year, corresponding to a Corporation tax of 49,373.44 euros.

SECOND RESOLUTION

Approval of the consolidated financial statements for the financial year 2013

The General Meeting, voting under the conditions of quorum and majority required for ordinary general meetings, having read the Executive Board's report, the comments of the Supervisory Board on this report, and on the consolidated financial statements, and the Auditors' report on the said financial statements, approves the consolidated financial statements for the year ending December 31, 2013, as submitted to it, and the transactions represented in these accounts or summarised in these reports.

THIRD RESOLUTION

Allocation of 2013 financial year results

The General Meeting, voting under the conditions of quorum and majority required for ordinary general meetings, notes that the balance sheet for the year ending December 31, 2013 shows a net loss of 180,155,045.82 euros and retained earnings of 4,076,331,587.52 euros. It has decided to allocate the distributable result as follows:

- Loss for the year 180,155,045.82 euros
- Retained earnings for the year 4,076,331,587.52 euros

Thus a distributable result (article L. 232-11 of Commercial Code) of 3,896,176,541.70 euros.

Which is entirely allocated to retained earnings.

The General Meeting acknowledges, in accordance with the law, that there has been no distribution of dividends for the last three financial years.

FOURTH RESOLUTION

Agreements and commitments subject to the provisions of articles L. 225-86 et seq. and L. 225-90-1 of the Commercial Code

The General Meeting, voting under the conditions of quorum and majority required for ordinary general meetings, having read the Auditors' special report on the agreements referred to at articles L. 225-86 *et seq.* of the French Commercial Code, and the commitments referred to at article L 225-90-1 of the French Commercial Code, acknowledges the conclusions of the said report, the absence of any new agreement or new commitments, and the continuance of the agreements referred to therein.

FIFTH RESOLUTION

Setting of attendance fees for Supervisory Board members for 2014

The General Meeting, voting under the conditions of quorum and majority required for ordinary general meetings, having read the Executive Board's report, hereby sets at 400,000 euros the total amount of attendance fees allocated to the Supervisory Board for the year beginning January 1, 2014, on the understanding that the Supervisory Board will determine the distribution thereof between its members.

SIXTH RESOLUTION

Ratification of the appointment of Mr Pierre Blayau to the Supervisory Board

The General Meeting, voting under the conditions of quorum and majority required for ordinary general meetings, decides to ratify the appointment of Mr Pierre Blayau as member of the Supervisory Board, co-opted by the Supervisory Board on June 24, 2013, to replace Mr Jean-Cyril Spinetta. Consequently, Mr Pierre Blayau will exercise his duties until expiry of his predecessor's remaining term of office, i.e. until the ordinary general meeting called in 2016 to approve the accounts for the year ended December 31, 2015.

SEVENTH RESOLUTION

Opinion on the items of remuneration due or allocated for 2013 to Mr Luc Oursel, Chairman and member of the Executive Board

The General Meeting, having been consulted pursuant to recommendation §24.3 of the AFEP-MEDEF Corporate Governance Code of June 2013, the Company's reference code pursuant to article L. 225-68 of the French Commercial Code, voting under the conditions of quorum and majority required for ordinary general meetings, issues a favourable opinion on the items of remuneration due or allocated for 2013 to Mr Luc Oursel, Chairman and member of the Executive Board, as listed at Section 15 of the AREVA Reference Document 2013 §15.1.1.

EIGHTH RESOLUTION

Opinion on the items of remuneration due or allocated for 2013 to Messrs. Philippe Knoche, member of the Executive Board and Chief Operating Officer, Olivier Wantz, member of the Executive Board and Senior Vice-President and Pierre Aubouin, member of the Executive Board and Senior Vice-President

The General Meeting, having been consulted pursuant to recommendation §24.3 of the AFEP-MEDEF Corporate Governance Code of June 2013, the Company's reference code pursuant to article L. 225-68 of the French Commercial Code, voting under the conditions of quorum and majority required for ordinary general meetings, issues a favourable opinion on the items of remuneration due or allocated for 2013 to Messrs. Philippe Knoche, member of the Executive Board and Chief Operating Officer, Olivier Wantz, member of the Executive Board and Senior Vice-President and Pierre Aubouin, member of the Executive Board and Senior Vice-President, as listed at Section 15 of the AREVA Reference Document 2013 §15.1.1.

NINTH RESOLUTION

Authorisation to be granted to the Executive Board to trade the Company's shares

The General Meeting, voting under the conditions of *quorum* and majority required for ordinary general meetings, having read the Executive Board's report, and in accordance with the terms of the General Regulations of the Financial Markets Authority, articles L. 225-209 *et seq.* of the French Commercial Code, and Regulation no. 2273/2003 of the European Commission of December 22, 2003:

1. authorises the Executive Board, with powers to sub-delegate, to purchase, on one or more occasions and at the times it decides, the Company's ordinary shares within the limit of a number of shares representing up to 10% of the total shares comprising the share capital on the date these purchases are made, or 5% of the total number of shares comprising the share capital if these are shares purchased by the Company with a view to retaining them or subsequently allotting them in payment or exchange as part of a merger, spin-off or contribution. The number of shares which the Company may hold at any time may not exceed 10% of the shares comprising the Company's capital on the date in question;
2. resolves that the purchase, assignment or transfer of these ordinary shares may be carried out, on one or more occasions, by any means, on the market or outside the market, including through the purchase or assignment of blocks of shares, using derivative financial instruments or by putting in place optional strategies, under the conditions set out by the market authority and in compliance with current legislation, in order to:
   - allocate or assign to employees, the Company's corporate representatives and/or companies that are bound to it or will be bound to it under the applicable legislation, in particular as part of the Company's share purchase option plan, in accordance with the terms of articles L. 225-177 *et seq.* of the French Commercial Code or any similar plan, transactions to freely allocate shares as set out in articles L. 225-197-1 *et seq.* of the French Commercial Code, or setting up of any employee savings plan under the terms set out in the law, in particular articles L. 3332-1 *et seq.* of the French Employment Code, or
   - to ensure the liquidity and stabilise the market on behalf of the Company by an investment services provider acting independently under a liquidity contract in accordance with the Ethics Charter recognised by the Financial Markets Authority in line with the market practice accepted by the said authority, or
   - to retain and allot shares (by way of exchange, payment or other) as part of external growth operations, mergers, spin-offs or contributions, within the limit of 5% of the Company's capital and in line with the market practice accepted by the Financial Markets Authority, or in the case of a public offer of the Company's shares, or during the pre-offer period, in compliance with article 231-40 of the General Regulations of the Financial Markets Authority, and during the pre-offer period or public exchange offer or a combined purchase and exchange public offer initiated by the Company in compliance with the legal and statutory provisions and in particular with article 231-41 of the General Regulations of the Financial Markets Authority, or
   - to cover securities that give a right to allocation of Company shares, allotted due to the exercise of rights pertaining to securities by reimbursement, conversion, exchange, presentation of a warrant or any other manner, giving a right to allocation of shares by the Company, or
   - to put in place any market practice that is accepted or that is likely to be accepted by the market authorities, on the understanding that the buyback programme is also designed to enable the Company to trade for any other purpose that is authorised or likely to be authorised by the law or regulations in force;
3. resolves that the maximum purchase price per share is 40 euros excluding charges, and the maximum number of shares purchased may not be higher than 10% of the number of shares comprising the share capital (thus, as a guide, at December 31, 2013, a maximum number of 38,320,485 shares for a cumulative purchase amount, net of charges, of 1,532,819,400 euros);
4. grants full powers to the Executive Board for transactions concerning the Company's capital, in particular changes to the nominal share value, capital increase through capitalization of reserves followed by creation and free allocation of shares, division or regrouping of shares, to thereby adjust the maximum purchase price referred to above;

5. grants full powers to the Executive Board, with the authority to sub-delegate under the conditions set out in the law and the Articles of Association, to decide and carry out this authorisation, to carry out the buyback programme, under the legal conditions and according to the terms of this resolution, place all stock market orders, sign all documents, conclude all agreements with a view to keeping share sale and purchase registers, carry out all declarations and formalities, in particular to the Financial Markets Authority, and more generally, to do everything that may be required.

This authorisation is granted for a period of eighteen (18) months with effect from the date of this Meeting. From this day, it shall cause the lapse of any prior delegation of authority with the same purpose.

RESOLUTIONS COMING UNDER THE AUTHORITY OF THE EXTRAORDINARY GENERAL MEETING

TENTH RESOLUTION

Authority to be delegated to the Executive Board to decide on the issue of ordinary shares and/or securities giving access to the Company's capital, maintaining the preferential subscription right

The General Meeting, voting under the conditions of quorum and majority required for ordinary general meetings, having read the Executive Board's report and the Auditors' special report, and in accordance with the applicable legislative and regulatory provisions, in particular articles L. 225-127, L. 225-128, L. 225-129, L. 225-129-2, L. 225-132, L. 225-133, L. 225-134, L. 228-91 and L. 228-92 of the French Commercial Code:

1. delegates to the Executive Board, with authority to sub-delegate under the terms set out in the law, subject where necessary to prior authorisation from the Supervisory Board in accordance with article 22.2 of the articles of Association, authority to decide and carry out, one or more occasions, in the proportions and at the times it decides, in France or outside France, either in euros, or in any other currency or monetary unit established by reference to several currencies, on the issue, maintaining the preferential subscription right, of (i) the Company's ordinary shares or (ii) securities of any kind, giving access by any means, immediately or in the future, to the Company's ordinary shares either existing or to be issued, for a fee or free of charge, specifying that subscription of the shares and other securities may be carried out in cash or by offsetting debts;

2. resolves that the securities giving access to the capital thus issued may consist of debt securities or be related to the issue of such securities, or enable issue thereof as an intermediary. They may be issued in euros, or in another currency or monetary unit established by reference to several currencies;

3. resolves to set as follows the authorised issue amounts in the event of use of this delegation by the Executive Board:

(a) the maximum nominal amount of capital increases likely to be carried out under this delegation is fixed at 436 million euros (or its countervalue in currency or any other monetary unit established by reference to several currencies), specifying that this amount will be charged against the total maximum set out in the 17th resolution of this Meeting, and

(b) the maximum nominal amount of the securities representing the debt securities giving access to the capital likely to be issued under this delegation is set at 436 million euros (or at the countervalue of this sum on the date of issue), specifying that (i) this amount will be charged against the total maximum set out in the 17th resolution of this Meeting and (ii) it is independent and separate from the debt securities amount whose issue shall be decided or authorised by the Executive Board in accordance with the terms of article L. 228-40 of the French Commercial Code;

4. resolves that the issue or issues will be preferentially reserved for the shareholders, who may subscribe with irreducible rights in proportion to the number of shares held by them, and acknowledges that the Executive Board may set up a reducible right of subscription;

5. resolves that if the irreducible rights of subscription and, where appropriate, the reducible rights, have not completely absorbed the whole issue, the Executive Board may, under the powers set out in the law and in the order it considers appropriate, use the powers detailed hereafter or some of them:

- limit the issue to the amount of subscriptions under the condition that this reaches at least three-quarters of the capital increase agreed,
- freely distribute all or part of the shares whose issue has been decided but which have not yet been subscribed,
- offer to the public, in France or outside France, all or part of the unsubscribed securities;

6. resolves that issues of the Company's share purchase warrants may be carried out by subscription offer, but also by free allocation to the Company's shareholders, specifying that the Executive Board has the power to decide that fractional allotment rights will not be negotiable and the relevant shares will be sold;

7. resolves that the Executive Board may suspend exercise of the rights relating to the shares issued, for a maximum period of three months, and shall take all necessary measures in terms of the adjustments to be carried out in accordance with the legislative and regulatory provisions in force and, where necessary, the contractual stipulations, to protect the rightholders of securities giving access to the Company's share capital;

8. acknowledges that this delegation of authority automatically entails, in favour of the holders of securities giving access to the Company's

share capital, waiver by the shareholders of their preferential subscription right to the shares to which these securities give a right;

9. acknowledges that pursuant to article 2 of decree no. 83-1116 of December 21, 1983 relating to the holding company C.E.A. (AREVA), the capital increase that will be decided by the Executive Board under this resolution shall only become final after joint approval by the Minister for Industry and the Minister for the Economy.

The General Meeting shall give full powers to the Executive Board, with authority to sub-delegate under the terms set out in the law, in order to:

- implement this delegation of authority, and specifically to set the terms and conditions of capital increases and/or issues, set the dates and terms of issue, and the terms of the securities issued, set the dates of opening and closure of subscriptions, the price and date of possession of the shares issued, the terms of payment, terms under which the securities issued according to this resolution will give access to the Company's capital and any other terms and conditions of carrying out the issue(s) and, with regard to debt securities, their level of seniority;
- on its own initiative, debit the capital increase charges from the premiums related thereto and deduct the necessary amounts from the said premiums to make up the legal reserve; and more generally;
- take all necessary measures and enter into all agreements in order to successfully carry out the planned issues, take all measures and carry out all formalities necessary to the financial servicing of the shares issued under this delegation, and exercise of the rights relating thereto, record the capital increases, subsequently amend the Articles of Association, and carry out all formalities required to admit the issued shares for trading.

This authorisation is granted for a period of twenty-six (26) months with effect from the date of this Meeting. From this day, it shall cause the lapse of any prior delegation of authority with the same purpose.

ELEVENTH RESOLUTION

Authority to be delegated to the Executive Board to decide on the issue of ordinary shares and/or securities giving access to the Company's capital, removing the preferential subscription right, by a public offer

The General *Meeting*, voting under the conditions of quorum and majority required for extraordinary general meetings, having read the Executive B*oard's r*eport and the Auditors' special report, in accordance with articles L. 225-129 *et seq*. of the French Commercial Code, in particular articles L. 225-129-2, L. 225-135 and L. 225-136, and the terms of articles L. 228-91 *et seq*. of the said Code, having noted that the share capital has been fully paid up:

1. delegates to the Executive Board, with authority to sub-delegate under the terms set out in the law, subject where necessary to prior authorisation from the Supervisory Board in accordance with article 22.2 of the Articles of Association, authority to decide and issue, on one or more occasions, in the proportions and at the times it decides, in France or outside France, either in euros, or in any other currency or monetary unit established by reference to several currencies, by a public offer removing the preferential subscription right, (i) the Company's ordinary shares or (ii) securities of any kind, giving access by any means, immediately or in the future, to the Company's ordinary shares either existing or to be issued, for a fee or free of charge, specifying that subscription of the shares and other securities may be carried out in cash or by offsetting debts;

2. resolves that the securities giving access to the capital thus issued may consist of debt securities or be related to the issue of such securities, or enable issue thereof as an intermediary. They may be issued in euros, or in another currency or monetary unit established by reference to several currencies;

3. resolves to set as follows the authorised amounts should the Executive Board decide to use this delegation:

(a) the maximum nominal amount of capital increases likely to be carried out immediately or in the future under this delegation is fixed at 145 million euros (or its countervalue in currency or any other monetary unit established by reference to several currencies), specifying that this amount will be charged against the total maximum set out in the 17th resolution of this Meeting, and

(b) the maximum principal amount of the securities representing the debt securities giving access to the capital likely to be issued under this delegation is set at 145 million euros (or at the countervalue of this sum on the date of issue in any other currency or any other monetary unit established by reference to several currencies), specifying that (i) this amount will be charged against the total maximum set out in the 17th resolution of this Meeting and (ii) it is independent and separate from the amount of debt securities whose issue shall be decided or authorised by the Executive Board in accordance with the terms of article L. 228-40 of the French Commercial Code;

4. resolves to remove the shareholders' preferential right to the shares and securities issued under this delegation, allowing the Executive Board, under articles L. 225-135 paragraph 5 and R. 225-131 of the French Commercial Code, the power to grant the shareholders a priority subscription deadline not giving rise to the creation of negotiable rights, which must be exercised in proportion to the number of shares held by each shareholder;

5. resolves that if the subscriptions, including where appropriate those by the shareholders, have not completely absorbed the whole issue, the Executive Board may, under the conditions set out in the law and in the order it considers appropriate, use one or other of the following powers:

- limit the issue to the amount of subscriptions under the condition that this reaches at least three-quarters of the capital increase agreed,
- freely distribute all or part of the shares or securities giving access to the capital, whose issue has been decided but which have not yet been subscribed;

6. acknowledges that this delegation of authority automatically entails, in favour of the holders of securities giving access to the Company's

share capital, waiver by the shareholders of their preferential subscription right to the shares to which these securities give a right;

7. resolves that the Executive Board may suspend exercise of the rights relating to the shares issued, for a maximum period of three months, and shall take all necessary measures in terms of the adjustments to be carried out in accordance with the legislative and regulatory provisions in force and, where necessary, the contractual stipulations, to protect the right holders of securities giving access to the Company's share capital;

8. resolves that the issue price for the shares or securities giving access to the capital will be at least equal to the minimum authorised by the legislative and statutory terms in force on the date of issue (i.e., as a guide, on the date of this Meeting, a price at least equal to the weighted average of the prices over the last three trading sessions prior to setting the price, possibly reduced by a maximum discount of 5%);

9. acknowledges that pursuant to article 2 of decree no. 83-1116 of December 21, 1983 relating to the holding company C.E.A. (AREVA), the capital increase that will be decided by the Executive Board under this resolution shall only become final after joint approval by the Minister for Industry and the Minister for the Economy.

The General Meeting shall give full powers to the Executive Board, with authority to sub-delegate under the terms set out in the law, in order to:

- implement this delegation of authority, and specifically to set the terms and conditions of capital increases and/or issues, set the dates and terms of issue, and the terms of the securities issued, set the dates of opening and closure of subscriptions, the price and date of possession of the shares issued, the terms of payment, terms under which the securities issued according to this resolution will give access to the Company's capital and any other terms and conditions of carrying out the issue(s) and, with regard to debt securities, their level of seniority;
- on its own initiative, debit the capital increase charges from the premiums related thereto and deduct the necessary amounts from the said premiums to make up the legal reserve; and more generally;
- take all necessary measures and enter into all agreements in order to successfully complete the planned issues, take all measures and carry out all formalities necessary to the financial servicing of the shares issued under this delegation, and exercise of the rights relating thereto, record the capital increases, subsequently amend the Articles of Association, and carry out all formalities required to admit the issued shares for trading.

This authorisation is granted for a period of twenty-six (26) months with effect from the date of this Meeting. From this day, it shall cause the lapse of any prior delegation of authority with the same purpose.

TWELTH RESOLUTION

Authority to be delegated to the Executive Board to decide on the issue of ordinary shares and/or securities giving access to the Company's capital, removing the preferential subscription right, by an offer under article L. 411-2, II, of the French Financial and Monetary Code

The General *Meeting*, voting under the conditions of quorum and majority required for extraordinary general meetings, having read the Executive B*oard's* report and the Auditors' special report, in accordance with articles L. 225-129 *et seq*. of the French Commercial Code, in particular articles L. 225-129-2, L. 225-135 and L. 225-136, and the terms of articles L. 228-91 *et seq*. of the said Code, and the terms of article L. 411-2, II of the French Financial and Monetary Code:

1. delegates to the Executive Board, with authority to sub-delegate under the terms set out in the law, subject where necessary to prior authorisation from the Supervisory Board in accordance with article 22.2 of the Articles of Association, authority to decide and issue, removing the preferential subscription right, within the limits fixed below, on one or more occasions, in the proportions and at the times it decides, in France or outside France, either in euros, or in any other currency or monetary unit established by reference to several currencies, by private placement meeting the terms of article L. 411-2, II of the French Financial and Monetary Code (i) the Company's ordinary shares or (ii) securities of any kind, giving access by any means, immediately or in the future, to the Company's ordinary shares either existing or to be issued, for a fee or free of charge, specifying that subscription of the shares and other securities may be carried out in cash or by offsetting debts;

2. resolves that the securities giving access to the capital thus issued may consist of debt securities or be related to the issue of such securities, or enable issue thereof as an intermediary. They may be issued in euros, or in another currency or monetary unit established by reference to several currencies;

3. resolves to set the authorised amounts as follows, should the Executive Board decide to use this delegation:

(a) the maximum nominal amount of capital increases likely to be carried out immediately or in the future under this delegation is fixed at 145 million euros (or its countervalue in currency or any other monetary unit established by reference to several currencies), specifying that this amount will be charged against the total maximum set out in the 17th resolution of this Meeting, and

(b) the maximum principal amount of the securities representing the debt securities giving access to the capital likely to be issued under this delegation is set at 145 million euros (or at the countervalue of this sum on the date of issue in any other currency or any other monetary unit established by reference to several currencies), specifying that (i) this amount will be charged against the total maximum set out in the 17th resolution of this Meeting and (ii) it is independent and separate from the amount of debt securities whose issue shall be decided or authorised by the Executive Board in accordance with the terms of article L. 228-40 of the French Commercial Code;

4. resolves to remove the shareholders' preferential right to the shares and securities issued under this delegation;
5. resolves that if the subscriptions do not absorb the whole issue, the Executive Board may limit the capital increase to the amount of subscriptions, under the condition that this reaches at least three-quarters of the capital increase decided;
6. acknowledges that this delegation of authority automatically entails, in favour of the holders of securities giving access to the Company's share capital, waiver by the shareholders of their preferential subscription right to the shares to which these securities give a right;
7. resolves that the issue price for the shares or securities giving access to the capital will be at least equal to the minimum authorised by the legislative and statutory terms in force on the date of issue (i.e., as a guide, on the date of this Meeting, a price at least equal to the weighted average of the prices over the last three trading sessions prior to setting the price, possibly reduced by a maximum discount of 5%);
8. resolves that the Executive Board may suspend exercise of the rights relating to the shares issued, for a maximum period of three months, and shall take all necessary measures in terms of the adjustments to be carried out in accordance with the legislative and regulatory provisions in force and, where necessary, the contractual stipulations, to protect the holders of rights over securities giving access to the Company's share capital;
9. acknowledges that pursuant to article 2 of decree no. 83-1116 of December 21, 1983 relating to the holding company C.E.A. (AREVA), the capital increase that will be decided by the Executive Board under this resolution shall only become final after joint approval by the Minister for Industry and the Minister for the Economy.

The General Meeting shall give full powers to the Executive Board, with authority to sub-delegate under the terms set out in the law, in order to:

- implement this delegation of authority, and specifically to set the terms and conditions of capital increases and/or issues, set the dates and terms of issue, and the terms of the securities issued, set the dates of opening and closure of subscriptions, the price and date of possession of the shares issued, the terms of payment, terms under which the securities issued according to this resolution will give access to the Company's capital and any other terms and conditions of carrying out the issue(s) and, with regard to debt securities, their level of seniority;
- on its own initiative, debit the capital increase charges from the premiums related thereto and deduct the necessary amounts from the said premiums to make up the legal reserve; and more generally;
- take all necessary measures and enter into all agreements in order to successfully complete the planned issues, take all measures and carry out all formalities necessary to the financial servicing of the shares issued under this delegation, and exercise of the rights relating thereto, record the capital increases, subsequently amend the Articles of Association, and carry out all formalities required to admit the issued shares for trading.

This authorisation is granted for a period of twenty-six (26) months with effect from the date of this Meeting. From this day, it shall cause the lapse of any prior delegation of authority with the same purpose.

THIRTEENTH RESOLUTION

Authority to be delegated to the Executive Board to increase the number of shares to be issued in the event of an issue, with or without preferential rights for the shareholders

The General Meeting, voting under the conditions of quorum and majority required for extraordinary general meetings, having read the Executive Board's report and the Auditors' special report, in accordance with the terms of articles L. 225-135-1 and R. 225-118 of the French Commercial Code, and subject to adoption of the 10th, 11th and 12th resolutions:

1. delegates to the Executive Board, with authority to sub-delegate under the terms set out in the law, subject where necessary to prior authorisation from the Supervisory Board in accordance with article 22.2 of the Articles of Association, authority to decide to increase the number of ordinary shares of securities giving access to the capital to be issued, in the event of issuing shares with or without a preferential subscription right decided by the Executive Board under the 10th, 11th and 12th resolutions of this Meeting, at the same price as that used for the original issue, within the timescales and limits set out in the legislation applicable on the day of the issue (to date, within thirty days of closure of the subscription and within a limit of 15% of the original issue), specifically in order to grant an over-allocation option in accordance with market practice;
2. resolves that the nominal amount of the capital increases decided under this resolution will be charged against the maximum amount set out in the resolution under which the original issue is decided, and within the limit of the total maximum amount set out in the 17th resolution hereafter;
3. acknowledges that pursuant to article 2 of decree no. 83-1116 of December 21, 1983 relating to the holding company C.E.A. (AREVA), the capital increase that will be decided by the Executive Board under this resolution shall only become final after joint approval by the Minister for Industry and the Minister for the Economy.

This authorisation is granted for a period of twenty-six (26) months with effect from the date of this Meeting. From this day, it shall cause the lapse of any prior delegation of authority with the same purpose.

FOURTEENTH RESOLUTION

Powers to be delegated to the Executive Board to increase the share capital by issuing ordinary shares and/or securities giving access to the capital, in order to remunerate contributions in kind granted to the Company and consisting of capital shares or securities giving access to the capital

The General Meeting, voting under the conditions of quorum and majority required for extraordinary general meetings, having read the Executive Board's report and the Auditors' special report, in accordance with the terms of articles L. 225-129 *et seq*. of the French Commercial Code, in particular article L. 225-147, paragraph 6 of the said Code:

1. delegates to the Executive Board, with authority to sub-delegate under the terms set out in the law, subject where necessary to prior authorisation from the Supervisory Board in accordance with article 22.2 of the Articles of Association, the necessary powers to issue, upon a report from the independent valuation agent, on one or more occasions, ordinary shares and/or securities giving access to the capital in order to remunerate contributions in kind granted to the Company and consisting of capital shares or securities giving access to the capital of other companies, when the terms of article L. 225-148 of the French Commercial Code are not applicable;
2. resolves to set the nominal maximum amount of capital increases that may be carried out under this delegation at 145 million euros (or the countervalue on the date of issue of this amount in any other currency or any other monetary unit established by reference to several currencies), specifying that the nominal amount of capital increases carried out under this framework shall be charged against the total maximum of share capital increases set out in the 17th resolution of this Meeting;
3. resolves, insofar as necessary, to remove in favour of the holders of the shares or securities that are the subject of the contributions in kind, the shareholders' preferential subscription right to the shares and securities issued, and acknowledges that this delegation includes a waiver by the shareholders of their preferential subscription right to the Company's ordinary shares to which the securities issued pursuant to this delegation may give a right;
4. acknowledges that pursuant to article 2 of decree no. 83-1116 of December 21, 1983 relating to the holding company C.E.A. (AREVA), the capital increase that will be decided by the Executive Board under this resolution shall only become final after joint approval by the Minister for Industry and the Minister for the Economy.

The General Meeting gives full powers to the Executive Board, with the authority to sub-delegate under the conditions set out in the law, to implement this delegation of authority and to determine the type and number of securities to be created, their characteristics and methods of issue, to decide on the Auditor or Auditors' report, to approve the valuation of the contributions and in regard to the said contributions, to record their existence, decide on capital increases to remunerate the contributions, charge the capital increase costs to the contribution premiums and deduct from these premiums the necessary sums for the legal reserve, take the necessary measures in order to protect the rights of the holders of securities in accordance with the legal and statutory provisions, and more generally to take all necessary measures and conclude all agreements to successfully complete the planned issues, record the capital increases, carry out the relevant amendments to the Articles of Association, and carry out all formalities required to admit the shares issued to trading.

This authorisation is granted for a period of twenty-six (26) months with effect from the date of this Meeting. From this day, it shall cause the lapse of any prior delegation of authority with the same purpose.

FIFTEENTH RESOLUTION

Authority to be delegated to the Executive Board to increase the share capital by capitalization of reserves, profits or premiums

The General Meeting, voting under the conditions of quorum and majority required for ordinary general meetings, having read the Executive Board's report, in accordance with articles L. 225-129, L. 225-129-2 and L. 225-130 of the French Commercial Code:

1. delegates to the Executive Board, with authority to sub-delegate under the terms set out in the law, subject where necessary to prior authorisation from the Supervisory Board in accordance with article 22.2 of the Articles of Association, authority to increase the share capital, on one or more occasions, in the proportions and at the times it decides, by successive or simultaneous capitalization of reserves, profits or premiums, or other sums whose capitalization is possible under the law and the Articles of Association, in the form of allocation of free shares to the shareholders or an increase in the nominal value of the existing shares, or by joint use of both procedures;
2. resolves that the maximum nominal amount for the capital increases likely to be carried out hereunder will be equal to the total amount of sums that may be capitalised and will be added to the total maximum set out in the 17th resolution of this Meeting;
3 esolves, in the case of distribution of free shares, fractional rights will not be negotiable or transferable, and that the relevant shares will be sold, and the sums from the sale will be allocated to the rightholders under the conditions set out in the law;
4. acknowledges that pursuant to article 2 of decree no. 83-1116 of December 21, 1983 relating to the holding company C.E.A. (AREVA), the capital increase that will be decided by the Executive Board under this resolution shall only become final after joint approval by the Minister for Industry and the Minister for the Economy.

The General Meeting shall give full powers to the Executive Board, with authority to sub-delegate under the conditions set out in the law, to implement this delegation of authority, take all measures and decisions, carry out all necessary adjustments designed to take into account the impact of transactions on the Company's capital, on its own initiative charge the costs of capital increases against one or more available reserve items and, if it considers appropriate, deduct from this amount the necessary sums for the legal reserve and carry out all formalities

required to successfully implement each capital increase, record its existence and amend the Articles of Association in consequence, and carry out all formalities required to admit the shares issued under this delegation for trading.

This authorisation is granted for a period of twenty-six (26) months with effect from the date of this Meeting. From this day, it shall cause the lapse of any prior delegation of authority with the same purpose.

SIXTEENTH RESOLUTION

Authority to be delegated to the Executive Board to increase the share capital by issuing ordinary shares reserved for members of a corporate savings plan run by the Company or its Group

The General Meeting, voting under the conditions of quorum and majority required for extraordinary general meetings, having read the Executive Board's report and the Auditors' special report, in accordance with the terms of articles L. 225-129-2, L. 225-129-6 and L. 225-138 I and II and L. 225-138-1 of the French Commercial Code, and the terms of articles L. 3332-18 *et seq*. of the French Employment Code:

1. delegates to the Executive Board, with authority to sub-delegate under the conditions set out in the law, authority to increase the Company's share capital, on one or more occasions, in the proportions and at the times it decides, by issuing ordinary shares, reserved for corporate representatives, employees and former employees belonging to a Group savings plan or any other company savings plan owned by the Company, and where necessary by French or foreign companies bound to it under the conditions of article L. 225-180 of the French Commercial Code and article L. 3344-1 of the French Employment Code, or by free allocation of the Company's ordinary shares existing or to be issued, in particular by capitalization of reserves, profits or premiums, within the legal and statutory limits;
2. resolves to set the maximum nominal amount of capital increases likely to be carried out under this resolution at 14 million euros, specifying that this maximum will be charged against the total maximum set in the 17th resolution of this Meeting;
3. resolves that if the subscriptions have not fully absorbed the share issue, the capital increase will only be carried out up to the amount of shares subscribed;
4. resolves to remove the preferential subscription right for holders of ordinary shares, in favour of the said members of the company savings plan, for the ordinary shares, where appropriate, allocated free of charge under this resolution;
5. resolves that the ordinary share price will be determined in accordance with the terms of article L. 3332-19 of the French Employment Code, by reference to the average trading prices for ordinary shares over the last twenty trading sessions prior to the date of the decision fixing the subscription opening date;
6. It is hereby specified that the maximum discount determined under article L. 3332-19 of the French Employment Code, by reference to the average trading prices during the last twenty trading sessions, may not exceed 20% or 30% depending on whether the shares subscribed, directly or indirectly, correspond to assets whose lock-up period is less *than te*n years or higher than or equal to ten years. However, the Meeting expressly authorises the Executive Board to remove or reduce the above-mentioned discount, should it consider necessary, to take into account inter alia the legal, accounting, tax and social security systems applicable locally;
7. authorises the Executive Board to freely allocate the Company's ordinary shares in existence or to be issued, by way of employer's contribution or, where appropriate, the discount, provided that the financial countervalue, valued at the subscription price, does not exceed the legal or statutory limits;
8. acknowledges that pursuant to article 2 of decree no. 83-1116 of December 21, 1983 relating to the holding company C.E.A. (AREVA), the capital increase(s) pursuant to this resolution shall only become final after joint approval by the Minister for Industry and the Minister for the Economy.

The General Meeting grants full powers to the Executive Board, with authority to sub-delegate, to implement this resolution and in particular to:

- set the terms and conditions of the transaction and set the dates and methods of the issues and the free allocations of ordinary shares that will be carried out under this delegation;
- set the subscription opening and closure dates, the dates of possession and the form in which the Company's shares will be paid up;
- agree deadlines for paying up ordinary shares;
- determine whether the issues may be made directly to the beneficiaries or through the medium of collective organisations;
- stipulate in the legal conditions the list of companies or groupings in which the employees or former employees may subscribe ordinary shares, individually or via a mutual investment fund and, where appropriate, receive the freely allocated ordinary shares;
- set the length of service conditions which the beneficiaries of the ordinary shares for each free allocation must meet;
- determine, where appropriate, the terms and conditions of the free allocations;
- record the capital increases up to the amount of the Company's ordinary shares that are actually subscribed;
- determine, where appropriate, the sums to be capitalized within the limit fixed above, and the equity item or items from which they will be deducted;
- enter into all agreements, fulfil all transactions and formalities related to the share capital increases, directly or through a representative, and make the relevant amendments to the Articles of Association;
- more generally, take all measures necessary to carry out the issues and, where appropriate, to suspend them, and at its own decision and if it considers appropriate, charge the costs of the capital increases to the premium amounts relating to these increases, and deduct from this amount the necessary sums to bring the legal reserve up to one-tenth of the new capital after each increase.

This authorisation is granted to the Executive Board for a period of eighteen (18) months with effect from the date of this Meeting.

SEVENTEENTH RESOLUTION

Overall limits on issue authorisations

The General Meeting, voting under the conditions of quorum and majority required for ordinary general meetings, having read the Executive Board's report and the Auditors' special report, resolves to fix at 595 million euros the nominal maximum total amount of issues of ordinary shares and/or securities giving access to the Company's share capital, which may be carried out under the delegations granted to the Executive Board by the 10th, 11th, 12th, 13th, 14th and 16th resolutions of this Meetings, specifying that:

- added to this maximum, where appropriate, will be the maximum nominal amount of capital increases through capitalization of premiums, reserves and profits or other sums for which capitalization is possible, carried out under the 15th resolution of this Meeting;
- within this maximum (i) the total nominal issue maximum with maintenance of the preferential subscription right which may be carried out under the delegations granted to the Executive Board in the 10th resolution is fixed at 436 million euros, (ii) the total nominal issue maximum with removal of the preferential subscription right which may be carried out under the delegations granted to the Executive Board in the 11th, 12th and 14th resolutions is fixed at 145 million euros, and (iii) the nominal maximum of issue reserved for members of a company savings plan belonging to the Company or its Group under the delegation granted to the Executive Board in the 16th resolution is fixed at 14 million euros.

EIGHTEENTH RESOLUTION

Powers in order to fulfil all formalities

The General Meeting, voting under the conditions of quorum and majority required for ordinary and extraordinary general meetings, grants all powers to the bearer of the original, an extract or a copy of the record of this Meeting, in order to fulfil all the formalities of publication, filing and any other necessary formalities, and generally do everything that may be required.

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Appendix 6
Values Charter

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Sir, Madam and Colleague,

In ten years' time, we have become a leading player in low-carbon solutions for power generation. In nuclear, the group's integrated business model has lifted it to first place in the global nuclear market. In renewables, its technologies allow us to nurture great ambitions.

An acute sense of professionalism at all times is required by the very nature of our businesses and is necessary to maintain our lead. This translates into the application of the highest standards of safety and physical security.

In the new post-Fukushima world, the principle of transparency promoted and implemented by the group since its establishment is becoming an even more legitimate and pressing requirement for all companies and operators in the nuclear sector.

Against this backdrop, and in line with the best practices we are deploying, our Values Charter serves as a touchstone for our employees as they go about their work. It is distributed in some fifteen languages and training programs in association with AREVA University and the Corporate Business Ethics Advisor. Its application calls for management responsibility, an annual conformity commitment, and ethical reporting. Lessons learned, audit, and a policy of confidentiality and non-retaliation against good faith whistleblowers all go into making the Values Charter a fundamental part of the group's culture.

AREVA's Executive Management Board asks you to ensure, along with your management, that the Values Charter governs your daily work, both individually and as a community, whether performed for us or with others.

One commitment transcends our Values Charter: Human Rights, as defined in the Universal Declaration of Human Rights.

AREVA's reputation is a precious asset for which we are all responsible, and each of us must guard it.

I am certain of your commitment to making a contribution to our group's performance in this spirit.

Luc Oursel

President and Chief Executive Officer of AREVA

1. Preamble

A Shared and Responsible Vision

As a commercial company in a competitive market, we offer low-carbon solutions for power generation in the nuclear and renewable energies fields. Our goal is to achieve the highest possible returns and performance by designing, marketing and supplying products and services that are competitive, safe and harmless to the environment, and that help improve standards of living for our planet's inhabitants. We expect every one of our employees to work towards this goal. The AREVA employee complies with the laws of the country in which he or she works, and in compliance with the principles of Human Rights as defined in the Universal Declaration of Human rights.

Energy is a basic requirement for worldwide economic development, particularly in less developed countries, but the greenhouse effect depends to a great extent on how that energy is produced. AREVA feels a strong sense of responsibility towards our neighbors on this planet and towards the generations that will succeed us. We endorse the U.N. Global Compact, and sustainable development and continuous improvement form the core of AREVA's industrial strategy. We also comply with the OECD Guidelines for Multinational Enterprises, with the Extractive Industries Transparency Initiative (EITI) and with the Nuclear Power Plant Exporters' Principles of Conduct published by the Carnegie Endowment.

In a complex, changing and multicultural world, Our Values at AREVA, the group's Values Charter, offers guidance to our employees. Not only will they find in them a clear explanation of their rights and responsibilities with regard to AREVA and all of our stakeholders, they will also find values with which they can identify, values worth defending.

AREVA's values express the group's responsibility to our customers, our employees, our shareholders and all of the communities in which we play a role, directly or indirectly.

2. Our Values at AREVA

Our values at AREVA are all about the best possible economic performance as a company while respecting human rights, the environment in the broadest sense of the term, and the laws that protect them. In a word, these values seek to satisfy stakeholder requirements, in the present and over the long term.

Safety and Physical Security

The very nature of our businesses demands an acute sense of professionalism. For AREVA this translates into implementation of the highest standards for safety and physical security. It also implies superior know-how as well as constant vigilance in the fields of quality and environmental protection. AREVA fosters team spirit and creates working conditions that are conducive to professional fulfillment.

Transparency

Transparency, sincere communications and openness to dialog are hallmarks of our communication programs. Our goal is to provide reliable and pertinent information enabling an objective assessment of our environmental, financial, social and societal performance.

Profitability

We have a duty to achieve and maintain high returns for our shareholders, our employees and all of our stakeholders.

Responsibility

As a major player in the energy market, we have a special responsibility not only to our direct stakeholders, but to the public at large, which will ultimately benefit from our products and services.

Integrity

Honesty, integrity and fairness govern all our actions and practices. We comply scrupulously with the laws and regulations of every country in which we operate.

Customer Satisfaction

Our growth and sustainability as a group, and thus our ability to meet our commitments to our stakeholders, are conditioned on customer satisfaction. AREVA applies all of its skills and resources to achieving customer satisfaction.

Partnership

AREVA seeks to build frank and constructive relationships with all stakeholders. To meet their needs, we cultivate a spirit of partnership based on mutual responsibility, receptiveness and dialog. Our approach is to become involved in every one of the communities in which we do business. It is based on respect for local customs and on understanding the communities' wishes.

3. Principles of Action

With Regard to AREVA's stakeholders

Customers

AREVA's goal is to offer products, services and expertise enabling our electric utility and manufacturing customers to grow while meeting their responsibilities with regard to their own stakeholders.

AREVA's ears are always open to our customers. We try to anticipate as well as meet their needs. We deliver what we promise and we don't promise more than we can deliver.

At AREVA, we respect our customers' culture and work to protect their image and their interests.

Our technologies and services are designed, supplied and marketed in accordance with the highest safety, physical security, environmental protection and quality standards.

We protect the confidentiality of the data and know-how that our customers and partners entrust to us with the same degree of care as if they were our own, to the fullest extent of the law and regulatory requirements.

Shareholders

AREVA is guided by principles of corporate governance, particularly in its pursuit of shareholder returns and the growth of their invested capital.

Our shareholders deserve accurate and pertinent financial information, and we, at AREVA, make every effort to ensure that they receive it.

We believe that all shareholders should be treated equally, and we go beyond the minimum requirements set by stock market regulators to ensure that we do so.

Employees

AREVA's commitments to its employees

AREVA's workforce is constituted without discrimination as to, in particular, race, color, religion, age, gender, sexual orientation, political opinions, national extraction or social origin. We believe that management should increasingly mirror this diversity.

We are committed to creating good working conditions and providing our employees with the resources they need to achieve professional fulfillment.

We trust our employees and are committed to honest, frank, two-way dialog with them and the organizations that represent them.

We wish to help employees maintain and increase their know-how in every aspect of their job, and we offer training programs for that purpose.

At AREVA, we respect the privacy of our employees. AREVA remains neutral regarding political opinions, philosophical beliefs and religious faiths. We expect our employees to respect the beliefs of others and to refrain from any proselytizing.

Employee commitments to AREVA

Employees are expected to comply with the AREVA Values Charter. They are the owners and the defenders of these values, individually and as a group. The same is expected of temporary personnel.

AREVA employees are customer-oriented. They demonstrate an acute sense of professionalism, skill, precision and rigor, and obey laws and regulations.

They shall keep a formal trace of all operations they perform, as well as of those subcontracted to others. Alerting management to a malfunction or a legal or regulatory non-compliance is both a reflex and a duty. When it comes to AREVA's proper operation, there shall be no internal hierarchical barrier to the transmittal of the alert.

AREVA employees take pride in achieving and maintaining excellence in product and service quality. They impart knowledge to each other to ensure that everyone does the same. Lessons learned are systematically put into practice.

Suppliers and Subcontractors

AREVA seeks, through a competitive process, lasting partnerships with its suppliers and subcontractors as a means of offering its customers the best possible level of service.

AREVA shall do its utmost to ensure that regular suppliers to its core businesses, subcontractors, financial partners, consultants and commercial intermediaries (distributors, agents, etc.) subscribe to this Charter. Their own regular suppliers and subcontractors and AREVA's manufacturing partners are also urged to subscribe to it, at least for those activities directly relating to AREVA.

We are committed to frank, fair, unbiased and mutually respectful relations with all of our suppliers, subcontractors and partners from the very beginning of the procurement process.

We protect their image and confidential data with the same degree of care as if they were our own.

We reserve the right to verify that supplier and subcontractor practices are consistent with the AREVA Values Charter at any time and at any point in the supply chain for goods and services.

When our subsidiaries serve as suppliers, they are treated with the same fairness and respect as other suppliers. We make every effort to provide straight forward information on our business strategy, our technologies and our performance to decision-makers and citizens alike.

The Public, the Planet

At AREVA, we are committed to openness and involvement in public forums, and we use our information and communication resources ethically. We make every effort to provide straightforward information on our business strategy, our technologies and our performance to decision-makers and citizens alike.

For AREVA, protecting the common good that is our environment encompasses every aspect of human welfare in its interaction with nature. AREVA's environmental policy and its risk management programs are based on this principle and aim at reducing the environmental footprint of its activities and at preserving biodiversity in the regions where the group is an industrial or mining operator. Preserving natural resources through recycling also demonstrates AREVA's care for the planet.

4. Rules of Conduct

International Treaties

In the nuclear business, we supply products, services and technologies only to nations and companies from those nations that comply with international provisions in force relative to non-proliferation, IAEA safeguards and export controls. This is an absolute condition. We also comply with the governmental export policies, laws and regulations of the nations in which AREVA is located.

Conflicts of Interest

All employees shall show loyalty to AREVA. Any situation in which their personal interests or those of their relations might conflict with the business interests of the AREVA group should be immediately called to the attention of their immediate supervisor. Such conflicts include relationships with suppliers, customers, known competitors or any organization or person associated with AREVA or that seeks such association.

Employees shall not intentionally place themselves in a conflict of interest situation and may not participate in any evaluation, meeting or decision relative to subjects in which they or their relations have a personal interest.

To avoid any ambiguity or appearance of favoritism, a spouse, child or other relation of the employee may be hired or given an assignment of any kind only with the permission of the employee's supervisor, following the same conflict of interest rules, and only based on objective criteria. The employee in question may not participate in the selection of his or her relation.

Conflicts of interest called to the attention of a supervisor are reviewed case by case by both the supervisor and the supervisor's supervisor. They shall settle the conflict in accordance with the law and regulations in effect. It is not possible to list every conceivable conflict of interest situation. The following potential conflicts of interest shall in particular be declared by employees:

- a manager or a relation holding personal interests in a company that is a customer, supplier (including consultants, financial partners and others) or competitor of the group;
- an employee sitting on the board of directors or who is an executive of an outside company associated with the group;
- an employee or a relation who is a consultant or occupies a management position or is a member of the marketing and sales or purchasing department of another company associated with the group or that seeks such association;
- an employee or a relation who provides premises, equipment or personal property to the group for a fee.

Insider Trading

Business confidential information is identified to management and employees and it is their duty to maintain the confidentiality of such information with regard to others, including their relations. They are aware of the insider trading risks that this information entails and shall comply with the procedure for good conduct in force in the Group with respect to inside information.

Managers agree not to acquire or to sell, directly or indirectly, shares or securities in subsidiary companies, whether publicly listed or not, as provided by law, except as provided in an AREVA group procedure relative to the protection of inside information. They further agree to inform the appropriate management control body of their company immediately if any such acquisition or sale is made.

Corruption, Gifts and Unfair Advantage

General practice

There is zero tolerance for corruption. Relations between group employees and the group's customers, suppliers, partners and public services are handled with objectivity and integrity. Management shall be notified forthwith of any known cases of corruption, be it active or passive, and of any attempts to corrupt third parties, and shall immediately take measures it deems appropriate to determine the veracity of the situation, notably by performing the appropriate audits, and put an end to such unlawful behavior should it be proven.

AREVA prohibits corruption in any form whatsoever, whether public or private, active or passive. AREVA shall refrain from giving, proposing, promising or soliciting, either directly or indirectly, all payment or supply of services, gifts or leisure activities from or to a government official or private agent, in order to illegally obtain or conserve a market or a competitive advantage.

Employees shall avoid all situations in which they might find themselves beholden to a third party, however temporarily, as well as all ambiguous situations and all situations in which misunderstanding is possible.

Gifts

AREVA is perfectly aware that exchanging small gifts or invitations of nominal value can, on occasion, make a legitimate contribution to good business relations. However, in both the public and private sectors, gifts or invitations shall be offered and received by employees in strict

compliance with all applicable laws and regulations, and in a totally transparent manner. Gifts or invitations should never influence decisions, or be seen as having an influence on those giving and receiving them.

In this respect, employees must demonstrate sound judgment and a heightened sense of responsibility. If an employee is obliged to accept or give a gift or invitation of considerable value to comply with local custom, protocol and other circumstances, he/she shall refer the matter to the appropriate managerial level where a decision will be taken as quickly as possible in accordance with all applicable laws and regulations.

Gifts between AREVA business units or subsidiaries and any other internal marketing expenses are not allowed.

Payments

All AREVA entities and all managers must be able to justify the actual source and use of any sum at all times. This also applies to interim project accounting.

All sums, whether paid or received, must be completely and exactly described in a contract and recorded as such in the corporate accounts.

Payment methods that intentionally or unintentionally hide the identity of a payer or a beneficiary are forbidden.

Any contract with a commercial intermediary must be approved in advance by the legal and financial management of the main reporting subsidiary.

Political Financing

No AREVA group company shall provide funds or services to a political party, a holder of a public office, or a candidate for such office.

However, in member nations of the OECD, where corporate contributions of this kind are legal, electoral campaign funding that complies with the legislation in effect in those nations is allowed. These contributions are subject to the prior written approval of the senior executive of the subsidiary in question, who shall endeavor to keep them to a minimum.

The amount of the funding and the recipients shall be listed in the summary report attached to the annual compliance letter prepared by the senior executive of the subsidiary.

Philanthropy, Donations, Humanitarian Activities

The AREVA Foundation defines policy and establishes programs for such activities. Employee involvement in the programs is of particular interest to the AREVA Foundation.

Spirit

AREVA's philanthropical and sponsorship activities follow the principles set forth in the Preamble to this Charter. These activities are strictly benevolent and are not contingent upon a commercial or administrative benefit to the group.

Conditions

AREVA's role in these activities is limited to sponsorship. AREVA takes no responsibility for the management or execution of the activities it sponsors and agrees to sponsor projects or activities on the express condition that the organizers take sole responsibility for them and have met all of the pertinent legal and administrative requirements and secured the necessary approvals and guarantees.

Donations to governmental agencies, local administrations or individuals are not allowed, nor are cash payments for any reason.

Competition

AREVA and its employees shall comply with all applicable French, European and international competition laws and with the laws in force in all countries in which the group does business.

AREVA and its employees shall refrain from distorting, either directly or indirectly, a free spirit of competition in all of its commercial transactions. They shall also refrain from all unfair behavior towards competitors and shall not enter into illegal competition agreements.

All information on third parties, particularly AREVA's competitors, shall be collected or used in strict compliance with all applicable laws.

Threats against Persons and Property

Employees shall immediately call any situation that may threaten persons or property to the attention of management.

Persons

AREVA shall ensure that operations performed at its sites comply with applicable rules and regulations and with the group's policies on health, safety and environmental protection.

We conduct our operations with the utmost respect for human dignity and will not tolerate harassment of any kind nor any violation of human and children's rights.

Any failure to meet these obligations shall be called to the attention of the appropriate level of management, which shall immediately ascertain whether such practices have occurred, call for the necessary audits to be conducted, and put a stop to such practices immediately.

Reputation and brand image

AREVA's reputation is one of its most vital assets.

Employees shall neither do nor say anything that could have a deleterious effect on AREVA's reputation, image or credibility.

Criticism, smugness, rudeness and disregard for others in an international setting are a sign of disrespect for one's host and are unacceptable behavior in our employees.

Intangible corporate assets

Employees shall ensure that confidential information, whether marked as such or not, is protected from infringement, theft, loss, deterioration, diversion, disclosure, reproduction, falsification or use for non-work-related, illicit or secret purposes, particularly on the internet and intranet.

This relates in particular to technical and administrative data; files on customers, prospects and suppliers; software; passwords; documentation and drawings; methods and know-how; proprietary manufacturing methods, skills and parameters; intellectual and industrial property; estimates; contracts and agreements; unpublished cost and sales prices; strategic and commercial objectives; R&D information; financial and labor-related information; and the names of specialists and experts and their contact information.

Primacy of Our Values at AREVA

Any employee who receives an order that is manifestly contrary to the AREVA Values Charter may legitimately refuse to comply, shall immediately report the matter to the AREVA group, and will not suffer any kind of retaliation if the facts cannot be questioned.

5. The Ten Principles of the U.N. Global Compact

The Global Compact's principles in the areas of human rights, labor and the environment enjoy universal consensus derived from:

- the Universal Declaration of Human Rights;
- the International Labor Organization's Declaration on Fundamental Principles and Rights at Work;
- the Rio Declaration on Environment and Development.

The ten principles are:

Human Rights

Principe 1

Businesses are asked to support and respect the protection of international human rights; and

Principe 2

make sure their own corporations are not complicit in human rights abuses.

Labor

Principe 3

Businesses are asked to uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principe 4

the elimination of all forms of forced and compulsory labor;

Principe 5

the effective abolition of child labor; and

Principe 6

the elimination of discrimination in respect of employment and occupation.

Environment

Principe 7

Businesses are asked to support a precautionary approach to environmental challenges;

Principe 8

undertake initiatives to promote greater environmental responsibility; and

Principe 9

encourage the development and diffusion of environmentally friendly technologies.

Anti-corruption

Principe 10

Businesses should work against all forms of corruption, including extortion and bribery.

Our Values

SAFETY AND PHYSICAL SECURITY
TRANSPARENCY - PROFITABILITY - RESPONSIBILITY - INTEGRITY
CUSTOMER SATISFACTION - PARTNERSHIP

A7

Appendix 7
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1. Technical glossary

> Actinide

Chemical element whose nucleus contains from 89 to 103 protons. In ascending order: actinium, thorium, protactinium, uranium and transuranics (more than 93 protons). Neptunium, americium and curium are often called minor actinides.

> Activation

Process by which a stable atomic nucleus is transformed into a radioactive nucleus. The transformation mainly takes place when an atomic nucleus bombarded by a neutron flux captures a neutron.

> Air treatment system

Generally used to reduce emissions of pollutants to the atmosphere (CO_2, dust, NOx, SOx, HCl, dioxins, etc.).

May also be used to maintain an atmosphere that is favorable to machinery placed in a corrosive environment, such as offshore wind turbines, where the humidity and salinity of the air can cause rapid deterioration of the equipment.

> ALARA ("as low as reasonably achievable")

Concept used to keep public and personnel exposure to ionizing radiation as low as reasonably achievable, taking into account social and economic factors.

> Alloy

Metallic compound consisting of a mixture of several metals.

> Americium

Artificial element included in transuranics. It has several isotopes, all of which are radioactive. It is formed in nuclear reactors by neutron capture on the uranium and plutonium, followed by radioactive decay.

> Anaerobic

Characteristic of a medium d*efined by the absence of oxygen. Anaerobic fermentation is* the biological degradation of organic matter by microorganisms in the absence of oxygen.

> ANDRA (Agence nationale pour la gestion des déchets radioactifs)

An établissement public à caractère industriel et commercial (public industrial and commercial agency) created by French law on December 30, 1991 in charge of long-term radioactive waste management and disposal operations.

It 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 the agency participates in and contributes to research programs pertaining to the long-term management of radioactive waste, in particular in cooperation with the Commissariat à l'énergie atomique (CEA); and
- an information mission, in particular through the periodic development of a register of all radioactive waste and materials on French territory.

> ARIA scale

European severity scale for industrial accidents made official in 1994 by the Committee of Competent Authorities of the Member States, which implements the Seveso directive. It is based on eighteen technical parameters designed to objectively characterize the effects or consequences of accidents: each of these eighteen parameters includes six levels. The highest level determines the accident's severity index.

> ASN (Autorité de sûreté nucléaire)

The ASN is an independent administrative authority charged by the French State to regulate nuclear safety and radiation protection and to keep the public informed of these subjects. It reports to the French Parliament.

> Assembly, fuel assembly

A monolithic assembly of nuclear fuel rods filled with fuel pellets (in the case of MOX fuel, made of a mixture of uranium and plutonium oxides). Depending on its generating capacity (*e.g.* from 900 MWe to 1,600 MWe), the reactor core of a pressurized water reactor (PWR) contains from 150 to 240 fuel assemblies. The dimensions of the assemblies and the quantity of fissile material they contain are a function of the reactor type.

> Atom

Component of matter consisting of a nucleus containing positively charged or neutral particles (protons and neutrons), which account for almost all of its mass, around which negatively charged particles (electrons) spin.

> Becquerel (Bq)

See unit of measurement.

> Bioenergy

Fuel of animal, organic or plant origin (agricultural or forest) used to produce energy (heat and/or electricity).

> Biofuel (or agrofuel)

Fuel for transportation applications produced from biomass. A distinction is made today between first generation biofuels (biodiesel and bioethanol) and second generation biofuels (biomass-to-liquid and cellulosic ethanol); third generation biofuels (algae fuels) are anticipated in the future.

> Biogas

Gas produced by biomass fermentation composed primarily of CH_4 and CO_2, but also of N_2, O_2, H_2O, H_2S and NH_3. It is currently produced from treatment plant sludge, household refuse, agricultural waste and waste from the agri-food industry.

> Biogas power plant

Power plant that produces biogas from wet biomass to generate heat and/or electricity. Its main components are the fermenter, which converts wet biomass into biogas, biogas storage, a biogas treatment system, digester sludge storage, and a gas turbine or engine to produce energy.

> Biomass

Any organic matter of plant, animal or human origin. Biomass can be classified by origin, chemical composition or its use for energy. When used to produce energy, solid biomass from forestry, agriculture and agri-food activities, wet biomass such as waste, effluents, or treatment plant sludge, and other biomass may be chosen, in addition to energy crops, which are plants cultivated exclusively for energy production (algae, corn silage, soybeans, etc.).

> Biomass burner

Component of a biomass power plant in which a solid biomass fuel is burned. The heat released by combustion is used to raise the temperature and/or pressure of a heat transfer fluid (typically water) for different types of applications.

> Biomass power plant

Typically, a power plant that generates heat and/or electricity from the combustion of a solid biomass fuel. Its main components are a fuel handling system including a storage silo, a system to feed the fuel into the burner, the burner itself (including the fixed or fluidized bed combustion technology and the dog leg system), a steam turbine-generator combination, and combustion fumes to reduce the emission of pollutants to the atmosphere.

> Burnup

Assessment of fuel depletion expressed in gigawatt days per metric ton of heavy metal (GWd/MTHM). This is the unit of measurement for the thermal energy supplied by the fuel during its irradiation in the reactor. The term "heavy metal" designates isotopes starting with uranium and up.

> BWR (boiling water reactor)

Nuclear reactor moderated and cooled by light water brought to the boiling point in the reactor core under normal operating conditions.

> Carbon credits

Units allocated to companies leading projects that reduce greenhouse gas emissions. The credits can be sold to help finance the projects. Usually calculated in metric tons of CO_2 equivalent, one carbon credit represents a reduction of one metric ton of CO_2. It can be used to compensate for greenhouse gas emissions in any sector: industrial, transportation or residential.

Countries that have signed the Kyoto Protocol use carbon credits to achieve their greenhouse gas emissions reduction objectives.

> Cask

Structure designed to safely contain the radioactive material transported. It may include a variety of special materials, such as radiation-absorbing materials or thermal insulation materials, as well as service equipment, impact limiters, and devices for handling and securing.

> CEA *(Commissariat à l'énergie atomique et aux énergies alternatives)*

A public scientific, technical and industrial research organization that is in a category by itself in France.

In addition to its fundamental research activities in materials and life sciences, the CEA is active in three major fields: defense and global security, energies that do not emit greenhouse gases, and technologies for information and health. It is tasked with promoting the use of nuclear power for scientific and industrial purposes and for national defense.

> Centrifugation

Uranium enrichment process that takes advantage of the difference in mass between the 235 and 238 isotopes of uranium, whereby a gaseous mixture of isotopes is spun at high speed and the centrifugal force is used to modify the composition of the mixture. Ultracentrifugation currently has the highest efficiency of the enrichment processes.

> Chemical element

Category of atoms that all have the same number of protons in their nucleus.

> Cladding

Sealed metal tube constituting the outside of the fuel rod in which the nuclear fuel is inserted to protect it from corrosion by the coolant and prevent the dispersion of fission products. Cladding constitutes the primary containment barrier. For pressurized water reactor fuel, the cladding is made of zircaloy, an alloy of zirconium.

> Cleanup

All technical operations to eliminate the risks related to industrial operations and radioactivity in a nuclear facility, consisting of decontaminating the structures, fixtures, floors and walls of the buildings.

> Cogeneration

Combined production of heat and electricity in the same power plant. One or more fuels may be used, including biomass, biogas (methane), natural gas, coal and fuel oil.

> Compact linear Fresnel reflector (CLFR)

Technology using rows of flat or very slightly curved mirrors to concentrate the sun's rays towards a fixed horizontal linear receptor consisting of a tube or a bundle of tubes in which the heat transfer fluid flows. The operating fluid is heated by the incident rays of the sun. When the fluid is water, it is referred to as direct steam generation technology (DSG). The luminous energy is converted into thermal energy; the water is heated and converted into steam, and may subsequently be superheated. The steam can then be used directly as process steam for industrial applications or sent to a turbine to generate electricity.

> Complex biomass and biomass mixture

Complex biomass and biomass mixtures require suitable combustion equipment with better control than for standard biomass.

Complex biomass from farming or forestry are characterized by physico-chemical properties that are difficult to keep under control, such as high concentrations of chlorine (straw), causing corrosion, alkalis (oil palm stalks, empty fruit bunches), causing fouling, or moisture (eucalyptus bark), causing incomplete combustion.

Biomass mixtures are difficult to process due to differences of form among types of biomass and of the previously mentioned physico-chemical properties.

It takes a specially designed burner and combustion bed to be able to recover the maximum energy from this type of biomass without wearing out the equipment prematurely.

> Concentrated solar power plant (CSP)

Power plant in which the source of heat is a solar field. The field consists of mirrors that concentrate the sun's rays on a fluid, raising its temperature, so that luminous energy can be converted to thermal energy. The thermal energy is then converted into mechanical energy and finally into electrical energy via a turbine.

> Containment

System of protection that consists of containing radioactive products inside a defined area.

> 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 engineered structures. This creates separate areas called "containment areas".

> Containment barrier

System capable of preventing or limiting the dispersion of radioactive materials.

> Contamination

Presence of radioactive substances (dust or liquid) on the surface or inside a medium. Contamination in humans may be external (on the skin) or internal (via the skin or the respiratory or digestive tracts).

> Controlled areas

Areas where access and conditions for residence time are restricted for reasons of radiation protection.

> Control rods

Made of neutron-absorbing chemical elements such as boron or hafnium, these rods, often assembled as "clusters", are inserted in the core of a nuclear reactor to control the chain reaction, i.e. to regulate the neutron flux.

> Conversion

Series of chemical transformations that convert the solid uranium concentrate (usually in the form of an oxide) into uranium hexafluoride (UF_6, which sublimates at about 56°C) for the purpose of enriching it in fissile uranium (^{235}U), and vice versa.

> Coolant, heat transfer fluid

Fluid flowing in the core of a nuclear reactor (coolant) or in the recipient of a solar steam generator (heat transfer fluid) to transfer heat.

> Criticality

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/or escape to the outside. To sustain a fission chain reaction, a continuously operating reactor must be maintained in a critical state. In a subcritical state, not enough neutrons are produced and the reaction stops. In a supercritical state, too many neutrons are produced and a runaway nuclear reaction can occur that can rapidly get out of control.

> CSP (concentrated solar power)

Concentrated solar power is one way to use solar radiation directly. The technology consists of concentrating solar radiation to heat a fluid to a high temperature and then generate electricity using a turbine, or provide process steam or heat to industry.

> Cumac

Name of the accounting unit used in the French system for "white certificates", or energy consumption reduction certificates. "Cumac" is a combination of the French words for cumulative (cumulé) and discounted (actualisé) over the product lifecycle. kWh Cumac and GWh Cumac are typically used.

> Decay

Natural reduction of the activity of a radioactive substance through spontaneous disintegration.

> Decommissioning

Administrative procedure consisting of removing a facility from the list of regulated nuclear facilities. At that point, the facility is no longer subject to the legal and administrative requirements pertaining to regulated nuclear facilities.

> Decontamination

Decontamination is a physical, chemical or mechanical operation designed to eliminate or reduce the presence of radioactive or chemical materials deposited on a person or equipment, or in a facility or open area.

> Defense in depth

A series of lines of defense designed to prevent the appearance, or limit the consequences as necessary, of human or technical failures that could lead to accidental situations.

> Deuterium

Isotope of hydrogen whose nucleus consists of one proton and one neutron.

> Dismantling

Technical and administrative procedures carried out following the final shutdown of a nuclear facility to achieve a designated final state enabling it to be decommissioned. Besides the physical dismantling of all machinery and equipment, dismantling includes decontamination and radioactive waste management.

> Dose

Measurement of the exposure of an individual to radiation. Exposure is a function of the energy received and the effects related to the type of radiation. Doses are measured in millisieverts (mSv), a subunit of the sievert (1 Sv = 1,000 mSv). The mean annual dose from exposure to natural background radiation in France is 2.4 mSv/person.

> Dosimeter

The instrument for measuring radioactive doses received by an individual, or by certain of that individual's organs (passive or operational dosimetry), or by the environment (site dosimetry).

> Eco-design

Design of a product or an industrial installation that helps reduce the consumption of natural resources and limit releases likely to impact the environment.

> Electrolyzer

Electrochemical system (energy receptor) in which liquid water is separated into oxygen and hydrogen by an electrical current that passes between two electrodes. The ions produced by the oxidation-reduction reactions flow freely from one electrode to the other. The two electrodes (cathode: reduction reaction; anode: oxidation reaction) are linked by the electrolyte and the electric current generator.

In the alkaline electrolyzer, the electrolyte is a potash solution that circulates or is immobilized in a retention matrix; in the membrane electrolyzer, the electrolyte is in the form of a proton conduction ion exchange membrane.

> End-of-lifecycle operations

All of the regulatory obligations for shutting down and dismantling nuclear facilities and managing radioactive waste.

> Enriched uranium, depleted uranium

Before it is used to fabricate fuel elements for reactor systems moderated and cooled with ordinary water, natural uranium is enriched in ^{235}U to a concentration of 3-5%. Natural uranium is used to produce uranium enriched in ^{235}U. The physical or chemical processes used to enrich uranium also produce uranium that has a lower concentration of ^{235}U than natural uranium (0.2 to 0.4%): this is known as depleted uranium.

> Enrichment

Process used to increase the abundance of fissile isotopes in a chemical element. Naturally occurring uranium essentially consists of 0.7% ^{235}U (fissile isotope) and 99.3% ^{238}U (non-fissile isotope), and must be enriched in ^{235}U for it to be used in a pressurized water reactor. The proportion of ^{235}U is brought to around 3 to 5%.

> Environmentally regulated facility

Installations and facilities "listed in the nomenclature of regulated facilities that may represent hazards or drawbacks, whether for the convenience of the surrounding area, for health and safety, for agriculture, for the protection of nature, the environment and the countryside, or for the preservation of sites and monuments as well aspects of an archeological nature."

> Environmental Management System (EMS)

Part of the overall management system, which includes the organizational structure, planning activities, responsibilities, practices, procedures, processes and resources to develop, implement, carry out and maintain the environmental policy.

> EPR™ reactor

Generation III+ pressurized water reactor (PWR). It generates 1,600 MWe of electric power and features a greater level of safety than generations II and III reactors and simplified operations and maintenance. It also has a projected service life of 60 years, compared with an initial service life of about 40 years for the reactors currently in operation around the world.

> ERU

Fuel made with recycled uranium.

> Euratom

Treaty signed in Rome on March 25, 1957, together with the treaty that founded the European Economic Community (EEC). It institutes the European Atomic Energy Community, which aims to establish "the conditions necessary for the formation and rapid growth of nuclear industries." Its mission consists of contributing, through the development of nuclear energy, to the sharing of knowledge, infrastructure and financing and to ensuring the security of supply within the framework of centralized control. It brings together the 27 member states of the European Union.

> Exposure

Exposure of an organ or an organism to a source of radiation, characterized by the dose received.

> Fertile

Said of a nuclide that can be converted into a fissile nuclide via capture of a neutron, possibly followed by a series of disintegrations.

> Final radioactive waste

Radioactive waste that can no longer be treated, in particular by extracting its reusable content, under current technical and economic conditions.

> Fissile

Describes a nuclide capable of undergoing fission; the fission of atoms gives rise to several neutrons.

> Fission

The spontaneous or forced splitting of a heavy nucleus – generally after absorption of a neutron – into two or three smaller nuclei, or fission products, accompanied by the emission of neutrons and radiation and the release of a considerable amount of heat. The substantial energy released is the principle underlying nuclear power generation.

> Fission products

Fragments of heavy nuclei produced during nuclear fission or the subsequent radioactive decay of nuclides formed during that process. These fission fragments and their decay products are collectively referred to as "fission products".

> Fuel cell

Electrochemical system that converts the chemical energy of the oxidation reaction of a fuel directly into electrical energy.

In its simplest form, a fuel cell consists of two electrodes (anode and cathode) and is powered with oxidation-reduction couples likely to achieve a balance with the ions contained in the electrolyte. The oxidant in the fuel cells is either pure oxygen or the oxygen in air. The most commonly used reducing agents are gaseous (hydrogen or methanol), liquid (hydrocarbons or methanol) or solid (zinc, aluminum, etc.).

Unlike accumulators, whose energy is dependent on the active matter incorporated into the electrodes, a fuel cell uses reactive chemical species from an external source (outside the cell), and the species formed are constantly eliminated, theoretically ensuring continuous operation.

> 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 to fabricate new fuel, and radioactive waste management. The cycle is said to be "open" when it does not include the recycling of the used fuel, considered as waste to be sent directly to disposal following use in the reactor. Conversely, the fuel cycle is said to be "closed" when it includes used fuel treatment and recycling of fissile materials recovered by such treatment.

> Fuel rod

Sealed metal tube made of a zirconium-based alloy measuring about 4 meters long (about 13 feet) and 1 centimeter in diameter (2/5 of an inch) and filled with about 300 pellets of nuclear fuel. The tube is known as cladding.

> Fundamental safety rules *(Règles fondamentales de sûreté,* RFS*)*

Rules designed to clarify the conditions with which compliance, for the specific type of facility under consideration and for its purpose, is deemed to constitute compliance with French regulatory practice.

> Fused salt

Refers to salts in the liquid phase (fluorides, chlorides and nitrates) that may be used as coolants and for heat storage.

> Gaseous diffusion

Process for the isotopic separation of molecular species that uses the difference in the velocity of diffusion of these molecules (related to their different mass), and thus the different rates at which they pass through a semi-permeable membrane. The uranium hexafluorides $^{235}UF_6$ and $^{238}UF_6$ can be separated in this way, causing enrichment in ^{235}U, the fissile isotope of uranium, for nuclear fuel.

> Gear box

The operating concept of wind turbines involves converting the kinetic energy produced by the rotor at slow rotations of around 5 to 15 RPM into electrical energy that is directly supplied to the grid at a frequency of 50 Hz.

The conventional design of wind turbines is based on the use of proven quadripole electrical generators and requires an input speed of 1,500 RPM. A gear box is necessary to adapt the rotor rotation speed to the generator while transmitting energy. A gear box consisting of one or more simple or epicycloidal gear trains is needed to transmit effort while adapting rotation speed.

Hybrid transmission wind turbines such as the AREVA M5000 are based on a multipolar generator (some 40 poles) requiring much lower reduction ratios which are affordable and thus allow the use of much more compact gear boxes.

Direct transmission wind turbines use heavily multipolar generators that are more costly but eliminate the gear box stage completely.

> General operating rules *(Règles générales d'exploitation,* RGE)

Document describing the operating rules *(règles générales d'exploitation,* RGE) defined for the facility and identifying items important for safety. It describes measures to be taken if facility performance is outside the normal operating mode.

> General radiation protection rules

Document containing rules *(règles générales de radioprotection,* RGR) describing the combination of measures taken to protect people and prevent the risk of exposure to radiation.

> Generation IV reactor

An innovative reactor system or reactor type that could go on line by the 2040 to 2050 timeframe. These reactor systems are being designed in the framework of international cooperation known as the Generation IV International Forum, in which France is participating. The systems aim to respond to the need to reduce waste volumes, conserve resources, and ensure greater safety and reliability in the nuclear reactors of the future.

> Glove box

A transparent enclosure in which equipment or materials can be handled in isolation from the operator. Handling is done with gloves attached in leak-proof manner to openings in the wall of the enclosure or with mechanical manipulators. The enclosure is generally kept at slightly negative pressure to contain radioactive materials.

> HCTISN *(Haut Comité pour la transparence et l'information sur la sécurité nucléaire)*

A body for information, consultation and discussion of the risks related to nuclear operations and their impact on public health, the environment and nuclear security. As such, it may issue opinions on any matter in these fields, as well as on related oversight and information. It can also examine any matter pertaining to the accessibility of information on nuclear safety and recommend any measure to ensure or improve transparency in nuclear matters.

> Heat recovery

Heat recovery power plants use the residual heat from industrial processes to generate electricity. The technology consists of transferring heat to a heat recovery boiler to produce more heat and electricity via a steam turbine. Heat recovery power plants can reduce demand for energy from industrial facilities and therefore reduce their CO_2 emissions.

> Heavy metal

Heavy metal is the nuclear material in fuel: uranium and possibly plutonium in the case of MOX fuel. The unit of measurement commonly used for heavy metal is the metric ton of heavy metal (MTHM).

> Hulls

Pieces about 3 centimeters long produced by the shearing of the metal cladding (fuel rods) that had contained nuclear reactor fuel.

> IAEA (International Atomic Energy Agency)

International organization under the aegis of the United Nations whose role is to promote the peaceful use of nuclear energy and to verify that nuclear materials in users' possession are not diverted to military uses.

> INES (International Nuclear and Radiological Event Scale)

International scale designed by the IAEA to facilitate communication about nuclear events. It provides comparative elements that can be used to assess the seriousness of an event. The scale ranges from level 0 (deviation with no safety significance) to level 7 (major accident with considerable health and environmental consequences).

Three criteria apply in the application of the INES:

- offsite radioactive releases;
- the consequences inside the installation (damages or personnel injuries);
- degradation of defense in depth.

> *Information commission*

Established near nuclear sites falling within the realm of National Defense whose mission is to inform the public on the health and environmental impacts of the nuclear operations.

> *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, thus dissolving it. The term “in situ leaching” is also used.

> Instrumentation and control system

Combination of electrical and electronic systems used for control, i.e. to perform measurements, operate control systems, and ensure the operating safety of a nuclear power plant or any other complex industrial system.

> Internal emergency management plan

Describes the organization, response methods and resources to cope with emergency situations (incident or accident) to protect personnel, the public and the environment from radiation, and to maintain the safety of the regulated nuclear facility.

> Internal operation plan *(Plan d’opération interne,* POI)

Describes organizational procedures and resources available at an industrial site to minimize the consequences of a potentially major disaster for people, property and the environment. It may be required by regulation, pursuant to article R. 512-29 of the French Environmental Code (environmentally-regulated facility with AS classification, any other facility following a prefectorial decision, and certain special facilities such as storage depots of more than 50,000 m^2).

> Ionizing radiation

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 which rises with the wave frequency or with the particle speed. The effect of radiation on objects and living organisms is to strip electrons from the atoms that make up their matter (whether living or inert), leaving ionized atoms in their wake, which carry electrical charges, hence the generic name of “ionizing” radiation.

> IPCC (Intergovernmental Panel on Climate Change)

Created in 1988 at the initiative of the G7 countries and made up of UN experts, the IPCC is now part of the World Meteorological Organization in the framework of the UN Environment Program. Its role is to assess scientific, technical and socioeconomic information concerning the risk of human-induced climate change. In this regard, it publishes several reports that forecast, among other things, an average increase in global temperatures in one century.

> Irradiation

Exposure of an organism or an organ to radiation when the radiation source is outside the organism.

> IRSN *(Institut de radioprotection et de sûreté nucléaire)*

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 ASN and the HFDS.

> ISO standards

From the International Standards Organization. The ISO series 9000 standards set organizational and management system requirements for quality to demonstrate the conformity of a product or service, in particular to customer requirements. The ISO series 14000 standards set requirements for the environmental organization and management system designed to prevent pollution and reduce the environmental effects of an activity.

> Isotopes

Nuclides whose atoms have the same number of protons in their nuclei, but a different number of neutrons. For example, three main types of uranium isotopes are found in nature: ^{234}U (92 protons, 92 electrons, 142 neutrons), ^{235}U (92 protons, 92 electrons, 143 neutrons) and ^{238}U (92 protons, 92 electrons, 146 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.

> Isotopic separation cascade

Arrangement of separative elements (“stages”), which are interconnected to increase the separative effect of a unit element. The gaseous diffusion and centrifugation enrichment processes separate uranium-238 and uranium-235 by exploiting the difference in mass between those isotopes. Because the separative potential of these processes is low to very low, the basic step must be repeated a large number of times in a cascade to achieve the desired level of enrichment. These elementary stages take place in diffusers or centrifuges, which together form a cascade.

> ITER (International Thermonuclear Experimental Reactor)

Research initiative that is the product of international scientific cooperation whose objective is to build a controlled fusion demonstrator to validate the potential of nuclear fusion energy.

> Jack-up barge

Flat-bottomed boat used to install and maintain offshore wind turbines The barge deploys four pedestals that come to rest at the bottom of the sea to jack it up above sea level so that the foundations, tower, nacelle and rotor can be installed or positioned.

The barges used by AREVA were specifically designed for this purpose and can carry several sets of foundations and turbines to minimize the duration of work at sea.

> Leaching, in situ leaching, heap leaching

Extraction of metals through selective dissolution of ore using chemical solutions, whether acidic or alkaline. Leaching may be static, in the case of ore that is placed in a heap on an impermeable pad and sprayed; dynamic, in the case of ore mixed with solutions in a processing plant; or in situ, where solutions are injected into the geologic layer containing the ore and pumped out.

> Light water

Consisting of hydrogen and oxygen (whereas heavy water is a combination of oxygen and deuterium), it is used in some reactors both to cool the fuel and to recover the energy produced, and to slow the neutrons so as to increase the probability of fission.

> Local information and dialogue committee

Established near all "Seveso high threshold" chemical industry facilities, the committee's mission is to create a framework for dialogue and information on action taken by the operators of regulated facilities, under the oversight of government agencies, to prevent the risk of a major accident at the facilities.

> Local information and follow-up committee

Established near the Bure underground research laboratory in France, it is tasked with a general mission of follow-up, information and consultation on radioactive waste management, and in particular on the disposal of such waste in deep geological formations.

> Local information commission

Established near a site with one or more regulated nuclear facilities. Their general mission is to provide follow-up, information and consultation in matters pertaining to nuclear safety, radiation protection and the impacts of nuclear operations on people and the environment. The CLI publishes the results of its work in a form that is easily understood by the public.

> Local information commission for major energy facilities of the Tricastin site

Local information commission set up for the Tricastin nuclear site in France.

> Mine tailings

Earth, sand or rock that contains little or no uranium, but that must be extracted to gain access to the ore itself. Their naturally occurring radioactivity is comparable to that of the surrounding rock.

> Moderator

Material designed to slow neutrons produced by nuclear fission.

> MOX

MOX fuel is a conventional nuclear fuel. It differs from UO_2 fuel, a basic nuclear fuel fabricated only with uranium, in that fact that it contains a low proportion of plutonium from recycled used fuel mixed with uranium (MOX means Mixed Oxides of uranium and plutonium). The proportion of plutonium varies according to the type of fuel, and is generally between 5 and 10%.

> MSNR *(Mission de sûreté nucléaire et de radioprotection)*

The nuclear safety and radiation protection mission (MSNR) reports to the French Ministries of the Environment and Economy; it participates in government missions concerning nuclear safety and radiation protection. In particular, in liaison with the Autorité de sûreté nucléaire (ASN), it recommends government policy in matters of nuclear safety and radiation protection, except for operations and facilities involving national defense and radiation protection for workers. It oversees the activities of the ASN on behalf of the ministers in charge of nuclear safety and radiation protection.

> Nacelle

The nacelle is installed at the top of the wind turbine tower and generally houses the mechanical, pneumatic, electrical and electronic components needed for the operation of the wind turbine (directional system, gear box, generators, converters, instrumentation and control system, etc.).

Almost all horizontal axis wind turbines use forced direction. The nacelles are therefore equipped with a system that uses electrical motors and gear boxes to make sure that the rotor – and thus the nacelle – is always oriented in the direction of the wind.

> National radioactive waste and materials plan *(Plan national de gestion des matières et des déchets radioactifs, PNGMDR)*

The PNGMDR is an operational tool for broad-based planning of waste and materials management. Governed by the law of June 28, 2006 on the sustainable management of radioactive waste and materials, its chief goal is to regularly report on the radioactive materials management policy, to assess new requirements, and to set future objectives to be met. The PNGMDR is updated every three years in the form of a published report. The current version is the 2013-2015 edition.

> NEA (Nuclear Energy Agency)

Specialized agency of the Organization for Economic Cooperation and Development (OECD) whose mission is to assist its member countries in maintaining and further developing, through international cooperation, the scientific, technological and legal bases that are indispensable to the safe, environmentally friendly and economical use of nuclear energy for peaceful purposes.

> Neutron

Electrically neutral particle that enters into the composition of the atom's nucleus, along with the protons.

> Neutron poison

Substance which, when placed or produced in a nuclear reactor, can slow or stop the fission chain reaction by absorbing neutrons.

> Non-proliferation

Designates the political and/or technical means used to prevent nuclear proliferation. The international non-proliferation regime consists of the set of international policies and instruments that work to prevent states from acquiring weapons of mass destruction or the means of acquiring them, in violation of their international commitments. The Non-Proliferation Treaty (NPT) is based on distinguishing between nuclear weapons states (NWS) and non-nuclear weapons states (NNWS). The NWS pledge not to transmit their nuclear weapons knowledge to the NNWS, which agree not to acquire a nuclear deterrent capability. In exchange, the NNWS are entitled to access nuclear technologies for peaceful purposes.

> Nozzle

Metal component located at the top (top nozzle) or bottom (bottom nozzle) of a fuel assembly. The top nozzle is used for handling of the assembly.

> NRC (Nuclear Regulatory Commission)

Counterpart of ASN in the United States.

Field of jurisdiction: nuclear safety and radiation protection.

> Nuclear engineering

Any activity relating to the design, construction or optimization of nuclear facilities.

> Nuclear fuel

Material designated by the French Defense Code as requiring measures to physically protect them against theft or diversion.

> Nuclear island

A 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, and the equipment required for its operation.

> Nuclear materials safeguards

Safeguards are of two kinds:

- any measure taken by an operator to secure the materials they hold, including monitoring and accounting, containment, surveillance, physical protection of materials and facilities, and protection during transportation;
- inspections performed by the State (in France, the Senior Official for Defense and Security) 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 loss or theft of material, particularly with malicious intent.

> 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 is designed to prevent accidents and limit their consequences.

> Nuclear security

According to the French law on transparency and nuclear safety (the "TSN law"), nuclear security includes nuclear safety, radiation protection, prevention and control of acts of malevolence, and emergency preparedness in the event of an accident. In another sense that is closer to the IAEA's definition, it is the prevention of, detection of and response to the theft, sabotage, unauthorized access and illegal moving of nuclear materials, or any other malicious act concerning nuclear materials, any other radioactive substances, or the facilities containing them.

> Nuclear steam supply system (NSSS)

A steam production system in which the heat is supplied by a nuclear reactor.

In a pressurized water reactor (PWR), the system consists of heavy components (steam generator, pressurizer and reactor vessel), mobile components (reactor coolant pump sets and control rod drive mechanisms), and the piping that connects them. All of these interconnected components circulate hot water and keep it in a liquid state inside the reactor's primary cooling system. The heat is produced by the fission of atomic nuclei contained in the fuel that is placed in the reactor core, inside the reactor vessel.

> OHSAS 18001 standard

Occupational health and safety management system specification designed to prevent risk in the workplace. The objective is to provide interested companies with a tool for assessing and certifying their occupational health and safety management systems which is compatible with international management system standards such as ISO 9001 for quality, ISO 14001 for the environment and ILO-OSH 2001 for occupational safety and health.

> ONR (Office for Nuclear Regulation)

Counterpart of the Autorité de sûreté nucléaire (French nuclear safety authority, ASN) in the United Kingdom.

Field of jurisdiction: nuclear safety and radiation protection.

> Ore

Rock, mineral or combination of minerals containing one or more useful chemical elements at sufficiently high grades and which can be extracted by an industrial process.

> Periodic inspection

Combination of inspections performed periodically in a facility during a scheduled outage.

> Plutonium

Chemical element with the atomic number 94 and conventional symbol Pu. Plutonium has many isotopes, the most common of which go from 238 to 242. Plutonium-239, a fissile isotope, is produced in nuclear reactors by neutron capture on uranium-238.

> Pressurized nuclear equipment

Equipment that is specially designed for nuclear applications and whose failure could give rise to radioactive releases.

Pressurized nuclear equipment is classified:

- into three levels, from N1 to N3, in particular as a function of the magnitude of radioactive releases that could result from their failure; and
- into five categories, from 0 to IV, based on risk, and in particular risk related to the temperature and pressure of the fluids they contain.

> Pressurizer

Equipment used to create and maintain pressure in the primary cooling system of a pressurized water reactor (PWR) at a level designed to prevent the primary cooling water from reaching the boiling point. The pressurizer functions at a temperature that is higher than the rest of the cooling system and is where liquid/steam balance is achieved.

> PWR (pressurized water reactor)

Nuclear reactor moderated and cooled by light water maintained in the liquid state in the core through appropriate pressurization under normal operating conditions.

> Pyrolysis

Thermal decomposition of a solid fuel (biomass, coal, etc.) in the absence of oxygen to produce other products (gas and matter).

> Radiation

Also referred to as "ionizing radiation", designates a release and transmission of energy or matter in thermal luminescent, electromagnetic or corpuscular form.

> Radiation protection, radiological protection

Set of rules, procedures and means for prevention and monitoring aimed at preventing or reducing employee and environmental exposure to the harmful effects of radiation.

> Radiferous material

Material containing daughter products of uranium, including solid radium and radon, which is released in gaseous form.

> Radioactive decay

Spontaneous transformation of a radionuclide into another nuclide, accompanied by particle emission.

> Radioactive half-life

The time it takes for half of the nuclei of a given radionuclide to disintegrate in a quantity of matter. At the end of that time, the radionuclide's radioactivity has decreased by half. No external physical action can modify the half-life of a radioelement, except its "transmutation" into another radionuclide, through neutron capture, for example. The radioactive half-life is thus a physical characteristic of a given radionuclide.

> Radioactive material

Radioactive substance for which an immediate or later use is planned or foreseen, after treatment if required.

> Radioactive substance

Substance containing natural or manmade radionuclides whose activity level or concentration warrants radiation protection measures.

> Radioactive waste

Waste consisting of radioactive substances for which there are no plans for further use.

> Radioactive waste disposal

In France, this consists of placing radioactive waste in a facility especially designed to isolate them permanently from man and the environment, in accordance with the principles laid down in the Environmental Code.

> Radioactive waste disposal in a deep geological formation

Disposal of radioactive waste in a specially designed underground facility in accordance with the principle of retrievability.

> Radioactivity

Phenomenon in which a nuclide is transformed, releasing radiation. Radioactivity may be natural or artificial (manmade). The radioactivity of an element gradually decreases over time as the unstable nuclei dissipate.

> Radionuclide

Atom that emits ionizing radiation.

> Radon

Radioactive gas (222 isotope) resulting from the natural decay of the uranium and thorium contained in the ground. It reaches the atmosphere through natural cavities and cracks in the ground and may build up in caves, cellars, homes, etc. if not sufficiently vented.

> Reactor, nuclear reactor

Nuclear facility 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.

> Reactor coolant pump

Motor-driven pump that circulates the water in the primary cooling system of a pressurized water reactor. It turns at close to 1,500 rotations per minute, pumping about 20,000 cubic meters of water per hour.

> Reactor core

Consists of the nuclear fuel inside the reactor vessel, arranged in such a way that the fission chain reaction can be maintained.

> Reactor system

Family of reactors presenting common general characteristics.

> Reactor vessel

A thick steel container enclosing the reactor core and the control systems for the fission chain reaction. The primary cooling water circulating in the reactor vessel is heated by recovering the energy produced.

> Recycling of used nuclear fuel

After a reactor residence time of three to four years, the used nuclear fuel must be unloaded. At that time, about 96% of the fuel materials are reusable (95% uranium and 1% plutonium), while 4% are fission products and minor actinides (final waste). Treatment consists of separating the reusable radioactive materials from the final radioactive waste contained in the used fuel (which is packaged for disposal) for purposes of recycling. Recycling allows for significant conservation of natural resources.

> Regulated nuclear facilities (INB, *installation nucléaire de base)*

In France, an *installation nucléaire de base* (INB) is a regulated nuclear facility which by its nature or by the quantity or activity of any radioactive substances it contains, within the meaning of the INB nomenclature, is subject to the French Nuclear Safety and Transparency Law of June 13, 2006 and to its implementing regulations. Monitoring of regulated nuclear facilities is carried out by the inspectors of the Autorité de sûreté nucléaire (French nuclear safety authority ASN). By way of example, a nuclear reactor, an enrichment plant, a fuel fabrication plant and a used fuel treatment plant are all regulated nuclear facilities.

> Renewable Energy

Energy produced from renewable, non-fossil sources that can be replaced within a human generation.

> RepU

Recycled uranium from used fuel treatment.

> Reserves/Resources

Reserves consist of ore inventories known with certainty that can be feasibly mined in the short term at a competitive economic cost. Resources consist of reserves and of ore inventories whose existence is only assumed or estimated with a certain probability, and that are potentially mineable over the medium to long term.

> Residual power

Power released by the radioactivity of the nuclear fuel and other materials in a nuclear reactor that is shut down or in a used fuel assembly.

> Rod cluster control assembly (see control rod)

Equipment containing the neutron-absorbing elements used to control the fission chain reaction in a nuclear reactor. The chain reaction can be slowed or stopped by introducing the rod cluster control assembly into the fuel core.

> Rotor

Component of a wind turbine consisting of several blades (usually three) attached to a central hub, which are themselves attached to the nacelle.

The wind turns the rotor, producing mechanical energy which is then converted into electrical energy by the generator.

> Rotor blades

Wind turbine rotor blades capture kinetic energy from the wind and convert it into mechanical energy in the form of aerodynamic lift.

As they are assembled as a rotor by means of a central hub, this linear thrust can be converted into more easily exploitable torque load.

> Safety analysis report

Report describing the design of regulated nuclear facilities and the measures taken to ensure safety. It identifies the risks presented by the facility and describes the measures taken to prevent them as well as measures conducive to reducing the probability of accidents and their effects.

> Safety review

The safety review of a facility is used to assess the facility's status in terms of the rules applicable to it and to update the assessment of the risks and drawbacks that the facility may present, taking into account in particular the condition of the facility, the experience acquired from operations, the accumulation of knowledge, and the rules applicable to similar facilities.

> Safety system

A set of documents presenting measures taken to ensure the safety of a facility; the safety analysis report is one such document. In particular, it includes:

- a license decree (in France, if the facility was created or modified after 1963) and the license application file;
- requirements issued by the *Autorité de sûreté* (ASN);
- a safety analysis report (SAR) and general operating rules *(règles générales d'exploitation,* RGE) or general monitoring and servicing rules *(règles générales de surveillance et d'entretien,* RGSE);
- a waste management study for the facility stating the goals for minimizing waste volume and toxicity;
- an internal emergency management plan *(plan d'urgence interne,* PUI), which may include sections that are common to the entire nuclear site in which the facility is located.

> SEA sites (sites with significant environmental aspects)

In AREVA's frame of reference, nuclear sites, sites with facilities representing major manmade risk per Seveso regulations, operating mine sites, plant sites with facilities subject to public inquiry, and industrial or office building sites which make a significant contribution to the group's environmental accounting in terms of consumption, releases or hazards.

> Senior defense and security official *(Haut fonctionnaire de défense et de sécurité,* HFDS)

The French Defense Code tasks the minister of Energy with the control of civilian nuclear materials. To date, due to the current division of powers within the French government, that responsibility has been shared by the Minister of the Economy, Finance and Industry and the Minister of Ecology, Sustainable Development, Transportation and Housing. To carry out these responsibilities, the ministers rely on the Defense, Security and Economic Intelligence Service and its employees in charge of examining cases and drafting regulations. The service answers to the Senior Defense and Security Official (HFDS), who acts as the nuclear safety authority for the Minister of Ecology, Sustainable Development, Transportation and Housing.

> Shielding, biological shielding, biological protection

Protective shielding from radiation used to limit exposure of people.

> Shipping cask

Another name for a cask used to ship radioactive materials.

> Specific burnup

See *burnup*.

> Specific response plan *(Plan particulier d'intervention,* PPI)

Describes the emergency response organization set up by government agencies in the event of an accident in a nuclear facility with potential off-site consequences. The mobilization and coordination of necessary resources, tailored to the circumstances, are placed under the authority of the Prefect.

> Stator

Static component of an electric motor (such as a reactor coolant pump set) or an alternator.

> Steam generator

Heat exchanger in a pressurized water reactor (PWR) that transfers the heat from the water in the primary cooling system to the secondary system, where it is converted into steam that drives a turbine connected to an alternator to generate electricity.

> Storage

Temporary storage of radioactive materials or waste in a facility that is specifically designed for that purpose, pending their removal.

> STUK

Counterpart to the Autorité de sûreté nucléaire (French nuclear safety authority ASN).

Field of jurisdiction: nuclear safety and radiation protection.

> SWU (separative work unit)

An enrichment plant's production is expressed in SWU. This unit is proportionate to the quantity of uranium processed and is a measure of the work required to separate the fissile isotope.

> TDG order

French modal order of May 29, 2009 on the transport of dangerous goods ("TDG order").

The order applies to the national or international carriage of dangerous goods by road, rail and inland navigation in France, including loading and unloading operations, intermodal transfers and halts required by transportation circumstances.

The order stems from international and European Community laws and applies in particular to the carriage of radioactive materials (class 7 carriage).

> Ten-year inspection

Every ten years, nuclear reactors are inspected thoroughly, including a detailed inspection of its principal components: the reactor vessel, the primary cooling system, and the reactor containment.

> Thermonuclear fusion

The energy from the stars, such as the sun, is produced by the nuclear process of fusion of light atoms, such as hydrogen. Fusion is the opposite of fission, for it corresponds to the merging (rather than the splitting) of atomic nuclei.

>Thorium

Natural radioelement (232 isotope) that can produce the fissile uranium isotope of uranium, ^{233}U, through neutron capture.

> Tokamak

Acronym from the Russian expression toroidalnaya kamera magnitaya katushka, which means "toroidal chamber and magnetic coil". The ITER reactor is studying hot plasmas in this configuration.

> Torrefaction

Torrefaction (or depolymerization) of biomass is a mild form of thermo-chemical treatment (from 200 to 320°C) used to eliminate water and change part of the organic material used in biomass to break down its fibers. During the torrefaction process, light organics are removed and the structure of the biomass is depolymerized and changed, causing the fibers to break. Torrefied biomass, also called biocoal, is a high-quality solid fuel that is ideal for certain types of industrial applications, both general and specific, including electricity generation, heat production, cogeneration and central heating. This new fuel opens up new possibilities for renewable energies.

> Trading

Commercial transactions in the natural uranium market not directly connected to the group's mining operations, in the form of the purchase, sale, exchange, lease or loan of uranium.

> Transportation emergency response and management plan

Instantly activated in the event of a transportation incident involving radioactive materials. It covers the phases of alert, situational analysis and response in the field following an incident or accident involving the transportation of radioactive materials. It makes available specialized human resources and special equipment to the competent authorities. The entire plan is tested on the national scale once a year on average with the leading players, and in particular the competent authorities.

> Transuranic elements

Chemical elements in which the nucleus contains more protons than uranium, which has 92. The first transuranic elements are, in increasing order, neptunium, plutonium, americium and curium.

> Tritium

Isotope of hydrogen whose nucleus consists of one proton and two neutrons. It emits beta rays and is present in the natural state in the air and in effluents from light water reactors. Tritium and deuterium are the two reagents chosen for controlled fusion projects.

> Turbine

Device used to convert the energy contained in a fluid (water, steam, gas, etc.) into a rotary motion. The turbine is also used to drive the rotation of a current generator in units that generate electrical energy.

> UF_4

Uranium tetrafluoride.

> UF_6

Uranium hexafluoride.

> Units of measurement

- Becquerel (Bq): international unit of measurement of activity (1 Bq = one atomic particle disintegration per second). The becquerel is a very small unit. Previously, nuclear activity was measured in Curies (one curie = 37,000,000,000 Bq, corresponding to the activity of one gram of natural radium).
- Sievert (Sv): Legal unit of dose equivalent, used to determine the biological effects produced by a given absorbed dose on a living organism. Dose equivalent is not a measurable physical quantity; rather, it is calculated. It is determined by multiplying the absorbed dose (expressed in grays, where 1 gray = 1 joule per kg) by two coefficient factors which depend on the type of radiation and the type of tissue affected. The millisievert (mSv), which represents a thousandth of a sievert, and the microsievert (µSv), which represents a millionth of a sievert, are used for low doses. By way of example, the average annual natural radioactivity per person in France is 2.4 mSv, a chest x-ray represents about 0.1 mSv, and a round trip by air between Paris and New York is from 50 to 150 µSv.

> Unit, nuclear unit

Unit for power generation consisting of a nuclear steam supply system, including the reactor, and a turbogenerator. Nuclear power plants generally have several units on one site.

> UO_2 powder

UO_2 is the symbol for uranium oxide. which comes in powder or pellet form. It is the constituent component of nuclear fuel. It is also the formula for pitchblende (natural uranium ore).

> Uraniferous material

Material containing uranium.

> Uranium

Uranium is a radioactive heavy metal. It is a chemical element with the atomic number 92 and the atomic symbol U, with three radioactive natural isotopes: ^{238}U (99.28% fertile), ^{235}U (0.71% fissile), and a very small quantity of ^{234}U. Uranium-234, which comes from the radioactive decay of uranium-238, is not fissile.

> Uranium concentrate (Yellowcake)

Magnesium, sodium, ammonium uranate or uranium peroxide in solid form resulting from the mechanical and chemical treatment of uranium ore. This marketable concentrate contains about 80% uranium.

> Used fuel storage pool

Pools in which used fuel is stored for cooling after it is unloaded from a reactor.

> Used nuclear fuel

Fuel permanently removed from a reactor core after having been irradiated.

> Vitrification

Process used to incorporate concentrated solutions of final radioactive waste (fission products and minor actinides), which have been chemically separated from the used fuel, into a glass structure by mixing it with a glass matrix at high temperature.

> Waste packaging

Radioactive waste packaging: operation consisting of packaging waste in a form suited to radioactive materials containment, enabling its shipment, storage and final disposal.

- Very low level radioactive waste such as vinyl or cleaning rags is packaged in drums, in special "big bags", or in very large bins. Very low level radioactive rubble is placed loose inside special big bags.
- Low level and medium level waste is first reduced in volume as much as possible, then packaged in specific ways (immobilized or embedded in a special concrete, bitumen or resin matrix). The immobilizing or embedding matrix keeps the toxic and radiotoxic substances contained within the waste package.
- High level waste is vitrified and poured into stainless steel canisters.

> Wind tower

Used to place the rotor at a sufficient height to reach higher wind velocities and facilitate its movement; in other words, to extract a much higher energy capacity. The tower houses certain electrical and electronic components, such as the air treatment system, the transformer station and the converter.

> Wind turbine

Device that converts kinetic energy from the wind into mechanical energy. This energy is usually converted into electrical energy.

> Yellowcake

"Cakes" of about 80% uranium concentrates.

> Zircaloy

Type 2 or 4 zirconium-based alloys containing tin, copper, iron and nickel. Other alloys, to which only niobium or vanadium are added, do not bear the name zircaloy.

> Zirconium

Metal chosen for its mechanical strength and corrosion resistance in high-temperature water, combined with its very low thermal neutron absorption, to make the alloy used in the cladding of light water reactor fuel elements. Zirconium is highly resistant to corrosion at high temperature. It is therefore used in the form of an alloy to fabricate nuclear fuel assemblies, including spacer grids, rods, guide tubes, etc.

2. Financial glossary

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; unhedged orders are valued at the rate in effect on the last day of the period. Natural uranium orders are valued at the closing price of applicable spot and long term indices. The backlog reported for long-term contracts recognized under the percentage of completion method and partially performed as of the reporting date is equal to the difference between (a) the projected sales revenue from the contract at completion and (b) the sales 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.

Cash flow from end-of-lifecycle operations:

This indicator encompasses all of the cash flows linked to end-of-lifecycle 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;
- full and final payments received for facility dismantling;
- minus acquisitions of earmarked assets;
- minus cash spent during the year on end-of-lifecycle operations;
- minus full and final payments made for facility dismantling.

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) included in operating income. EBITDA excludes the cost of end-of-lifecycle operations performed in nuclear facilities during the year (facility dismantling, waste retrieval and packaging).

Free operating cash flow

Free operating cash flow represents the cash flow generated by operating activities It is equal to the sum of the following items:

- EBITDA, excluding end-of-lifecycle 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 Property, Plant and Equipment (PPE) and intangible assets, net of changes in accounts payable related to fixed assets;
- plus sales of PPE 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).

Gearing

The ratio of net debt to net debt + equity.

Net debt (cash)

Net debt (cash) is defined as the sum of current and non-current borrowings minus cash and cash equivalents. NOTA: the AREVA's definition of the net debt was modified on December 31st, 2013 to conform to the definition published by the Autorité des Normes Comptables. The definition used previously was the following one: "the net debt is defined as the sum of current and non-current borrowings minus cash, cash equivalents and other current financial assets". The 2012 comparative data were restated according to the new definition.

Operating margin

The ratio of operating income to sales revenue.

Operating working capital requirement (OWCR)

Operating WCR represents all of the current assets and liabilities related directly to operations. It includes the following items:

- inventories and work-in-process;
- trade accounts receivable and related accounts;
- non-interest-bearing advances;
- other accounts receivable, accrued income and prepaid expenses;
- currency hedges on operating WCR;
- minus: trade accounts payable and related accounts, trade advances and prepayments received (excluding interest-bearing advances), other operating liabilities, accrued expenses, and deferred income.
- Note: Operating WCR 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.

Return on average capital employed (ROACE)

Return on average capital employed (ROACE) is an internal and external indicator 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 by applying the nominal tax rate applicable to the operating income of each subsidiary of the group.

Capital employed comprises the following:

- net property, plant and equipment and intangible assets;
- goodwill, other than goodwill related to equity associates ;
- 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-lifecycle operations and provisions for tax risk.

Business corporation with an Executive Board and a Supervisory Board
capital 1,456,178,437.60 euros

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