

2011
Reference document





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This Reference Document was filed with the Autorité des marchés financiers (AMF, the French financial market authority) on March 29, 2012, 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 2011 Reference Document, 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 and Article 212-11 of the general regulations issued by the *Autorité des marchés financiers* (AMF, the French stock market regulator), the following items have been included for reference:

- AREVA's consolidated financial statements for the year ended December 31, 2009 and the Statutory Auditors' report on the consolidated financial statements for the year ended December 31, 2009, discussed on pages 234 to 245 and pages 232 to 233 respectively of the Reference Document filed with the *Autorité des marchés financiers* on March 29, 2010 under number D.10-0184; and
- AREVA's consolidated financial statements for the year ended December 31, 2010 and the Statutory Auditors' report on the consolidated financial statements for the year ended December 31, 2010, discussed on pages 202 to 212 and pages 200 to 201 respectively of the Reference Document filed with the *Autorité des marchés financiers* on March 30, 2011 under number D.11-0199.

Person responsible

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→ 1.1. Person responsible for the Reference Document

Mr. Luc Oursel

President and 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, 2011 on page 201 of this Reference Document contains observations on:

- Note 1.1.1.1, which explains the impacts of the Fukushima accident and of certain decisions of the new strategic action plan on impairment estimates for property, plant and equipment and intangible assets, and Notes 10, 11 and 12, which outline the sensitivity of the recoverable amount of goodwill and certain assets to the assumptions adopted;
- Notes 11 and 12, which supplement Note 1.1.1.1 concerning impairment methods for mineral rights and property, plant and equipment related to UraMin mining projects resulting from the new market environment, decisions of the new strategic action plan and the updating of technical parameters, in particular for resources and costs, as well as sensitivity factors for calculating recoverable amounts;

1.2. Attestation by the person responsible for the Reference Document

- Notes 1.1, 1.13.1, 1.18 and 13, in which the procedures for measuring end-of-lifecycle assets and liabilities and their sensitivity to assumptions adopted with regard to estimates, timing of cash outflows and discount rates are described;
- Notes 1.1, 1.8 and 24, which explain the conditions for carrying out the OL3 contract and the sensitivity of income on completion to contract risks as well as to the operational terms for the end of construction and ramp-up of testing until core loading;
- Note 1, which explains the changes in accounting rules and methods.

The reports on the consolidated financial statements for the years ended December 31, 2009 and December 31, 2010 are incorporated by reference and appear on page 231 of the 2009 Reference Document and on page 200 of the 2010 Reference Document.”

Paris, March 28, 2012

Luc Oursel
President and Chief Executive Officer of AREVA

Statutory Auditors

→ 2.1.	STATUTORY AUDITORS	10
→ 2.2.	DEPUTY AUDITORS	10

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

→ 2.1. Statutory Auditors

Mazars

Exaltis – 61, rue Henri Regnault – 92075 La Défense Cedex – France
Represented by Juliette Decoux and Jean-Luc Barlet

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

Deloitte & Associés

185, avenue Charles-de-Gaulle – 92524 Neuilly-sur-Seine Cedex – France
Represented by Patrice Choquet and Pascal Colin

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

→ 2.2. Deputy Auditors

Max Dusart

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

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

BEAS

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

Represented by Alain Pons

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

Selected financial information

→ Summary data

<i>(millions of euros)</i>	2011	2010	2010/2011 change
Income			
Reported revenue	8,872	9,104	-2.6%
Gross margin	854	1,326	-35.6%
<i>Percentage of reported revenue</i>	9.6%	14.6%	-5.0 pts.
EBITDA	1,068	703	+51.9%
<i>Percentage of reported revenue</i>	12.0%	7.7%	+4.3 pts.
Operating income	(1,923)	(423)	-1,500
<i>Percentage of reported revenue</i>	-21.7%	-4.6%	-17.0 pts.
Net financial income	(548)	(314)	-234
Share in net income of associates	62	153	-91
Net income from discontinued operations	(2)	1,236	-1,238
Net income attributable to equity owners of the parent	(2,424)	883	-3,307
<i>Percentage of reported revenue</i>	-27.3%	9.7%	-37.0 pts.
Comprehensive income	(2,775)	1,408	-4,183
Cash flow			
Net cash from operating activities	904	588	+316
Net cash used in investing activities	(821)	(621)	+32.2%
Net cash from financing activities	(999)	(531)	-468
<i>including dividends paid</i>	(51)	(313)	-83.7%
Net cash from (used in) operations held for sale	4	2,243	-2,239
Increase (decrease) in net cash	(891)	1,683	-2,574
Miscellaneous			
Backlog	45,558	44,204	+3.1%
Net cash (debt)	(3,548)	(3,672)	-3.4%
Equity attributable to owners of the parent	6,061	8,664	-30.0%
Capital employed*	8,855	10,388	-14.8%
Workforce at year end*	47,541	47,851	-0.6%
Dividend per share	-	-	-

* Excluding T&D.

Risk factors

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The advent 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 chapter. 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 objective of the risk and insurance management policy defined by AREVA's Executive Board based on the recommendations of the Risk and Insurance Department (DRA) and the Office of Administration to which it reports is to protect the Group's operations, income and strategic objectives.

Working closely with the operational departments, the Risk and Insurance Department is responsible for implementing this policy. 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. It 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

The Group initiated risk mapping when it was established in 2001 and reassesses the map annually.

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 units and the Business Groups as subsequently to the Group's Executive Management Board (EMB) and 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 sphere of action covering all of the Group's activities, both operational (construction, manufacturing, sales, projects, services, etc.) and functional (financial, legal, contractual, organizational, human resources, etc.);
- contributing to resource optimization and cost reduction; and
- developing business continuity and crisis management plans.

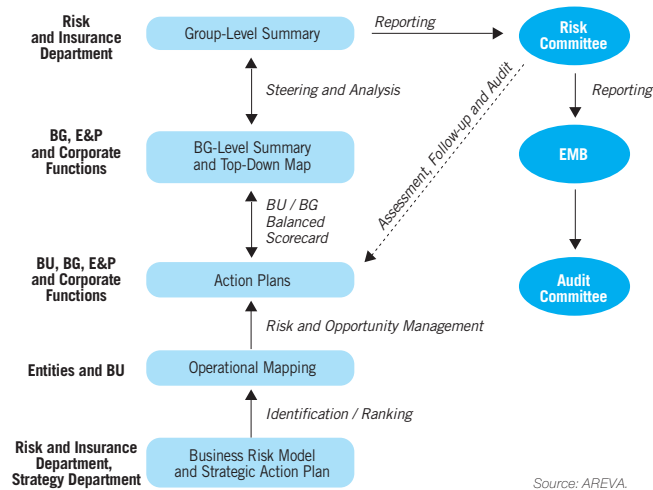
The notion of risk applies to the activities of each of the Group's entities, to its facilities and the operation of those facilities (management of normal risks affecting performance, based on prior decisions, and of risks affecting a specific situation), and to the company's strategic objectives and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

4.1. Risk management and coverage

4.1.2. Risk coverage and insurance

→ RISK MANAGEMENT PROCESS OF THE AREVA GROUP



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 Group's Executive Management Board is then informed of the status of action plans and decides which risks affect the Group's strategic objectives.

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 industrial 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;
- settles claims with the subsidiaries involved.

4.1. Risk management and coverage

4.1.2. Risk coverage and insurance

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. Thirdly, 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.

Moreover, the policies exclude coverage of damages pursuant to 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 legally entitled. Fines and penalties levied against directors and officers are also excluded, as well as claims for losses due to pollution, asbestos or toxic mold. Additionally, 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 removal 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 injury, 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. The level of insurance coverage for civil liability is a function of the quantification of risk that may reasonably be expected by the Group, identified by the operating units and the Department of Risk and Insurance:

- particularly during risk mapping;
- and the coverage available on the insurance market.

Insurance for facilities and construction sites

In 2010, the Group split the AREVA multiline policy into two separate policies, one for property and business interruption coverage, the other for all risk installation and testing coverage.

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

Losses at completion on EPR™ reactor contracts

In 2006, the Group bought an insurance policy to cover the risks of losses at completion on sales contracts for five international EPR™ reactors (including OL3 in Finland and Taishan in China), beyond a certain deductible and with a cap on coverage. The provisions for losses at completion are described in Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2011*, Note 24. *Other provisions.*

Coverage relating to nuclear facility operations

For a description of insurance taken out related to nuclear facility operator activities, see Section 4.3.1.8.

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 2012

The insurance policies will be renewed in April 2012.

→ 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 negative 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") 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 Eurodif, 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, whether classified as regulated nuclear facilities in France or their corollaries in other countries, are listed below.

Location	Business unit	Legal entity holding the license	Description
Front End Business Group			
Malvési, France	Chemistry	Comurhex	Packaging and storage of radioactive substances
Tricastin, France	Chemistry	Comurhex	Preparation of UF ₆
Tricastin, France	Chemistry	AREVA NC	Conversion of uranyl nitrate into uranyl sesquioxide
Tricastin, France	Chemistry	AREVA NC	Conversion of enriched uranium-bearing materials (U ₃ O 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 Business Group			
Maubeuge, France	Equipment	Somanu	Nuclear maintenance workshop
Back End Business Group			
Veurey, France	Nuclear Site Value Development	SICN	Fuel fabrication plant (undergoing decommissioning)
	Recycling Nuclear Site Value Development		
La Hague, France	Value Development	AREVA NC	Used fuel treatment plants and liquid effluent/solid waste treatment facilities
Marcoule, France	Recycling	MELOX SA ⁽¹⁾	MELOX MOX fuel fabrication plant

(1) MELOX SA was licensed to operate this facility in lieu of AREVA NC by the French decree no. 2010-1052 of September 3, 2010, which came into effect by a decision of the French nuclear safety authority ASN of December 7, 2010 (published in the Official Bulletin on December 9, 2010).

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. For example, the purpose of Directive no. 2009/71/Euratom of June 25, 2009 establishing a Community framework for nuclear facility safety is to establish a Community framework to maintain and promote the continuous improvement of nuclear safety and of its regulations. Members States retain the authority to adopt measures to ensure a high level of nuclear safety.

In France, the regulated nuclear facilities (*installations nucléaires de base*, INB) operated by the Group are regulated under the provisions of the TSN Law and under the decree no. 2007-830 of May 11, 2007 related to the nomenclature of regulated nuclear facilities and the so-called "procedural decree" no. 2007-1557 of November 2, 2007, which together constitute the legal framework applicable to regulated nuclear facilities. The Group's nuclear facilities are strictly regulated under this 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. Violations of the TSN Law entail administrative and criminal penalties. Every year, each regulated nuclear facility operator must submit a report on measures taken in respect of nuclear safety and radiation protection. This report is made public and is sent to the local information

commission (CLI) and to the Senior Committee for Transparency and Information on Nuclear Security (HCTISN).

Regulated nuclear facilities are monitored closely by the French nuclear safety authority ASN. Restructured under the French Nuclear Safety and Transparency Law of June 13, 2006 ("TSN Law"), ASN is now an independent administrative authority led by a college of five members. This authority controls nuclear safety and radiation protection to protect workers, patients, the general public and the environment from the risks related to the use of nuclear technology. Similar provisions govern regulated nuclear defense facilities (INBS) that the Group operates in France (article R. 1333-37 *et seq.* of the French Defense Code).

Operations abroad are subject to the same type of rigorous control, the US 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. Under the terms of Articles L. 511-1 *et seq.* and R. 512-1 *et seq.* of the French Environmental Code, Group facilities that may represent hazards or drawbacks for public health, safety and security, or for the protection of nature and the environment, are subject to prior reporting to the Prefecture, 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 of 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. In France, radiation protection regulations are governed by the provisions of the Labor Code and the Public Health Code. The Public Health Code sets the maximum added exposure from nuclear operations to members of the public at 1 millisievert (mSv) per year. The Labor Code sets the maximum exposure to workers in facilities that conduct nuclear operations at 20 mSv per year.

Other national and international provisions govern:

- the protection and safeguarding of nuclear materials, in particular the Convention on the Physical Protection of Nuclear Materials of October 28, 1979 and Articles L. 1333-1 through L. 1333-14, R. 1333-1 through R. 1333-36 and R. 1333-70 through R. 1333-78 of the French Defense Code;
- 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 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 for end-of-lifecycle operations is explained in Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2011*, Note 13. *End-of-lifecycle operations*.

Regulations governing dismantling

The legal framework governing dismantling operations performed in France primarily derives from the TSN Law. 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 currently operates eighteen regulated nuclear facilities, three of which are officially in final shutdown/dismantling status, and one nuclear defense facility.

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 4.3.1.6.

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 Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management of September 5, 1997.

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. 541-1, paragraph 3 of the French Environmental Code).

Article L. 542-2-1 of the French Environmental Code authorizes the treatment in France of foreign used fuel and radioactive waste in French facilities under certain conditions, including the signature of multilateral agreements indicating an estimated schedule for the receipt and treatment of these substances. Every year, the operator submits a report inventorying these substances to the minister of Energy. The decree no. 2008-209 of March 3, 2008 on procedures applicable to the treatment of foreign used fuel and radioactive waste specifies these conditions.

Article 20 of French program law no. 2006-739 of June 28, 2006 on the sustainable management of radioactive materials and waste 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, Article 23 of this law provides for financial penalties in the event of a failure to comply with all of the obligations related to dismantling expenses. This mechanism was supplemented in particular by the decree no. 2007-243 of February 23, 2007 on the securitization of the funding of nuclear 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 a risk of default by customers for the payment of its products and services. Except when customers deposit funds to cover the Group's expenses during the contract implementation phase, the Group is exposed to the risk of a customer's inability to accept delivery or to the risk of default on payments during delivery. In such instances, the Group may not be able to recover expenses incurred for the project or attain the operating margins contemplated when the contract was concluded.

In connection with certain disputes set out in Section 20.8. *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 non-payment risk 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. Legal risk4.2.3. *Material risks and disputes involving AREVA***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 adjusted 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, adjusted based only on general indices, could be affected by certain excess costs that cannot be charged to customers, including unanticipated increases for certain types of costs, technical difficulties, subcontractor default or a suboptimal Group organization. The performance of this type of contract could, therefore, reduce the Group's anticipated profitability, or even cause an operating loss.

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 our 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. MATERIAL 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.

The legal and arbitration proceedings involving AREVA are set out in Section 20.8. *Legal and arbitration proceedings.*

→ 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 (i) uranium supply and conversion, (ii) uranium enrichment, (iii) fuel fabrication, (iv) reactor design, construction, maintenance and performance improvement, (v) treatment and recycling of used fuel and reusable materials, (vi) waste packaging and storage, and (vii) logistics and transportation associated with these operations.

By nature, these operations carry risks. 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 toxic chemical compounds in significant quantities 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 plants of the Group's Chemistry and Enrichment business units 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.

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. The radioactive materials are surrounded by a series of static barriers (enclosures) and dynamic barriers (ventilation), associated with specific practices, which taken together ensure their containment. The dynamic containment system is adjusted and inspected before start-up, then checked periodically to verify its efficiency.

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 also applies this maximum limit to all of its personnel and subcontractors at all of its facilities and in all of its operations, regardless of the country in which they are found.

The principal protection measures for fixed sources involve the definition of workstation design specific to the nature of the radiation, the modes of exposure and the nature of the work to be performed, to which exposure limits are assigned. To ensure compliance with the regulatory limits and internal requirements, the duration of presence per operation is proportionate to the measured dose rate. 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 possible.

4.3. Industrial and environmental risk

4.3.1. Nuclear risk

For mobile sources, workstations are designed to limit the time spent by personnel or the presence of the source and include shielding. 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, due to the risk of internal contamination linked to the presence of radon.

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, each operator and worker qualified for work in a radioactive environment receives thorough medical and radiological follow-up. In accordance with French regulations, regular training sessions are held to maintain their knowledge at the requisite level. This same principle applies in facilities outside France.

The results recorded (see Section 17. *Employees*) testify to the good level of radiation protection control in the Group, thanks to the above-mentioned practices.

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 or “criticality control modes”. This limitation is factored into the design (equipment geometry) or in operating requirements (mass limitations, etc.).

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 derailling 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 designing and installing safety systems (load limiters, secure drive trains, etc.) and by applying stringent prevention rules (preventive maintenance, inspections, operator certification, etc.).

The consequences of a possible handling failure may be anticipated and reduced by limiting the height of transfers and designing casks that withstand a fall and dissipate energy.

4.3. Industrial and environmental risk

4.3.1. Nuclear risk

Fire

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

Risk prevention consists of preventing flammable materials, combustives 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, for example, by compartmentalizing fire-resistant areas to limit fire propagation, using fire-retardant materials, insulating ventilation systems, and installing a remotely-operable fire extinction system. In addition, firefighters must be able to intervene within a short interval of time to prevent radiological impacts outside the buildings.

Internal explosion

The risk of explosion is 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 designed to collect any products that may have been released.

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 UF₆

During enrichment operations, uranium is handled in the chemical form of UF₆ (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 people and animals.

In view of the large quantities of UF₆ 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 facilities based on the "design basis earthquake", and civil works in particular must be calculated accordingly. 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.

4.3. Industrial and environmental risk

4.3.1. Nuclear risk

Each site is located:

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

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

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

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

Adverse meteorological conditions

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

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

External flooding

The possible causes of external flooding (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.

Supplemental Safety Assessments (SSA)

In September 2011, following the March 2011 events at the Fukushima Daiichi nuclear site in Japan and in accordance with requests from the French nuclear safety authority ASN, AREVA submitted supplemental safety assessment reports for the nuclear facilities concerned: the La Hague, Tricastin, FBFC Romans and MELOX sites. These assessments consisted of a targeted reassessment of safety margins, focusing first and foremost on the effects of extreme natural events on the Group's facilities. They also dealt with the loss of safety functions (power supply systems and cooling systems) and the management of serious accidents that might occur under such circumstances.

The supplemental safety assessments confirmed the strength of the used fuel recycling and fuel fabrication plants of AREVA group in France. Additionally, the significant capital spending program launched in 2007 in the front end of the cycle and the new facilities gradually placed in service meeting the most recent and demanding regulations in terms of nuclear safety, industrial safety and radiation protection were found to be equally robust.

An analysis of the management of serious, simultaneous accidents demonstrated the value of continuing the approach initiated with these assessments. AREVA therefore decided to undertake a crosscutting study on crisis management in the event of a natural disaster simultaneously affecting several facilities of the same site. The points examined include the means of communication and information, the identification of resources and skills in the Group that could be mobilized and pooled, and the measures to be taken to strengthen the training of responders and their ability to manage a situation of this nature for an extended period of time.

To strengthen French facilities in the event of extreme situations, the ASN will publish in the spring of 2012 a series of directives to be implemented by the operators, including the definition of a “hard core” of nuclear safety, and measures to strengthen the national emergency management system. Deployment of these measures will begin this year and will be spread out over several years.

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.

By regulation, if the materials transported exceed a regulatory threshold, the cask must, under normal operating and accidental conditions:

- ensure the containment of the materials;
- maintain sub-critical conditions when fissile materials are transported;
- control radiation intensity; and
- provide 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 4.3.1.8. *Special coverage relating to nuclear facility operations.*

4.3. Industrial and environmental risk

4.3.1. Nuclear risk

4.3.1.5. NON-PROLIFERATION AND PROTECTION OF NUCLEAR MATERIALS

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. Compliance with these requirements is regularly verified, primarily by inspectors from the IAEA and Euratom and from the office of the Senior Defense Official.

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

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

4.3.1.6. RISKS RELATED TO FACILITY DISMANTLING AND SITE RECLAMATION**THE GROUP MEETS ITS END-OF-LIFECYCLE OBLIGATIONS FOR ITS NUCLEAR FACILITIES, FOR RECLAMATION OF ITS MINE 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. Lessons learned from facility maintenance contribute to the safety of similar dismantling operations, as do pilot dismantling projects used to prepare for final dismantling. 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 waste characterization and the impacts of dismantling work.

The Nuclear Site Value Development business unit takes charge of the operating aspects of facility dismantling.

In France, Article 20 of the Program Law of June 28, 2006 on the sustainable management of radioactive materials and waste and decree no. 2007-243 of February 23, 2007 regarding the protection of the funding of nuclear expenses provide a mechanism to ensure that operators of regulated nuclear facilities have the necessary assets to finance long-term costs to dismantle the facilities and/or manage used fuel and radioactive waste. 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 6.026 billion euros on a discounted basis, including a third party share of 226 million euros, are described in Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2011*, 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 for the year ended December 31, 2011*. Note 13. *End-of-lifecycle operations*). However, no assurance can be given that existing provisions will be sufficient to meet future expenses. The actual costs borne by the Group could be higher than initially estimated, especially considering changing legislation and regulations applicable to nuclear operations and environmental protection, their interpretation by the courts, and the growing body of scientific and technical knowledge. These costs also depend on regulatory decisions, in particular concerning dismantling methods, and on the choice and cost of solutions for the final disposal of certain types of radioactive waste (see Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2011*, 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'Énergie et du Climat (DGECE, the French government's office of climate and energy) tasked a working group with performing a new cost assessment for deep geologic disposal. The working group, led by the DGECE, 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 cost estimate could be substantially higher than the estimate published previously by the same authority.

Also, any reduction or increase of the discount rate, which was set at 5% at year-end 2011 (including 2% for inflation) and any shortening or extension of the schedule for dismantling would require the Group to record an increase or decrease in the value of the provisions (for more information, see Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2011*, Note 13. *End-of-lifecycle operations*).

4.3. Industrial and environmental risk

4.3.1. Nuclear risk

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

The Group is exposed to a risk of insufficient value of assets held to fund its end-of-lifecycle operations.

To meet its future end-of-lifecycle obligations, the Group had financial assets totaling 5.287 billion euros at December 31, 2011, including 646 million euros in third party receivables and the balance in the portfolio of financial instruments (equities, equity funds and bond funds).

At the end of 2011, these financial assets consisted of 63% interest rate instruments and 37% equities. Considering the intrinsic volatility of equity markets, the value of the portfolio could decrease and/or provide a return insufficient to fund the Group's end-of-lifecycle operations. The Group would have to use other financial resources to fund these operations, which would result in a significant negative impact on its net income and financial position.

The sensitivity of the value of the portfolio to variations in the equity markets and/or interest rates is described in Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2011, Note 13. End-of-lifecycle operations.*

4.3.1.7. 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 malfunctions; and
- design and implement means of limiting the consequences of an accident 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), which aims

to ensure a very high level of nuclear safety throughout the lifecycle of its facilities and services operations.

The Charter is based on:

Organizational principles

The general management of each subsidiary, and particularly each nuclear operating subsidiary holding an operating license (see table 4.2.1.1.), sets up an organization consistent with the laws of the country in which it operates based on the principle of the operator's prime responsibility for nuclear safety. Each site 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. In addition, a corps of inspectors in the Group's Safety, Health, Security and Environment Department carries out an annual nuclear facility inspection program; the 2011 program was approved by the Executive Committee at the beginning of the year (see the section hereunder, *General Inspectorate and nuclear safety*).

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. Its objective in this regard is to reduce the individual dose received by workers at its facilities (employees of the Group and of its subcontractors) or performing services at customer sites, regardless of the country (including countries where the laws are less demanding) to a maximum of 20 mSv per year. The same continuous improvement initiative applies to the reduction of impacts from liquid and gaseous effluents (see Appendix 3. *Environmental report, Section 2. Environmental risk management and prevention*).

Reporting system

AREVA endeavors to provide reliable and relevant information enabling an objective assessment of the status of nuclear safety in its facilities. Nuclear events are evaluated according to the International Nuclear and Radiological Event Scale (INES), including in countries where no such requirement exists (see Appendix 3. *Environmental report, Section 2. Environmental risk management and prevention*). The INES ranks the severity of events 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, 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 analyses of events, and by various elements identified by nuclear safety specialists.

Also, pursuant to 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.

Organization

In the fields of nuclear safety and radiation protection, the Safety, Health, Security and Environment Department (D3SE) defines, leads and coordinates nuclear safety and radiation protection policy and programs within the Group. It recommends and implements an annual nuclear facility inspection program. It also coordinates regulatory intelligence in the fields of nuclear safety and radiation protection and provides leadership for the network of related experts.

The 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.

General Inspectorate and Nuclear Safety department

The General Inspectorate for Nuclear Safety was created in 2001 and is now part of the Safety, Health and Environment Department. It is headed by the Inspector General, who reports directly to the Executive Board. Its mission is to avert all risks likely to alter nuclear safety and to anticipate changes in regulations, relying on:

- a corps of inspectors, which performs independent verifications of the operating organization of the facilities;
- a corps of nuclear safety specialists, which coordinates a network of experts at the sites on the topics of waste, fire hazards, radiation protection, human and organizational factors, etc.

4.3.1.8. 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. These conventions are transposed into the national law of the signatory countries (in France, Law No. 68-943 of October 30, 1968, as amended; in Germany, the law of December 23, 1959, as amended). In the United States, the Price Anderson Act establishes a similar 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 and Brussels Conventions

For purposes of information, France has set a maximum nuclear civil liability amount of 91.5 million euros per nuclear accident in a 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. In France, the Law of July 5, 2006 approves the ratification of the protocols of February 12, 2004. In addition, the TSN Law contains provisions which amend the French law no. 68-943 of October 30, 1968.

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

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

4.3. Industrial and environmental risk*4.3.2. Chemical risk management*

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 (reference: US Nuclear Regulatory Commission – June 9, 2011 update)

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

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

- 1) Facility regulated by the NRC: only nuclear power plants with a nominal capacity of 100 MWe or more and certain research and test reactors are required to have financial protection. The PAA indemnification process provides access to up to 9.7 billion US dollars of protection under a two-tier system:
 - the first tier corresponds to insurance (or similar financial protection) acquired by the nuclear power plant operator on the private nuclear insurance market for 300 million US dollars in coverage;
 - the second tier corresponds to a guarantee fund managed by the NRC, which provides that, in the event of a nuclear accident, each nuclear operator must pay a share equal to 111.9 million US dollars per reactor if the first tier of 300 million US dollars is exceeded. Currently, based on 104 reactors licensed by the NRC, the guarantee fund would total about 11.6 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 of 11.6 billion US dollars, 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 Assuratomie 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 and 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. All of these facilities

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's Pierrelatte site, Comurhex's Malvési and Pierrelatte sites, and CEZUS's Jarrie site. The ANF Lingen site is regulated as both a nuclear and a high-threshold Seveso site due to its storage of hydrofluoric acid (HF).

4.3. Industrial and environmental risk

4.3.2. Chemical risk management

Legal entity/Location	Detail of regulated operation	Threshold
AREVA NC Pierrelatte	Storage of 320 MT of HF	20 MT
Comurhex Malvési	Storage of 180 MT of HF	20 MT
Comurhex Pierrelatte	Storage of 310 MT of potassium bifluoride	20 MT
Comurhex Pierrelatte	Storage of 101 MT of HF	20 MT
CEZUS Jarrie	Storage 2,950 MT of substances hazardous to the environment	500 MT
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 governing the organization, procedures, products and other resources was set up to improve risk management.

Similarly, hazards studies are updated on a regular basis. They are the foundation of 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 site-related risks in the event of deviation from operating parameters and must demonstrate measures to reduce the probability and impacts of an accident to the lowest achievable level based on current knowledge and practices, taking into account the vulnerability of the facility's environment. The administration generally requests clarifications and additional information concerning these studies, and reputable independent experts may occasionally be asked to give an opinion on all or part of a document.

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

With respect to insurance, AREVA NC, Comurhex and CEZUS facilities are covered by the civil liability program taken out by the AREVA 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 will help improve knowledge on the properties of chemical substances and the risks associated with their use.

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

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

An approach to replacing the substances of most concern for health and the environment listed in appendix XVI of the regulation must be documented and submitted to the European Chemicals Agency for approval. A preliminary list of substances covered by this procedure was published in October 2008 and updated in January 2009, June 2010 and January and June 2011. A first version of appendix XIV including six substances was published in February 2011. AREVA is directly concerned by only two of these substances; an R&D 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 in-house organization was set up consisting of a REACH steering committee at the corporate level (Safety Health Security Environment Department, Purchasing Department, Legal Affairs Department and Research & Development Department), 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 all substances produced or imported in quantities of more than one metric ton. A call order agreement was signed with a service provider to help the Group prepare the registration documents. Eleven applications for registration, including three as lead registrant, were filed before the first deadline of November 30, 2010.

4.4. Operational risk

4.4.1. *Risk of interruption in the supply chain for products or services*

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 measures designed to ensure the health and safety of its own personnel and subcontractor personnel (see Section 17. *Employees*). However, by definition, the risk of occupational disease cannot be excluded. Yet the occurrence of disease could result in legal action against the Group or in claims for compensation, either from employees or former employees, or from buyers of the Group's businesses, in the event that occupational disease as the result of a previous exposure should arise in employees prior to their transfer with the business. These actions could result in the payment of damages.

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

→ 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. Although major infrastructure spending has been announced in connection with economic stimulus measures adopted by a certain number of countries, it is not possible to predict when those measures will be implemented or the extent of their impact.

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, 2011, EDF France represented about one quarter 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.

Two of these contracts were recently renewed, the first in 2008 for enrichment services and the second in early 2010 for used fuel treatment. In addition, the conditions for shutting down the Georges Besse I enrichment plant were defined, and plant shutdown is now planned to occur in May 2012.

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

The Group's ten biggest customers, including the EDF group, represented about half of its revenue at December 31, 2011.

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 OR SERVICE CHAIN

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 lifecycle, 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.

4.5. Risk related to major projects4.5.1. *New reactor construction contracts***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.

For instance, electricity represents approximately 60% of the cost of enrichment by gaseous diffusion. That electricity is supplied in large part by the Group's largest customer at this time, the EDF group, either

to cover its own requirements for the enrichment services the Group provides to that customer (see Section 6.3. *Overview and strategy of the Group*), or in connection with the electricity supply contract for enrichment services that the Group exports.

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

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

→ 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. For additional information on the OL3 project, see Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2011*, Note 24, and Section 20.8. *Legal and arbitration proceedings*.

4.5.2. AREVA'S INDUSTRIAL PROJECTS**THE GROUP CANNOT ENSURE THAT INDUSTRIAL PROJECTS SUCH AS THE GEORGES BESSE II PROJECT, THE COMURHEX II PROJECT OR THE 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, such as Georges Besse and Georges Besse II, or Comurhex and Comurhex II, 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 Committee for centralized management of exposure to foreign exchange, commodity, rate and liquidity risks.

In the Finance department, the department of Financial Operations and Treasury Management (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 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. For more information, please refer to Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2011, Note 31.*

4.6.1. LIQUIDITY RISK

The Group's Treasury Management department centralizes the management of the liquidity risk. The Treasury Management department 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, 2011, Note 31.*

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

In 2011, the Group:

- acquired Siemens' interest in AREVA NP SAS in March for the total amount excluding interest of 1.679 billion euros and received 648 million euros in payment of a penalty from Siemens in May;
- sold its interest in STMicroelectronics in March for 696 million euros;
- fully reimbursed the syndicated loan in the amount of 350 million Canadian dollars from AREVA Resources Canada in October;
- raised 500 million euros in October through a six-year bond issue maturing on October 5, 2017, at a rate of 4.625%;

- reclassified its interest in Suez Environment in November to the AREVA NC fund earmarked for funding of end-of-lifecycle operations, generating 80 million euros in cash.

On December 15, 2010, the credit rating agency Standard & Poor's issued a negative credit watch for AREVA's long-term credit rating (BBB+). The agency subsequently removed the negative credit watch on April 15, 2011, and then reinstated it on August 5, 2011. Finally, on December 20, 2011, the agency downgraded AREVA's long term rating to BBB- with a stable outlook; the short term rating was downgraded from A2 to A3.

The liquidity risk for 2012 is covered by:

- a cash position of more than 1.2 billion euros, net of very short term repayments of commercial paper;
- unused confirmed bilateral lines of credit maturing in one year in the amount of 1.5 billion euros, in addition to an unused 2-billion-euro syndicated line of credit with a little more than two years remaining to maturity;
- the "Action 2016" strategic action plan, which sets objectives for asset disposals in a minimum cumulative amount of 1.2 billion euros during fiscal years 2012 and 2013.

4.6. Liquidity and market risk

4.6.2. Foreign exchange risk management

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-Front End Business Group: these Business Groups' facilities are located around the globe and its operations are denominated primarily in US dollars, which is the world reference currency for the price of natural uranium and for conversion and enrichment services. As a result, 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 Business Group's exposure to foreign exchange risk is minimal. Most sales outside the euro zone are denominated in euros.

The value of the euro compared with the US dollar increased by an average of 5% in 2011 compared with 2010. In 2011, the impact of foreign exchange variations on the Group's operating income was a gain of 73 million euros, compared with a loss of 20 million euros in 2010.

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 department of Financial Operations and Treasury Management (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, 2011*, Note 31. *Market risk management*.

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 Committee, 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, 2011*, Note 31. *Market risk management*.

4.6.4. RISK FROM EQUITY INVESTMENTS**THE GROUP HOLDS OF 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.

At December 31, 2011, these holdings were of four types:

- Investments in associates: these primarily concern MNF (see Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2011*, Note 14. *Investments in associates*);

4.6. Liquidity and market risk

4.6.6. Counterparty risk related to the use of derivatives

- 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, 2011*, Note 13. *End-of-lifecycle operations*);
- other long-term investments: these are minority interests, most notably Alcatel and Japan Steel Works (see Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2011*, Note 15. *Other non-current financial assets*).
- assets of discontinued operations: Eramet.

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 Section 20.2. *Notes to the consolidated financial statements for the year ended December 31, 2011*, Notes 13, 14 and 15).

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 and Mining Business Groups. Hedges were set up in the Mining Business Group to partially hedge the gold production of its subsidiary La Mancha.

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. Gold hedges were recognized under trading at December 31, 2011. The majority of the other 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, 2011*, Note 31. *Market risk management*.

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

The limits allowed for each counterparty are determined based on its rating and the type and maturity of the instruments traded. Assuming the rating of the counterparty is not downgraded earlier, the limits are reviewed at least once a year and approved by the Group's Chief Financial Officer. The limits are verified in a specific report produced by the internal control team of the department of Treasury Management. During periods of significant financial instability that may involve an increased risk of bank default, which may be underestimated by ratings agencies, the Group 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.

4.6.7. URANIUM RISK

4.6.7.1. URANIUM RESERVES

The Group's uranium reserves and resources are based on estimates developed by the Group using 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 evaluation 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.

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

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

4.6.7.2. PRICE FLUCTUATIONS

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

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

If the prices of various materials and services, including natural uranium and conversion and enrichment services, 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.

→ 4.7. Other risks

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 event 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 ASN report of January 3, 2012 on the supplemental 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 lifecycle of existing power plants;
- changes in policies for the end of the cycle, particularly as concerns used fuel recycling;
- a decrease in subsidies for renewable energies;
- 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.

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 are also competing with other energy sources, whether fossil fuels – particularly oil, natural gas, and coal – or hydropower. These energy sources could become more attractive and cause demand for nuclear-generated electricity to drop.

In the Renewable Energies Business Group, the 2011 mapping campaign undertaken with the operating units identified the risks inherent in its growing industrial operations, classifying them into four major groups:

- 1) risks related to the level of maturity and competitiveness of our products, which have not yet been fully proven in a production environment;
- 2) risks associated with the lack of a representative installed base sufficient to precisely anticipate defects and malfunctions over the medium and long term and to set up the necessary provisions;
- 3) risks associated with the ramp-up of the supply chain and assembly lines, of internal/supplier quality control, and of project execution;
- 4) risks associated with the loss of key technical skills.

Since 2010, the Business Group has defined and deployed a certain number of mitigation and corrective action plans in its business units, including the Deliver Projects and Deliver Products programs, whose objective is to ensure project completion, to secure our products throughout their lifecycle, to ensure the strength and quality of our value chain, and to implement 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

4.7. Other risks

4.7.3. Human resources risk

overvalued acquisitions; insufficient vendor warranties; underestimated operating costs and other costs; disagreements with partners (particularly in joint ventures); potential integration difficulties with personnel, operations, technologies or products; lack of performance on initial objectives; or third-party challenges to these strategic alliances or mergers and acquisitions, based on their impact on those parties' competitive positions.

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

THE FRENCH STATE HOLDS THE MAJORITY OF AREVA'S SHARE CAPITAL AND VOTING RIGHTS, DIRECTLY OR INDIRECTLY. LIKE ANY MAJORITY SHAREHOLDER, IT HAS THE POWER TO CONTROL AREVA'S STRATEGY AND TO MAKE MOST OF THE DECISIONS IN ANNUAL GENERAL MEETINGS OF SHAREHOLDERS.

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

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, including a training initiative.

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

In connection with the Group's development, reorganizations or restructuring, potentially accompanied by labor protests, could disrupt the Group's operations and impact its financial position.

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 Paris.

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

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

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

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.

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.

REGISTERED OFFICE

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

MILESTONES SINCE AREVA'S ESTABLISHMENT IN 2001

2002

January 31, 2002: Acquisition of Duke Engineering & Services, a US nuclear engineering and services company.

2003

April 30, 2003: The Connectors division sells its Military Aerospace Industrial (MAI) business to streamline its operations.

November 24, 2003: AREVA signs an agreement with URENCO giving AREVA access to the world's most efficient uranium enrichment technology: gas centrifugation.

2004

January 9, 2004: Acquisition of the Transmission & Distribution division from the Alstom group. The European Commission and other cognizant competition authorities approve the transaction.

April 28, 2004: AREVA acquires a controlling interest in Katco in Kazakhstan (uranium ore mining).

2005

March 8, 2005: Frédéric Lemoine replaces Philippe Pontet as Chairman of the AREVA Supervisory Board.

September 15, 2005: AREVA and Constellation Energy establish the joint venture UniStar Nuclear to market the next-generation EPR™ reactor in the United States.

September 27, 2005: AREVA acquires a 21.1% equity interest in REpower, a German wind turbine manufacturer.

November 3, 2005: FCI, the connectors subsidiary, is sold.

2006

March 1, 2006: All of the Group's first-tier subsidiaries adopt the AREVA name as part of their trade names. Cogema's trade name becomes AREVA NC, Framatome ANP becomes AREVA NP, and Technicatome becomes AREVA TA. AREVA is now the sole brand for all communication activities.

5.1. History and development of the issuer*5.1.5. Important events in the development of the issuer's business*

May 2, 2006: The Annual General Meeting of Shareholders renews the terms of the Supervisory Board members. Frédéric Lemoine's term as Chairman of the Supervisory Board is renewed for five years. The Supervisory Board renews the term of Mrs. Anne Lauvergeon as Chief Executive Officer and the terms of Messrs. Gérald Arbola, Didier Benedetti and Vincent Maurel as members of the Executive Board.

July 3, 2006: AREVA acquires a 50% interest in the Enrichment Technology Company (ETC) from URENCO. ETC develops, designs and manufactures uranium enrichment equipment.

September 8, 2006: AREVA NP and France Essor sign an agreement finalizing AREVA's acquisition of Sfarsteel, one of the world's largest producers of very large forgings located in the Creusot area of Burgundy, France.

October 5, 2006: The Group creates a new business unit dedicated to renewable energies.

2007

March 22, 2007: The Supervisory Board appoints Luc Oursel to the Executive Board to replace Vincent Maurel.

May 24, 2007: Following AREVA's decision not to outbid Suzlon for the takeover of REpower, the two groups enter into a cooperative agreement by which AREVA will maintain its shareholding in REpower and will have a guaranteed share price in the event that it decides to withdraw from REpower.

August 20, 2007: Acquisition of all of the share capital of UraMin Inc., a Canadian uranium mining company, which is renamed AREVA Resources Southern Africa.

September 3, 2007: AREVA and MHI announce the establishment of the ATMEA joint venture to develop a medium-power reactor.

September 17, 2007: AREVA acquires 51% of Multibrid, a wind turbine designer and manufacturer based in Germany that specializes in high-output offshore turbines.

2008

January 17, 2008: AREVA announces the acquisition of 70% of Koblitz, a Brazilian supplier of integrated solutions for power generation and cogeneration (heat and electricity) from renewable sources. The company founder, Luiz Otavio Koblitz, and top executives retain 30% of the share capital.

March 20, 2008: SGN, a subsidiary of AREVA, and Technip form a joint venture called TSU Projects to augment engineering teams specialized in managing major mining projects. The Group's plans call in particular for stepping up the Imouraren project in Niger and the Trekkopje project in Namibia.

April 3, 2008: AREVA strengthens its presence in the United Kingdom with the acquisition of the British firm RM Consultants, which specializes in risk management and nuclear safety.

June 3, 2008: AREVA and Suez seal an agreement by which Suez acquires a 5% share in SET, the company in charge of the Georges Besse II enrichment plant.

June 5, 2008: AREVA sells its 29.95% interest in the wind turbine manufacturer REpower to Suzlon. More than 350 million euros in value is created by this transaction.

September 25, 2008: AREVA and Duke Energy announce the establishment of the joint venture ADAGE, which will develop biomass power plants in the United States. AREVA will design and build the plants, while Duke Energy will operate them.

October 23, 2008: AREVA and Northrop Grumman Shipbuilding announce the establishment of a joint venture to build and operate a heavy component manufacturing plant in the United States.

November 4, 2008: AREVA and Japan Steel Works (JSW) sign an agreement that secures the supply chain for large forgings for AREVA through 2016 and beyond. Large forgings are vital to nuclear equipment supply. The Group also announces the purchase of a 1.3% equity interest in JSW, as per its agreement with JSW's management.

2009

January 5, 2009: The operating permit is granted for the Imouraren site in Niger and the mining agreement is signed with the State of Niger. The share capital of Imouraren SA, the company created in March to operate the deposit, is now split between AREVA (56.65%) and the State of Niger (33.35%), with the remaining 10% going to the South Korean consortium of Korea Electric Power Corporation (Kepco) and Korea Hydro & Nuclear Power (KHNP) pursuant to the agreement between AREVA and Kepco signed in late December 2009.

January 26, 2009: Siemens informs AREVA of its decision to exercise the put option on shares of AREVA NP, of which Siemens owns 34%. Discussions have begun pursuant to the Shareholders agreement of January 30, 2001. A court-ordered independent appraisal is carried out to define the terms for the transfer of shares.

February 17, 2009: AREVA, Mitsubishi Heavy Industries Ltd (MHI), Mitsubishi Materials Corporation (MMC) and Mitsubishi Corporation (MC) sign an agreement for the design, fabrication and sale of fuel in Japan. AREVA holds 30% of the share capital, while MHI holds 35%, MMC holds 30% and MC holds 5%. The new company, "New MNF", is established on April 1, 2009.

In March 2009: AREVA TA raises its equity ownership of Corys Tess from 33% to 66%, with the EDF group maintaining a minority share. Corys Tess is a European leader in simulators for the energy field.

AREVA signs an agreement with the Japanese companies Kansai and Sojitz on March 30 and with KHNP of South Korea on June 15 whereby each company acquires a 2.5% interest in the share capital of Société d'Enrichissement du Tricastin (SET), the holding company that operates the Georges Besse II enrichment plant.

April 30, 2009: During the meeting of the Supervisory Board, Jean-Cyril Spinetta is elected Chairman of AREVA's Supervisory Board to replace Frédéric Lemoine and Chairman of the Strategy Committee and of the Compensation and Nominating Committee.

June 30, 2009: The rating agency Standard & Poor's confirms its A-1 rating for AREVA's short-term debt and issues an A rating for its long-term debt, with a stable outlook. This follows the Group's decisions to

5.1. History and development of the issuer*5.1.5. Important events in the development of the issuer's business*

issue new shares, primarily through a capital increase of 15%, and to sell its Transmission & Distribution business and dispose of assets and equity interests in industrial and financial assets, all with the Supervisory Board's approval.

August 12, 2009: AREVA acquires PN Rotor, a German manufacturer of high-tech blades, enhancing its ability to bring value to customers in the particularly dynamic offshore wind market.

September 10, 2009: CEZUS acquires a 33% interest in the Japanese tube manufacturer Zircoproducts. Through this alliance, AREVA will be able to considerably strengthen its market share in Japan while expanding the industrial synergies with its European plants.

September 11, 2009: Following the Supervisory Board's approval on August 31 to establish a Euro Medium-Term Note program (EMTN) in the amount of 5 billion euros and to implement 3 billion euros of it for a period of one year, AREVA launches a first-time bond issue in the total amount of 2.25 billion euros. The success of this first issue is evidenced by the closing of the order books in less than 10 minutes after nearly 17 billion euros are booked. This is followed by a first-time issue of 750 million euros on October 23, 2009.

November 30, 2009: Following the competitive bidding process held in connection with the sale of the Transmission & Distribution business, the Supervisory Board asks that the Executive Board enter into exclusive negotiations with Alstom/Schneider.

December 21, 2009: AREVA and Mitsubishi Corporation agree on the terms of a partnership in Mongolia. AREVA invites Mitsubishi Corporation to participate in the development of its uranium prospecting business in Mongolia, including a possible acquisition of 34% of the shares of AREVA Mongol.

2010

January 20, 2010: AREVA signs an agreement with Alstom and Schneider Electric for the sale of the Transmission & Distribution business.

February 4, 2010: AREVA and Kepco enter into a partnership to develop the Imouraren mine, with plans to expand their cooperation. Under the terms of the agreement, Kepco will acquire an indirect interest of 10% in Imouraren SA, an operating company held jointly by AREVA and the State of Niger. Kepco could take 10% of the production over the life of the mine, which will be used exclusively as fuel for South Korean reactors.

February 8, 2010: AREVA announces the acquisition of 100% of Ausra. Based in Mountain View, California, Ausra offers process steam and power generation solutions based on concentrated solar energy. The acquisition expands AREVA's portfolio of renewable energy solutions to make it a major player in the concentrated solar power market.

February 21, 2010: AREVA and Jordan Atomic Energy Commission (JAEC) sign a historic mining agreement. Under the terms of the agreement, AREVA is granted the right to mine the deposit in Jordan for a period of 25 years.

May 31, 2010: AREVA announces its purchase of the remaining 49% of Multibrind (the Group had acquired 51% of Multibrind's share capital in 2007), a German wind turbine manufacturer, which becomes AREVA Wind, a wholly-owned subsidiary of the Group. The acquisition will enable it to ramp-up production capacity in response to the growth of

this burgeoning industry. This new platform will also include the rotor blade manufacturing division, PN Rotor.

June 7, 2010: The AREVA group finalizes the sale of its Transmission & Distribution business to Alstom and Schneider Electric, pursuant to the competition authorities' approval of the decree issued on the recommendation of the French Commission des participations et des transferts and the conclusion of the information and consultation process carried out with the various work councils involved.

September 8, 2010: AREVA prices and launches a 750-million-euro bond issue with an annual coupon of 3.5% maturing in ten years, on March 22, 2021.

October 12, 2010: AREVA launches the sale of a maximum of 15,362,094 Safran securities, representing 3.65% of the latter's share capital, in connection with a private placement via the accelerated building of an order book reserved for institutional investors.

October 27, 2010: AREVA and Kazatomprom sign an agreement to establish a fuel fabrication joint venture. The new company, which is owned 51% by Kazatomprom and 49% by AREVA, is to build a new fuel fabrication line based on the AREVA design at the Ulba facility in eastern Kazakhstan. Operation of the new 400-ton per year unit is slated for 2014. Ifastar, the joint venture formed in 2009 by AREVA (51%) and Kazatomprom (49%), will market the production.

November 4, 2010: The Japanese utilities Kyushu Electric Power and Tohoku Electric Power each acquire a 1% stake in Société d'Enrichissement du Tricastin (SET), the holding company and operator of AREVA's Georges Besse II enrichment plant.

December 6, 2010: In India, AREVA signs a framework agreement specifying the contractual terms and early studies for an integrated offer combining the construction of two EPR™ reactors and the supply of uranium, fuel assemblies and related services.

December 11, 2010: AREVA's Supervisory Board examines and approves the launch of a reserved capital increase in the amount of 900 million euros, representing 7.2% of the share capital at the conclusion of the transaction, subscribed by the Kuwait Investment Authority (KIA) acting for and in the name of the State of Kuwait in the amount of 600 million euros and by the French State in the amount of 300 million euros.

December 16, 2010: The Fonds stratégique d'investissement (the strategic investment fund, FSI) makes a firm offer to take over AREVA's equity interest in STMicroelectronics. FSI's offer values the STMicroelectronics share at 7 euros, putting the total amount at 695 million euros for a 10.9% equity interest in STMicroelectronics.

December 23, 2010: AREVA wins a 400-million euro contract from Trianel, an association of German utilities, to deliver forty 5 MWe M5000 turbines to the Borkum West II offshore wind farm in the North Sea.

2011

January 25, 2011: AREVA announces the success of the capital increase reserved for investment certificate (IC) holders in the amount of 35 million euros. The subscription began on January 3, 2011 and closed on January 14, 2011. This transaction follows a capital increase reserved for Kuwait Investment Authority (KIA) and the French State, which occurred on December 28, 2010. With these two transactions, the Group raised a combined total of 935 million euros.

5.1. History and development of the issuer*5.1.5. Important events in the development of the issuer's business*

February 7, 2011: The construction by AREVA of the Olkiluoto 3 (OL3) EPR™ power plant in Finland meets another important milestone with the successful installation of the four steam generators in the reactor building.

March 15, 2011: In his report, the independent expert puts the value of Siemens' 34% share in AREVA NP as of the first quarter of 2009 at 1.62 billion euros. On January 27, 2009, Siemens had announced its decision to exercise its option to sell its 34% share in AREVA NP to AREVA.

April 13, 2011: AREVA wins a major contract to install a concentrated solar power plant coupled with the Kogan Creek coal-fired power plant operated by CS Energy in Australia. Subsidized by the governments of Australia and Queensland this project is the world's largest solar augmentation project for a coal-fired power plant.

April 27, 2011: The Group's Shareholders adopted the 21 resolutions submitted for a vote by the Supervisory Board. In particular, the Shareholders approved the corporate and consolidated financial statements for 2010 and approved all proposed resolutions regarding current transactions involving AREVA's share capital. Jean-Cyril Spinetta was reelected Chairman of the Supervisory Board.

May 17, 2011: AREVA and the CEA announce the success of the Simplified Public Offer to exchange AREVA Investment Certificates against listed AREVA ordinary shares, which was open from April 19 to May 11, 2011.

May 18, 2011: GDF SUEZ, Vinci and AREVA sign a partnership agreement to build up a competitive, sustainable and job-creating offshore wind industry. The alliance aims to respond jointly to the call for bids announced by the President of the French Republic in January 2011 for the establishment of five offshore wind farms in France.

May 20, 2011: The arbitration court finds that Siemens is in breach of its obligations and orders it to pay 648 million euros in damages to AREVA. This amount is the maximum penalty provided for breach of the Shareholders' agreement entered into by AREVA and Siemens in 2001, i.e. 40% of the value of Siemens' holding in AREVA NP.

May 23, 2011: AREVA announces the buyback of the remaining 30% of AREVA Koblitz, making it a wholly-owned subsidiary of the Group.

May 30, 2011: AREVA's common shares are listed on the NYSE Euronext stock exchange in Paris.

June 21, 2011: AREVA's Supervisory Board approves the appointment of Luc Oursel.

June 30, 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. He appoints Pierre Aubouin, Philippe Knoche, Sébastien de Montessus and Olivier Wantz to the Executive Board.

July 18, 2011: Several appointments are made in the AREVA group, including Pierre Aubouin, Chief Financial Officer and member of the Executive Board.

September 15, 2011: Tennessee Valley Authority (TVA) chooses AREVA as its leading partner for the completion of the Bellefonte 1 nuclear power plant in northern Alabama, United States.

September 28, 2011: AREVA prices and launches a 500-million-euro bond issue with an annual coupon of 4.625% maturing in six years, on October 5, 2017.

September 29, 2011: After responding to an international call for bids in 2010, EDF chooses AREVA to supply 32 of the 44 steam generators to be installed in its 1,300 MWe reactors in France. This pending order is estimated at 1.1 billion euros.

October 24, 2011: The dome is successfully placed on the unit 1 reactor building of the Taishan EPR™ reactor in China. This operation is coordinated by the project authority, Taishan Nuclear Power Joint Venture Company (TNPJVC), a joint venture between CGNPC (70%) and EDF (30%). It is completed a little more than two years after the concrete slab was poured for the reactor building.

November 8, 2011: Construction of the Olkiluoto 3 EPR™ reactor in Finland (OL3) reaches a major milestone with the installation of the fourth and final reactor coolant pump and its connection to the auxiliary piping and onsite power system.

December 9, 2011: EDF and AREVA sign a contract of more than 600 million euros to renovate safety instrumentation and control systems (I&C) at the former's 1,300 MWe power plants (Paluel, Flamanville, Saint-Alban, Cattenom, Belleville, Nogent sur Seine, Golfech and Penly).

December 12, 2011: AREVA requests that the listing of its stock be suspended to allow comprehensive, accurate and precise information to be communicated to the market and to ensure equal treatment for all of its Shareholders.

December 13, 2011: AREVA presents its "Action 2016" strategic action plan for the 2012-2016 period, confirming the priority given to nuclear safety, industrial safety and transparency. The fruit of a collective effort, the strategic action plan builds on a thorough analysis and a realistic assessment of all of the Group's operations and related resources. In deploying "Action 2016" plan, AREVA aims to strengthen its leadership in the supply of solutions to generate electricity with less CO₂ by drawing on the experience of its employees, the trust of its customers around the globe and the support of its Shareholders.

December 21, 2011: The British Department of Energy and Climate Change (DECC) confirms the option to recycle 100 metric tons of plutonium currently stored at the Sellafield site into MOX fuel. This announcement is a very positive sign for the operations of the Back End BG.

December 22, 2011: AREVA delivers components corresponding to 30 fuel reloads for 1,000 MWe pressurized water reactors (PWR) in China, a 60% increase in sales to China compared with the previous year.

December 2011: In preparation for the final phases of construction of the Olkiluoto 3 EPR™ reactor (OL3) and to ensure that it goes smoothly, the AREVA-Siemens consortium and its Finnish customer TVO agreed in August 2011 to establish a common process to consolidate the schedule for completion of the OL3 project. The consolidated schedule was submitted to TVO in December 2011. Subsequently, TVO indicated that the reactor would be connected to the grid in August 2014.

→ 5.2. Additions

In 2005, the Group launched a major capital spending program to develop or replace some of its production capacities and to acquire strategic technologies and production resources.

With this program, the Group expects to increase the performance of its production plants and reach its objectives for market share and profitability.

In the framework of the recently adopted “Action 2016” strategic action plan, the Group decided to focus operating Capex through 2016 on its ongoing nuclear safety, industrial safety and maintenance programs, and on completing strategic projects in progress. Several capital projects were suspended due to market uncertainties.

2011

In 2011, gross Capex increased in the Nuclear and Renewables businesses due to the acquisition of AREVA NP shares from Siemens. This brought gross operating Capex to 3.733 billion euros (2.054 billion euros excluding the purchase of AREVA NP shares held by Siemens), as compared with 2.176 billion euros in 2010. Net of disposals, Capex was 3.053 billion euros in 2011 (1.974 billion euros excluding the purchase of AREVA NP shares held by Siemens), as compared with 2.013 billion

euros in 2010. The total purchase price for the AREVA NP shares held by Siemens came to 1.679 billion euros. All BGs benefit from this capital program, although projects were selected and rescheduled based on their current level of completion or usefulness. In 2011, the bulk of capital expenditures relates to the continuation of programs begun in previous years, mainly for mining development and the Comurhex II and Georges Besse II projects.

2010

Gross capital expenditure (Capex) in the Nuclear and Renewable operations rose to 2.176 billion euros in 2010 (2.013 billion euros net of disposals), compared with 1.808 billion euros in 2009 (1.294 billion euros net of disposals). The Capex program, which concerns all of the

Business Groups, mainly relates to continued capital spending under programs begun in previous years. The Renewable Energies BG closed the acquisition of Ausra, now called AREVA Solar.

2009

In 2009, gross operating Capex in Nuclear and Renewables amounted to 1.808 billion euros (1.294 billion euros net of disposals), compared with 1.404 billion euros in 2008 (1.130 billion euros net of disposals), primarily reflecting the deployment of investment programs in Mining

(mining development at Trekkopje in Namibia, Somair in Niger and Katco in Kazakhstan), Enrichment (construction of the Georges Besse II enrichment plant) and Equipment (investments in manufacturing capacity).

2008

The Group's acquisitions in 2008 included:

- the British company RM Consultants Ltd (RMC), a consulting firm specialized in nuclear safety, strengthening AREVA's presence in the United Kingdom, where the Group intends to expand its industrial footprint, and supplementing its know-how in nuclear safety and environmental risk analysis; and

- 70% of Koblitz, a Brazilian supplier of integrated solutions for power generation and cogeneration (heat and electricity) from renewable sources, in accordance with AREVA's strategy for development in low-carbon energies.

OUTLOOK

Careful selection of capital projects is one of the four pillars of AREVA's "Action 2016" strategic action plan: the capital program for the 2012-2016 period is consistent with new market conditions.

The AREVA group plans to cap cumulative Capex at 7.7 billion euros over the 2012-2016 period, corresponding to an average of 1.9 billion euros per year in 2012 and 2013, and then 1.3 billion euros per year on average over the 2014-2016 period.

The planned investments will focus on maintenance and on ensuring nuclear safety and industrial safety at the Group's production sites. Two billion euros were budgeted for Capex dedicated to nuclear safety, industrial safety and maintenance over the 2012-2016 period, an amount equivalent to cumulative Capex over the 2007-2011 period. The Group may decide to increase this budget slightly in light of conclusions drawn by the French nuclear safety authority ASN based on the outcome of additional safety assessments ordered after the Fukushima accident. The balance of the 2012-2016 capital program (5.7 billion euros) is earmarked to secure the Group's access to uranium, strengthen the chemistry business for the long term, complete upgrades to the Group's enrichment production capability and develop assets acquired in renewable energies.

In Mining, Capex will focus on the most profitable assets (in particular Cigar Lake and Imouraren) in order to maximize profitability while maintaining resources and reserves at the level of twenty years of production.

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

In the Reactors & Services Business Group, capital spending in connection with certification programs with nuclear safety regulators concerning the EPR™ and ATMEA reactors certification program will continue, as will those in progress to improve the competitiveness of the EPR™ reactor.

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.

In Renewable Energies, AREVA plans to continue to invest in boosting production capacity in offshore wind to become a leading player in Europe.

For now, the Group has suspended capital spending for:

- production capacity extensions at Comurhex II, Georges Besse II, La Hague and Melox;
- the Eagle Rock Enrichment Facility project in the United States;
- the Trekkopje, Bakouma and Ryst Kuil deposits.

Business overview

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A FEW FUNDAMENTAL CONCEPTS FOR AN UNDERSTANDING OF NUCLEAR POWER AND RENEWABLE ENERGIES

Balancing the need for economic development with social, societal and environmental needs is one of the greatest challenges of our century. Energy is central to many 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%, 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 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 power plants, a nuclear power plant has a heat source (the nuclear steam supply system with its 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. Many 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).

Moderator and coolant

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

Reactors called "thermal neutron" or "slow" reactors take advantage of this property, reducing the level of uranium-235 enrichment required to sustain the chain reaction. In light water reactors, water is the slowing medium, or moderator, as well as the fluid, or coolant, that removes the heat produced in the reactor core.

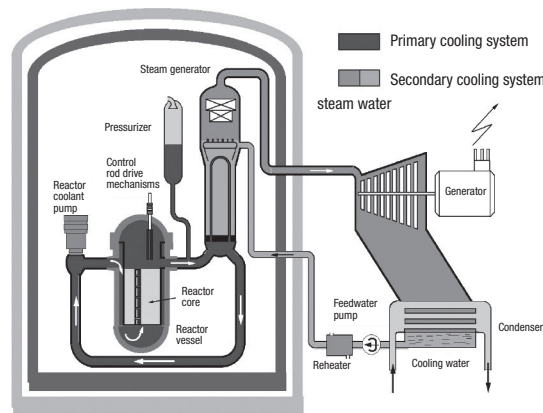
The world's most prevalent reactor: the pressurized water reactor

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

The reactor core is flooded with pressurized water from the primary cooling system. The fission reaction heats the water. The heat is transferred via heat exchangers to water in a secondary cooling system, converting it to steam. The nuclear steam supply system consists of the reactor core and the steam generators. 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.

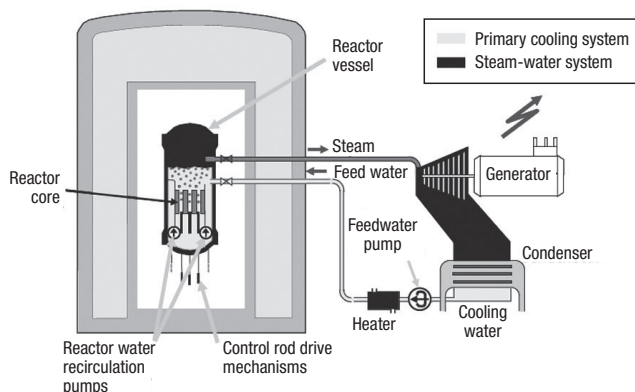
PWR reactors have a triple containment system to prevent the release of radioactive fission products. The primary barrier in this system is the metal cladding around the fuel. The secondary barrier

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.



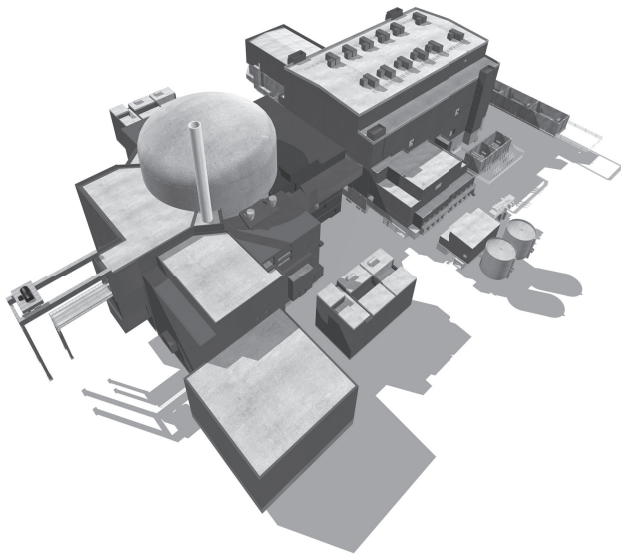
Source: AREVA.

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 in the vessel containing the core, made up of fuel assemblies. The heat from the core is released to the water flowing through it. The resulting steam drives the turbine, then cools 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 expands directly into the turbine.



Source: AREVA.

The group is involved in both of these reactor technologies, which represent the majority of reactors in service worldwide.



Source: AREVA.

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. Generation III+ models feature a very high level of nuclear safety due to strengthened accident/

incident prevention measures (redundancies, geographic separation, bunkering, etc.) and environmental protection measures (containment, core catchment systems, hydrogen recombiners, etc.). They are also designed to withstand the crash of a commercial aircraft. The reactors are designed to be operated for at least 60 years, compared with 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 to 5% or MOX fuel (see *Glossary*). Its net electrical output is in the range of 1,650 MWe.

The ATMEA joint venture formed in November 2007 by Mitsubishi Heavy Industries, Ltd. (MHI) and AREVA in equal shares developed the 1,100 MWe ATMEA1 reactor. This reactor will meet the demand for medium-power nuclear reactors. It features advanced nuclear and industrial 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.

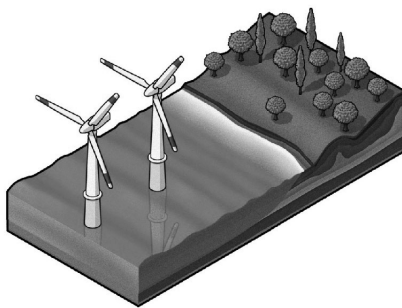
AREVA also developed an advanced boiling water reactor concept, the KERENA reactor, in partnership with the German utility E.ON. Positioned in the medium capacity market, KERENA's electrical output is 1,250 MWe. This reactor also provides operators with a high level of safety and flexibility. Proof-of-concept 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.

Renewable Energies

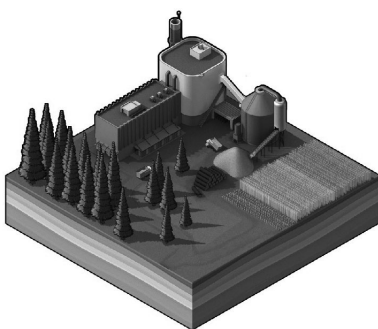
Renewable energies – hydropower, biomass, wind, solar, geothermal and ocean energies – do not consume natural resources for their operations. Their efficiency is contingent on their location (dam site, wind, sunshine, etc.). Some of these energy sources are spread out and intermittent, which makes them less suitable for baseload power generation. Others are more flexible and allow relatively high power densities to be achieved.

AREVA has decided to invest in and develop four main families of alternative energy:

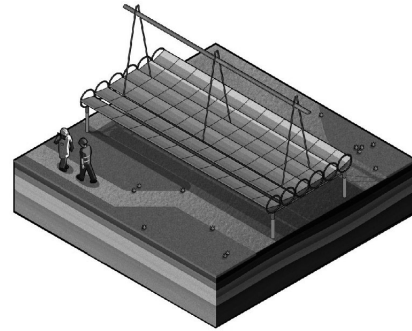
- Wind energy: energy harnessed directly from the wind by high-powered (5 MWe) offshore wind turbines;



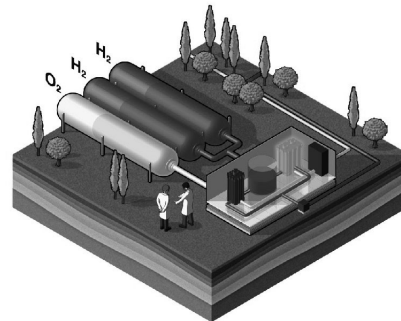
- Bioenergy: energy from the combustion of organic materials such as wood or agricultural waste;



- Solar power: concentrated solar power produced by compact plants using Fresnel reflectors;



- Hydrogen and energy storage: hydrogen production using water electrolysis and power generation with a fuel cell.



All of these energies meet the need to reduce CO₂ emissions and are capable of supplying baseload or peak power. In this respect, the technologies and services offered by AREVA in nuclear power and renewables complement each other.

6.1. Markets for nuclear power and renewable energies6.1.1. *Nuclear power and renewable energies in the global energy landscape***→ 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**

The year 2011 was marked by an economic slowdown following the start of a recovery in 2010. The outcome was a recovery with peaks and valleys in 2011. While the sovereign debt crisis in Europe and the United States weighs on industrial countries, emerging nations are still experiencing strong growth, although demand on domestic markets is not yet sufficient to offset the impact of sagging exports. Overall, the demand for energy nonetheless continued to grow on a global level, industrial nations included. Several macro-economic indicators suggest that economic growth in industrial countries will remain weak in the short term. Emerging markets will continue to expand rapidly 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.

In its “New Policies Scenario⁽¹⁾”, the *World Energy Outlook* published by the International Energy Agency (IEA) in November 2011 expects global primary energy consumption to grow from 12.1 Gtoe in 2009 to 16.9 Gtoe in 2035, giving average annual growth of 1.3%. According to the report, emerging countries, led by China and India, and developing countries will account for more than 90% of the added demand.

Electricity consumption climbed faster than global primary energy consumption over the 1990 to 2008 period, at 3.1% average annual growth for the former and 1.9% for the latter, and that trend will continue. According to the IEA central scenario, world power generation for 2035 is estimated at 36,250 TWh, compared with 20,043 TWh in 2009, for an average annual increase of 2.3%, compared with growth in energy demand of 1.3% over the same period. Most of the growth originates in non-member countries of the Organization for Economic Cooperation and Development (OECD). In China, for instance, electricity consumption is set to practically triple by 2035.

On the supply side, oil, gas and coal continue to be the preferred energy sources. Energy policies being implemented now are expected to reverse this trend, however. 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 CO₂ emissions for sustainable economic growth.

Energy and global warming

Current energy policies, if left as they are, together with strong growth in energy demand would have disastrous impacts on the climate since, according to the IEA, they would be accompanied by a 50% increase in greenhouse gas emissions from the energy sector by 2035, recognizing that that sector accounts for two thirds of total emissions today. The Intergovernmental Panel on Climate Change (IPCC) considers that such an increase would trigger a global rise in temperature of 2°C to 4°C. According to the Stern report, the cost of inaction in the face of this situation could account for a minimum of 5% of the world’s gross domestic product, or even 20% in more pessimistic scenarios, while emissions reduction would cost only 1% of world GDP.

Thus, as part of its Climate and Energy Package, Europe has set a goal of cutting emissions by 20% by 2020, compared with a 1990 baseline. In 2005, the European Union set up a system to cap CO₂ emissions by establishing the European Trading System, which recognizes the economic value of emissions reductions.

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 emission permits trading exchanges – the Regional Greenhouse Gas Initiative, the Midwestern Greenhouse Gas Accord and the Western Climate Initiative – are being established in 38 States and Provinces in the United States, Mexico and Canada.

(1) The IEA considers that additional efforts will be required beyond those identified 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.

6.1. Markets for nuclear power and renewable energies

6.1.1. Nuclear power and renewable energies in the global energy landscape

China, India and other emerging countries are also becoming key players in the climate change fight. Their recent commitments to growth with less fossil energy are indicative of a new understanding of the risks associated with growing emissions. China in particular announced its decision to invest 738 billion dollars in carbon-free energies over the 2011-2020 period. It has set up seven pilot carbon credit exchanges in Beijing, Shanghai, Tianjin, Wuhan, Kunming, Changsha and Shenzhen, and is pursuing a 40% reduction in carbon intensity by 2020 compared with 2005. India has launched an ambitious program to develop solar and nuclear energy with a goal of 40 GWe of new capacity in service by 2020, together with a 20% reduction in carbon intensity by 2020 compared with 2005. Several countries in Africa and the Middle East have set similar goals.

Today, power generation accounts for 41% of the GHG emissions from the energy sector, ahead of transportation (23%) and manufacturing (17%), and the potential for emissions reduction is greater there. It is therefore vital to seek a carbon-light energy mix, which means developing renewable energies and nuclear power.

The IPCC's third report (2007) points to nuclear power as one of the avenues to reducing greenhouse gas emissions.

Anticipating the depletion of fossil energy resources

The gradual depletion of hydrocarbon resources is a major threat to global energy supply. According to the IEA New Policies scenario, conventional oil production peaked in 2006 and the average price per barrel should reach 120 dollars by 2035 (in 2010 US dollars).

It is true, however, that "peak oil", the actual level of hydrocarbon reserves, and future prices for hydrocarbons are not set in concrete. That is why it is important to start thinking about what a "post-petroleum" society might look like, to ensure energy self-sufficiency among nations and avoid the consequences of the inevitable rise and volatility of oil and gas prices if demand were to increase too much.

"We should leave oil before oil leaves us," is the leitmotif of Fatih Birol, chief economist of the IEA.

Investing to improve the global power generation mix

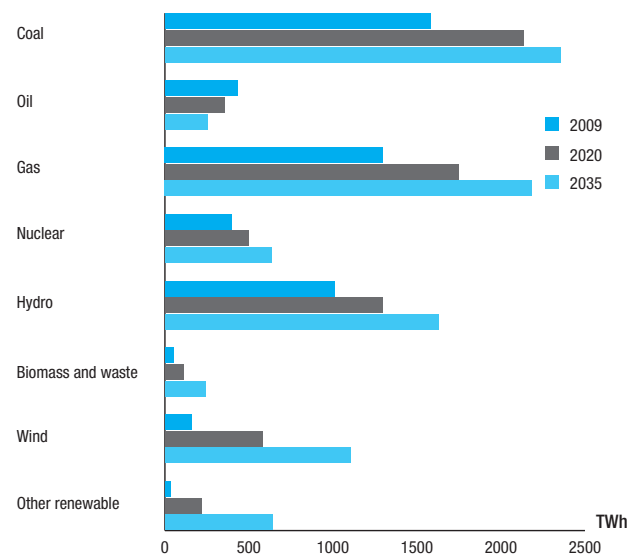
Massive capital spending in the electricity sector and a radical change in the power generation mix are required for the reasons outlined above: rising demand for electricity, urgent efforts to prevent climate change, and declining fossil resources.

The IEA's *World Energy Outlook 2011* includes a New Policies Scenario that takes into consideration firm or planned policy commitments in countries around the globe. This central scenario measures the impacts of these decisions on the energy sector, compared with the two other scenarios used: the "Current Policies Scenario", which assumes no major change in energy policy compared with the situation at mid-2010, and

the "450 Scenario", which aims to limit concentrations of greenhouse gases in the atmosphere to 450 ppm⁽¹⁾ (in CO₂ equivalent), thereby limiting the temperature increase on the planet to 2°C.

Nuclear generating capacity would climb more than 70% by 2035 in the central scenario, when a significant share of the existing reactor fleet would have to be replaced. Wind energy would increase tenfold by 2035.

→ GLOBAL ELECTRICITY MIX IN THE IEA'S NEW POLICIES SCENARIO



Source: IEA, WEO 2011.

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;

(1) ppm: parts per million.

6.1. Markets for nuclear power and renewable energies

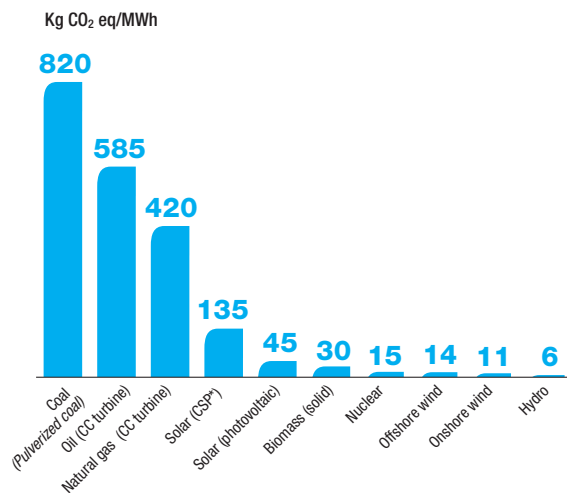
6.1.1. Nuclear power and renewable energies in the global energy landscape

- 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, with Russia, Qatar, Saudi Arabia and Iran controlling more than two thirds of the world's oil and gas reserves; and
- 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⁽¹⁾ reactor.

Nuclear power helps fight 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 LIFECYCLE



* CSP: Concentrated Solar Power.

Source: European Commission 2009.

According to IEA data, nuclear power generation prevents the emission of some 2.1 billion metric tons of CO₂ each year worldwide, or 17% of the emissions from the global energy sector, which were estimated at 11.7 billion metric tons in 2009 by the *2011 World Economic Outlook*.

In Europe, nuclear power already avoids more than 400 million metric tons per year of carbon dioxide (CO₂) emissions, an amount equivalent to the reduction required in the European Union (EU-15) to meet the Kyoto Protocol objective of an 8% reduction in emissions from the 1990 baseline by 2012.

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 minimal, and the impact of a doubling of uranium prices on the full cost of power generation in new power plants is only 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.

Gas and oil prices reached historic levels in 2008, and then fell sharply. Today, the trend is up again in 2011. Oil prices have returned to their pre-2008 crisis levels and natural gas prices have remained stable since the severe correction of 2009. Despite the uncertain economic recovery, the consensus is 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.

Coal resources are more plentiful than those of oil and gas, but demand for coal is also rising more sharply. Moreover, international trading in coal represents an increasing share of global consumption, illustrating the growing dependency of some countries and pushing shipping costs up as well. Coal prices have risen due to increased demand in Asia (China and India) combined with export restrictions in certain producing countries (Indonesia and Vietnam) and a spike in maritime freight costs. The price has remained above 110 euros per metric ton since the end of 2010⁽²⁾, the highest it has been since November 2008, confirming the rising trend of the past 15 years. The global coal price will be driven by long-term demand in Asia but also by the drop in Australian production in 2011 in the aftermath of catastrophic flooding in that country.

In Europe, the price for CO₂ was down about 20% in 2011⁽³⁾ compared with 2010, reflecting an uncertain economic environment as the sovereign crisis weighs on industrial production and the demand for emissions quotas. However, increasingly stringent commitments in terms of emissions reduction will necessarily push carbon prices up in countries where a regulated carbon market has already been established, while in other countries, carbon restrictions seem unavoidable in the medium to long term. Also, starting in 2013, the allocation of free emission quotas will be discontinued in the European Emissions Trading Scheme.

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

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

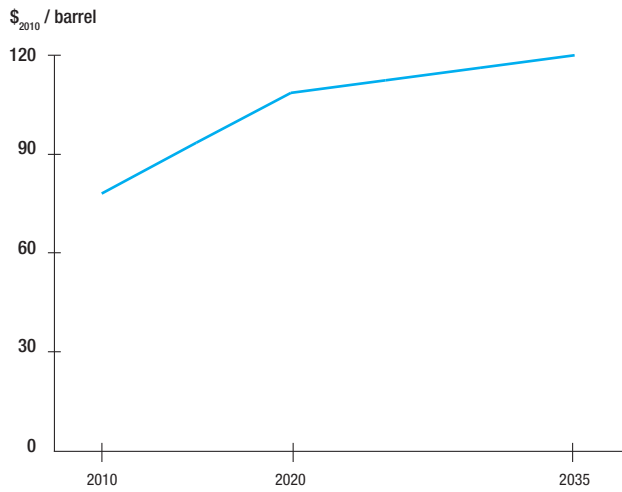
(2) CIF ARA (Cost, Insurance, Freight - Amsterdam-Rotterdam-Antwerp).

(3) Spot price for emissions quotas.

6.1. Markets for nuclear power and renewable energies

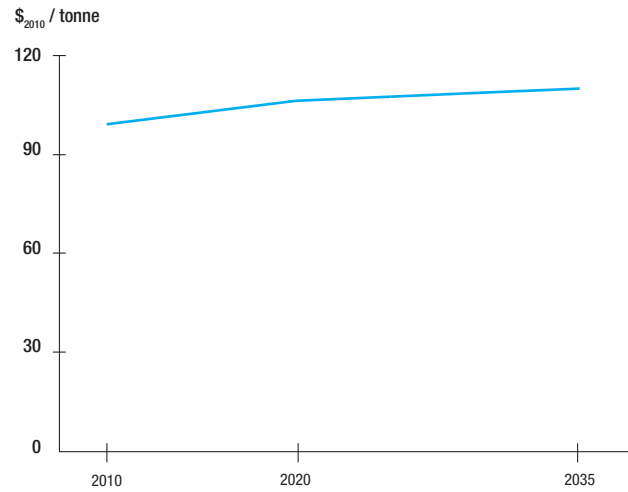
6.1.1. Nuclear power and renewable energies in the global energy landscape

→ PRICE SCENARIOS FOR OIL



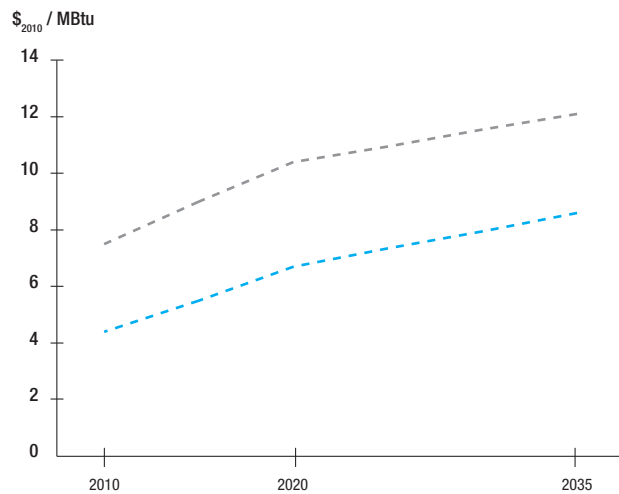
Source: WEO 2011.

→ PRICE SCENARIOS FOR COAL



Source: WEO 2011.

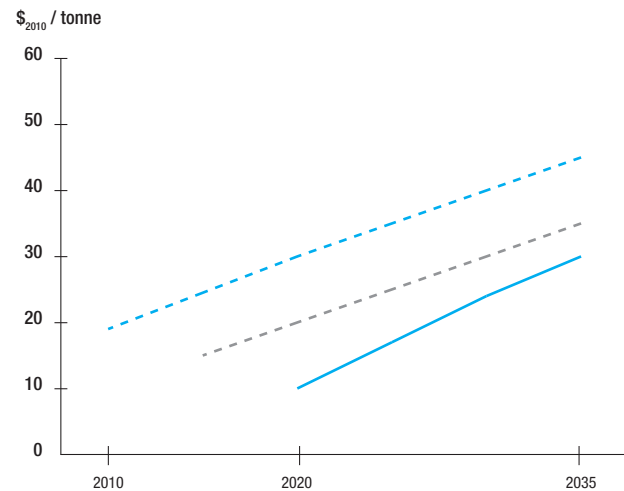
→ PRICE SCENARIOS FOR GAS



--- US WEO 2011
 --- EU27 WEO 2011

Source: WEO 2011.

→ PRICE SCENARIOS FOR CO₂



--- EU27 WEO2011 — China WEO2011
 --- US, Canada, Japan WEO2011

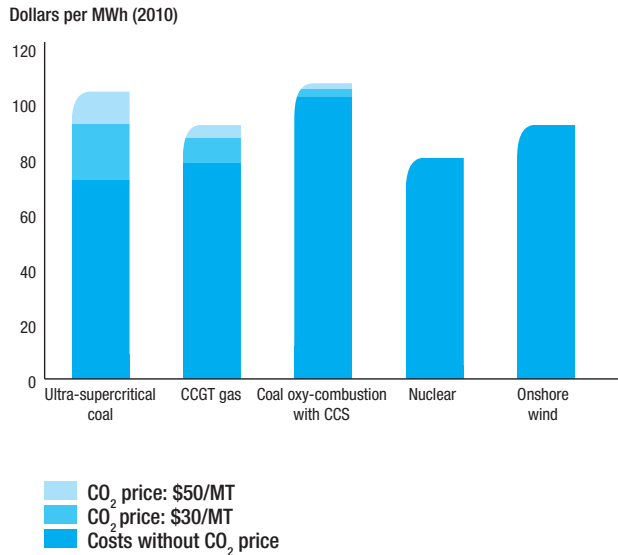
Source: WEO 2011.

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/metric ton).

6.1. Markets for nuclear power and renewable energies

6.1.1. Nuclear power and renewable energies in the global energy landscape

→ POWER GENERATION COSTS BY TECHNOLOGY IN OECD COUNTRIES



Source: IEA, WEO 2011.

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. 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%).

The OECD considers that already identified uranium reserves represent the equivalent of 200 times the current global demand (OECD Red Book, 2007).

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 technologies suitable for each type of customer, including pressurized water or boiling water reactors. 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 containment reactor building, ability to withstand a large commercial aircraft crash);

- Competitiveness: reduction in fuel consumption and operating costs, high availability (92%) over a 60-year operating life, thus maximizing power generation;
- 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. National commitment to expanding the share of renewable energies in the generating mix gives confidence that such measures are likely to be maintained.

Ultimately, technology enhancements, economies of scale, the learning curve and the growing size of facilities will make renewable energies competitive with more conventional sources of energy. The accelerated market consolidation observed recently should also contribute to an increase in their competitiveness in the short term.

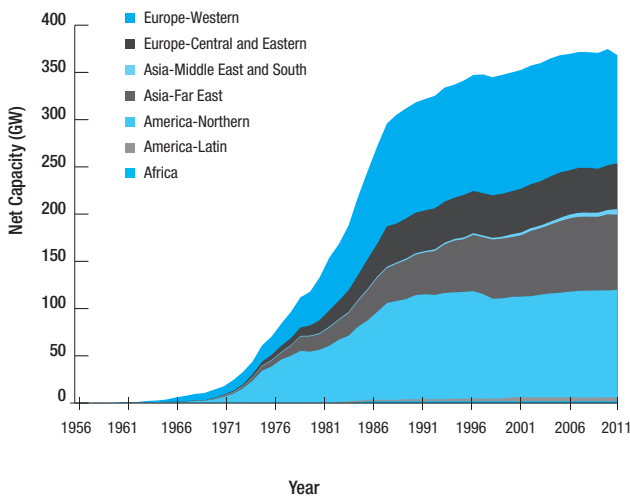
In addition, renewable energies offer several advantages on the environmental, economic, strategic and operational levels:

- they contribute to the fight against global warming by reducing carbon accumulation in the atmosphere;
- 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 used to generate baseload electricity, especially with fuel and carbon prices rising;
- 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, with Russia, Qatar, Saudi Arabia and Iran controlling more than two thirds of the world's oil and gas reserves; and
- they offer enhanced operational performance, as demonstrated by AREVA Wind's powerful, single-bearing M5000 offshore wind turbine and AREVA Solar's compact solar fields.

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

→ WORLD INSTALLED NUCLEAR GENERATING CAPACITY (IN GWE)



Sources: IAEA, Power Reactor Information System.

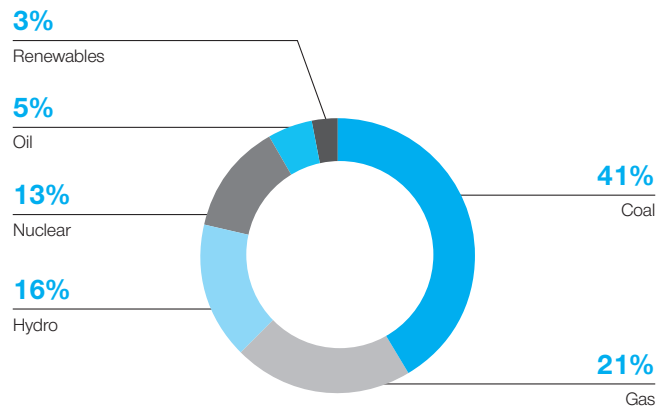
Strong initial growth slowed when the public became concerned after the accidents at Three Mile Island in 1979 and Chernobyl in 1986.

As a result, whereas 399 reactors had been built over the 1970-1990 period, installed capacity rose by only 15.7% over the 1990 to 2011 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 in spite of delays linked to safety assessments undertaken after the 2011 Fukushima accident. Russia, China, South Korea and India, in particular, have reaffirmed the planned development of their nuclear power programs.

Global installed nuclear generating capacity is estimated at 368 GWe in 2011, slightly less than in 2010 (375 GWe).

The chart below shows the breakdown of electric power generation.

→ WORLD ELECTRICITY GENERATION BY SOURCE



Source : AIE, WEO 2011.

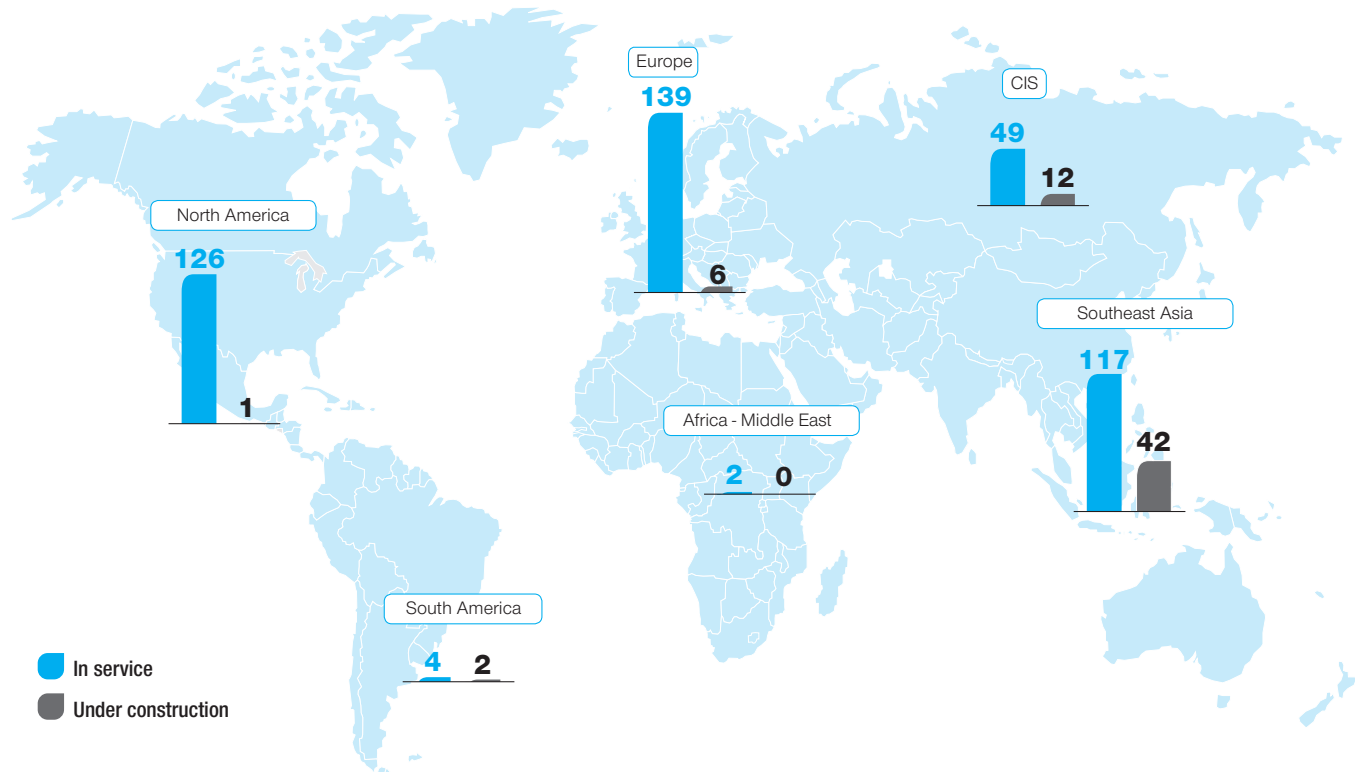
A total of 437 reactors representing 390 GWe (370 GWe net) were connected to the grid in 31 countries in the world's largest power consuming regions as of December 31, 2011.

With about 44% of the world's installed capacity, Europe and the Commonwealth of Independent States (CIS) are the leading regions for nuclear power generation, ahead of North America, which represents about 31% of global capacity. Through 2015, 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.

6.1. Markets for nuclear power and renewable energies

6.1.2. Nuclear energy markets

→ REACTORS IN OPERATION OR UNDER CONSTRUCTION WORLDWIDE AS OF YEAR END 2011



Source: IAEA and WNA, adjusted by AREVA.

According to the IAEA and the World Nuclear Association (WNA), 63 reactors were under construction worldwide at year-end 2011, compared with 65 at year-end 2010; 152 reactors were either on order or planned, compared with 154 at year-end 2010, 137 at year-end 2009 and 109 at year-end 2008; and more than 300 reactors are planned for 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) and boiling water reactors (BWR). A total of 354 of these reactors were connected to the grid in 2011, including 54 VVER reactors (PWR) based on Russian technology;
- there were 49 Canadian-designed heavy water CANDU reactors connected to the grid in 2011;
- there are 18 gas-cooled reactors (Magnox and AGR) in service in the United Kingdom. These reactors are scheduled to be shut down.

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

As the benefits of nuclear power in terms of cost predictability and competitiveness, security of supply and minimization of greenhouse gas emissions are recognized, existing reactors will be modernized and optimized to increase their security and even to increase available capacity. This should also lead 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. In addition, the IAEA is

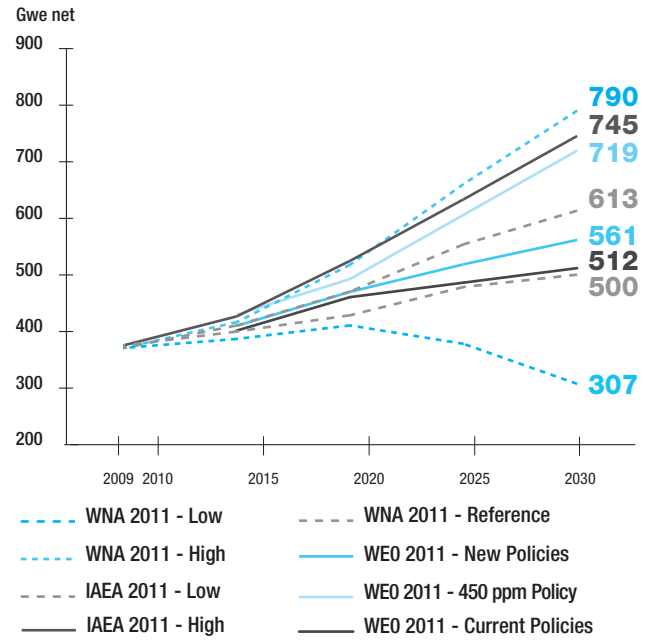
6.1. Markets for nuclear power and renewable energies

6.1.2. Nuclear energy markets

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.

In 2011, in the wake of the Fukushima accident, several institutes produced scenarios outlining potential changes in nuclear reactor fleets through 2030. These scenarios paint a slightly less favorable picture (-5 to 10%) than forecasts published a few years ago, reflecting the impact of measures already taken or under discussion. These scenarios are summarized in the following chart. In Japan, 48 out of the country's 54 nuclear reactors were in shut-down condition at the end of 2011. The energy policy debate is ongoing in Japan, and the government is expected to present a new energy program in 2012.

→ SCENARIOS FOR WORLD NUCLEAR POWER PROGRAMS (IN NET GWE)



Sources: IAEA, WNA, International Energy Agency.

6.1. Markets for nuclear power and renewable energies

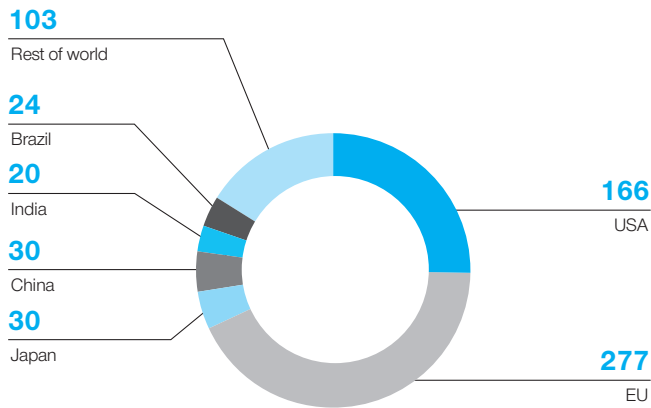
6.1.3. Renewable energies market

6.1.3. RENEWABLE ENERGIES MARKET

Each year since 2008, renewable energies 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 4% of the electric power mix in 2009, national governments have often set a target of 15% to 20% of the mix by 2020.

As shown on the chart below, almost three fourths of the electricity from renewable sources was produced in Europe or in the United States in 2009.

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



* Excluding hydropower.

Source: IEA, WEO 2011.

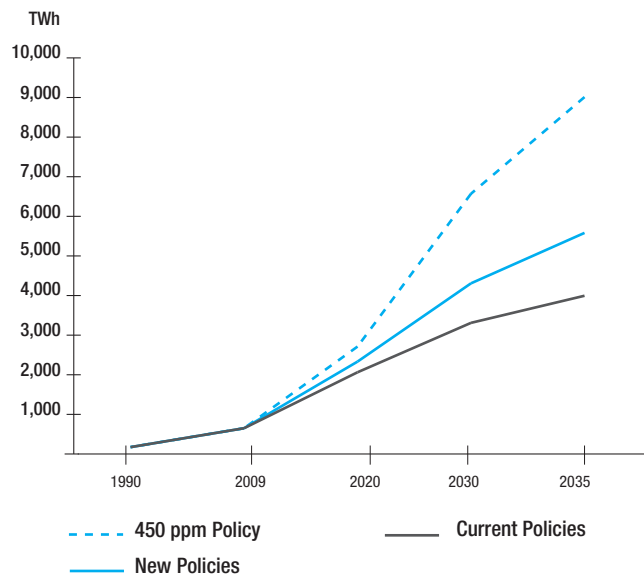
Europe is particularly dynamic when it comes to developing renewable energies. For example, the European Union has set a goal of a 20% share of the energy mix for renewable energies by 2020.

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 scheme.

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 low-cost primary energy resources, such as biomass in Brazil and India or strong solar radiation in the Sahara region.

The central scenario in the IEA's *World Energy Outlook 2011* foresees very strong worldwide growth in power generation from renewable sources, for a combined total excluding hydropower of 4,309 TWh per year by 2030.

→ **RENEWABLE POWER GENERATION* (TWH)**



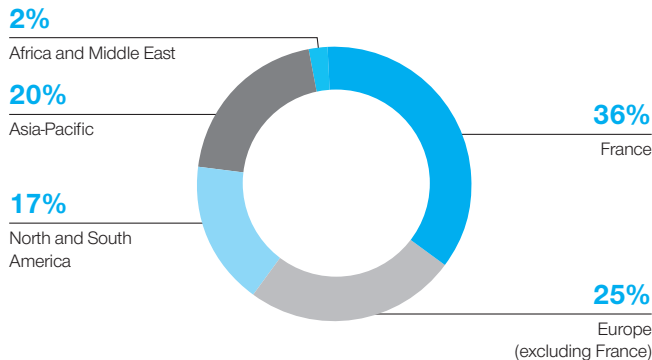
* Excluding hydropower.

Source: IEA, WEO 2011.

→ 6.2. AREVA's Customers and Suppliers

6.2.1. CUSTOMERS

→ GEOGRAPHIC DISTRIBUTION OF CUSTOMERS BY REVENUE



Source: AREVA.

AREVA's customers are large electric utilities, 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 its customers are located in Europe, the United States and Asia. The Group is also active in new markets such as India and Brazil.

The EDF group is AREVA's principal customer, representing about a quarter of its revenue. The Group's ten largest customers, including the EDF group, represented nearly half of its revenue in 2011. A discussion of backlog may be found in Chapter 9.

Organizationally, the Business Groups have their own sales teams and are responsible for their own commercial commitments. The sales teams are extremely qualified in their respective businesses and ensure rapid responses to changes in their markets.

To ensure the consistency and efficiency of the Group's marketing and sales activities, a corporate Marketing & Sales Department leads the Group's commercial operations, either directly, as in business development and negotiation of major proposals for new builds, or through the sales teams of the Business Groups and Regions. The Marketing & Sales Department steers marketing, business development, proposal development, proposal negotiations, and leadership of the Key Accounts.

Major proposals are subject to validation by the Key Accounts Committee chaired by the Chief Executive Officer or the Chief Commercial Officer.

NUCLEAR

There are a limited number of customers in the nuclear businesses, with the group's ten largest customers representing about half of its revenue. The contracts are generally large, amounting to as much as several billion euros. In addition to the EDF group, the principal customers are major utilities such as Exelon and Duke in the United States, GDF-Suez and E.ON in Europe, and CGNPC, KHNP and TEPCO in Asia. Customers are diversified geographically with a strong European presence.

AREVA's contractual commitments in the nuclear cycle are long term. This is the case in several businesses, for example in Chemistry or Enrichment, in the Recycling business unit or in the Mining Business Group, which have service agreements with most of the world's nuclear utilities. Following calls for proposals or sole-source negotiations, the Reactors & Services Business Group enters into contracts for services and equipment replacement for the installed base, such as the contract to replace 32 steam generators for EDF won in 2011, and for the supply of new reactors, such as its participation in the completion of the Bellefonte reactor in the United States for the utility TVA under a contract awarded in 2011.

With its ability to integrate every aspect of the nuclear business, AREVA is in a position to enter into very large contracts encompassing reactors and services as well as front end products and related services. AREVA is competing for several other large new build projects, particularly in Europe, China and India.

In addition to contracts with nuclear utilities, 95% of which are AREVA customers, the Group has significant contracts with governmental and paragonmental entities such as the Commissariat à l'énergie atomique et aux énergies 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 risks associated with these warranties are described in Section 20.2., *Notes to the consolidated financial statements* and Chapter 4, *Risk Factors*.

6.2. AREVA's Customers and Suppliers

6.2.2. Suppliers

RENEWABLES

AREVA strengthened its commercial base in Renewables in 2011 through its three main businesses: offshore wind, solar thermal and biomass. Its customers are major utilities and local or regional groups of economic players.

In offshore wind, for example, the Group announced in 2011 that it had partnered with the GDF-Suez/Vinci and Iberdrola teams in connection with the French government request for proposals for wind farms off the Atlantic coast, and it is competing for new wind farm projects in Germany.

In the market for the design of biomass-based power plants, AREVA continues to expand its operations in South America, particularly in Brazil, and also signed several contracts in India and in Europe, such as the 155-million-euro contract signed in the Netherlands in 2011. In addition, AREVA continues to develop business in the field of concentrated solar power (CSP), where it was selected for the Solar Flagship project in Australia in 2011.

6.2.2. SUPPLIERS

Outsourced procurement represented a volume of approximately 3.7 billion euros in 2011, including 1.1 billion euros for non-production purchases (information technology, telecommunications, intellectual services and general services). 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.

Excluding the supply of nuclear materials and the electric power supply contract with EDF for enrichment operations, the top ten suppliers represented approximately 12% of the Group's consolidated procurement volume in 2011.

During the year, the Purchasing Department provided information to the Commission on Nuclear Industry Strategy, which had launched a study of nuclear industry performance among French suppliers listed by nuclear industry players.

6.2.3. DEPENDENCY OF THE ISSUER

Please refer to Section 4.2.2., *Contractual and commercial risks*.

For the EDF group, see also Sections 6.2.1., *Customers*, and 6.2.2., *Suppliers*.

→ 6.3. Overview and strategy of the Group

6.3.1. OVERVIEW

The AREVA group is a global leader in solutions for generating power with less CO₂. In 2011, AREVA's consolidated revenue rose to 8.872 billion euros, with a consolidated net loss of 2.424 billion euros. The Group employs 47,541 people in the Nuclear and Renewable Energies businesses. 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, which is propelled by the combined effects of demographic dynamism, particularly in emerging countries, greater access to energy, 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 also 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 value chain, offering global solutions that protect the environment

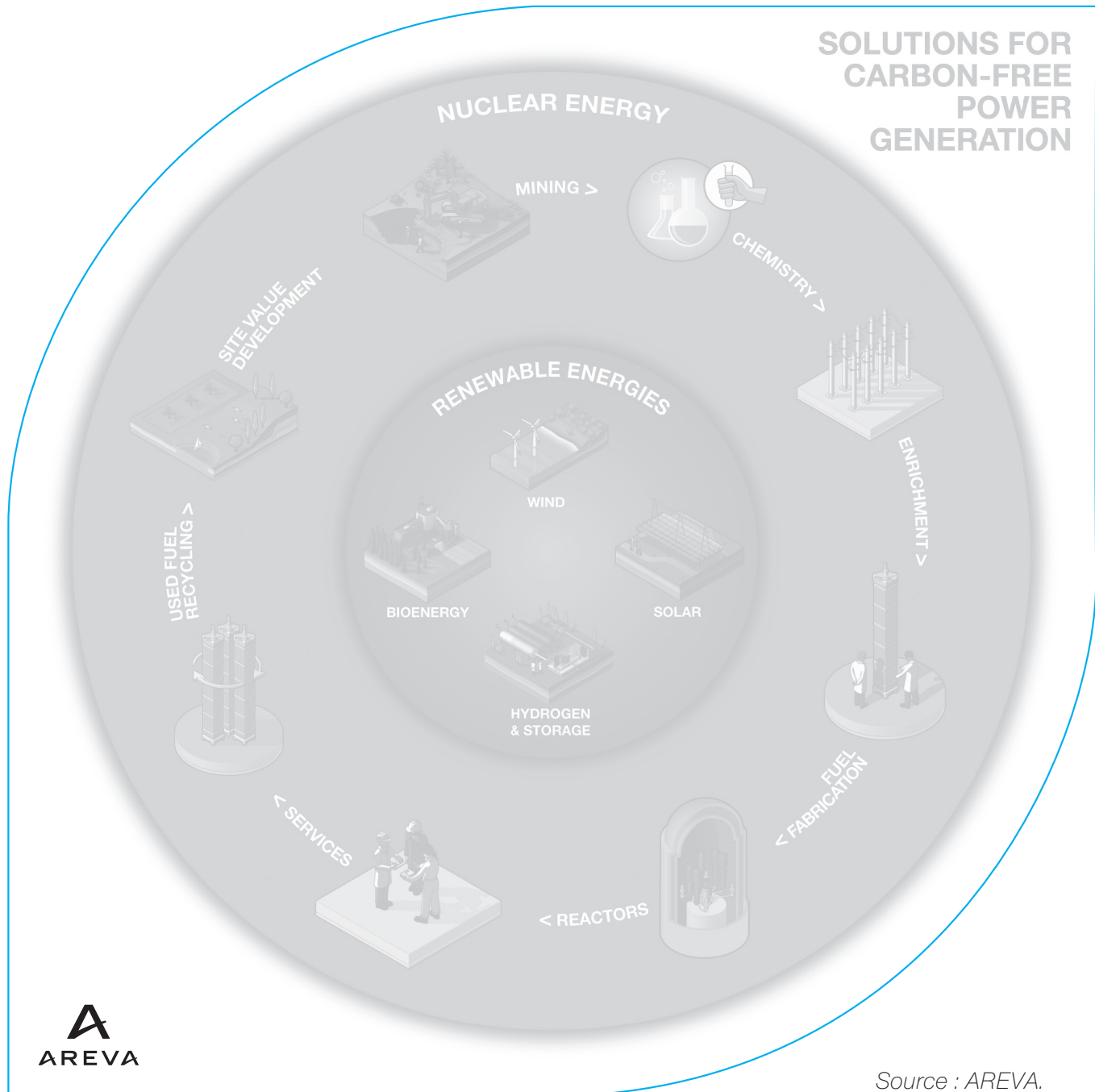
while complying with stringent safety criteria. Its integrated model and policy of partnerships put AREVA in an ideal position to anticipate market requirements. For example, the Group was one of the first to anticipate the wave of low-emission energies, both renewable and nuclear, and to develop a strategy in that field. This market vision prompted AREVA to develop a comprehensive strategy for meeting market demand, before its competitors.

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 line of next-generation reactors to meet the energy challenges of the 21st century. These assets put the Group in a favorable position, particularly in next-generation reactors and the back end of the fuel cycle.

The Group's backlog for 2011 was nearly 45.558 billion euros, a level above that of 2010 (44.204 billion euros), testifying to the resilience of AREVA's business model in a year that saw the Fukushima accident.

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 challenge: to generate power safely, at a competitive cost and while limiting emissions of greenhouse gases.

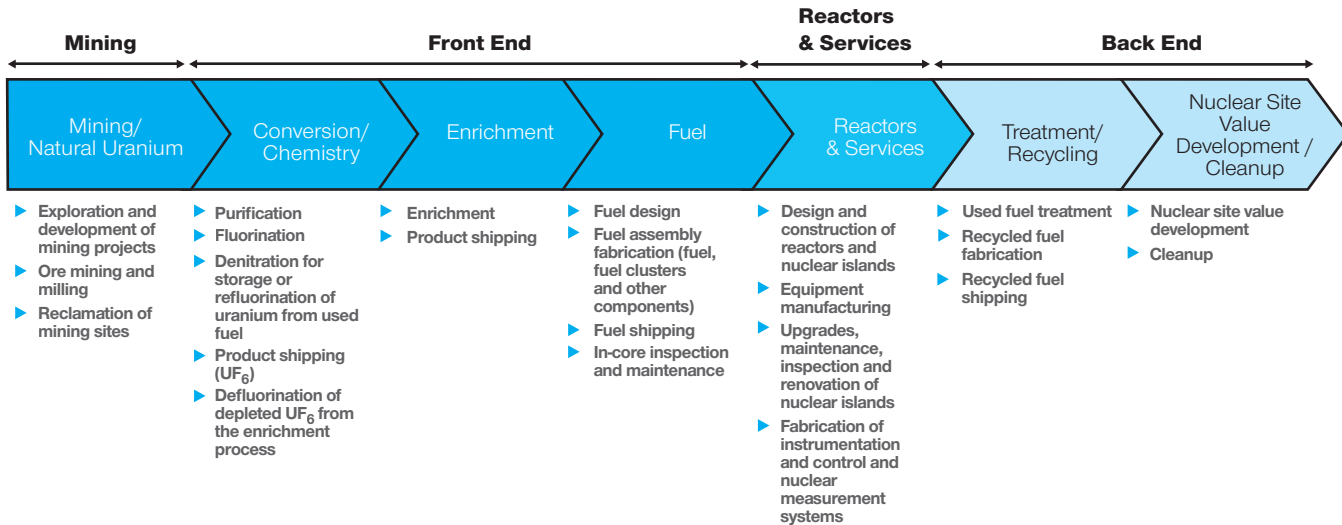
→ THE GROUP'S BUSINESSES

**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

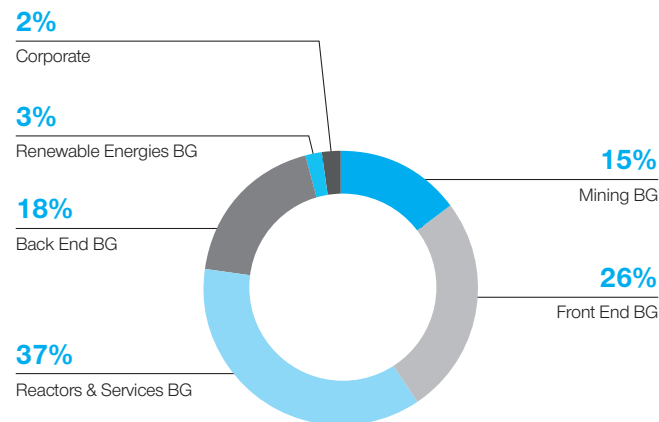
involves multiyear contracts, and its installed based service operations offer a stability and visibility to back up less regular "new builds" business. It is largely due to the strength of recurring installed base services and fuel supply to the installed base that AREVA was able to absorb the pitfalls of first-of-a-kind construction, such as the Olkiluoto 3 project.

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



Source: AREVA.

→ AREVA REVENUE IN 2011 BY BUSINESS GROUP



Source: AREVA.

The **Mining Business Group** represents 15% of AREVA's 2011 consolidated revenue, or 1.289 billion euros. Present on five continents, its operations include exploration for new deposits, mining and milling of the uranium ore, and site reclamation following mining operations.

Today, AREVA is **one of the global leaders in uranium production**, with a diversified portfolio of mines in operation in Canada, Kazakhstan and Niger and under development in Africa.

The **Front End Business Group** represents 26% of AREVA's 2011 consolidated revenue, or 2.282 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 **one of the world's major players in the front end of the nuclear cycle**.

The **Reactors & Services Business Group** represents 37% of AREVA's 2011 consolidated revenue, or 3.262 billion euros. It combines operations

in nuclear reactor design and construction as well as in products and services needed for nuclear power plant maintenance, operation, modernization and improvement. 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 for naval propulsion, and related services.

The **Back End Business Group** represents 18% of AREVA's consolidated revenue in 2011, or 1.594 billion euros. It offers efficient management solutions for the back end of the nuclear cycle. **AREVA is the world leader in the back end of the nuclear fuel cycle**. It offers solutions consisting primarily of the recycling of used power reactor fuel and nuclear site cleanup and value development. 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 3% of AREVA's 2011 consolidated revenue, or 297 million euros. The Business Group operates in four areas: offshore wind, concentrated solar power, biomass, and hydrogen and energy storage.

Like nuclear power, renewable energies are an essential component of tomorrow's energy mix and are integral to the low-carbon solutions for power generation offered by AREVA.

AREVA plans to intensify its development in this segment and to reap numerous synergies in both businesses, both commercially and technologically. The dual offering of nuclear projects and renewable energy projects also allows AREVA to maintain a continuous presence in several countries.

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 CO₂.

The Group wants to leverage its experience and know-how to ensure business growth while complying with stringent nuclear safety, industrial safety and risk prevention requirements.

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

On global **nuclear markets**, with its unique integrated offer to utilities covering every stage in the nuclear fuel cycle as well as nuclear power plant construction, AREVA has structured its strategic plan around a vision of commercial nuclear power in the 2030 timeframe.

Beginning in 2006, the Group committed to a significant capital expenditure program to ensure growth and continuity for all of its businesses, to meet its customers' requirements, and to adopt the highest standards of safety.

The Fukushima accident and the financial crisis led the Group to rethink its vision of the market for nuclear power and renewables, especially for the short term. The market fundamentals for energy, and in particular the growth in demand, are unchanged. Moreover, the world's major nuclear programs have been confirmed. Yet, in the short term, there have been postponements of new builds. AREVA thus revised its new builds forecasts, and the Group is now expecting installed capacity to grow by an average of 2.2% per year to 2030.

The Group wants to capitalize on its integrated business model to offer a complete range of services to its customers. This translates into efforts in every segment of the cycle:

- **Mining and Front End:** Given the rising numbers of reactors expected, the Group's objective in recent years was to secure the fuel cycle for its existing and future customers. This means expanding mineral reserves and increasing production. On the industrial level, AREVA also invested in its uranium chemistry and enrichment production capacities to meet anticipated demand.

Today, AREVA wants to continue capital spending programs in progress (in particular by bringing the Georges Besse II and Comurhex II plants to full production), and also wishes to streamline its industrial organization to improve the competitiveness of its offering.

In Mining, the Group wants to maintain a level of resources and reserves equal to 20 years of production while concentrating capital spending on the most profitable assets.

- In **new nuclear power plant construction**, the Group has built up a lead over its competitors in the construction of a generation III+ reactor by drawing on the capital of experience in nuclear power plant construction it has gained with the EPR™ reactor currently under construction at Olkiluoto, Flamanville and Taishan.

In its “Action 2016” strategic action plan, the Group expressed its ambition of remaining the market leader.

AREVA also wishes to continue improving the competitiveness of the EPR™ reactor and complete the certification of the ATMEA1 reactor in the years ahead to provide the best possible response to customer requirements.

- Services to **the installed base** (operations and maintenance) are a major component of the Group's operations due to their recurring nature and the visibility they afford.

Participating in the growth in Asia will be a key strategic objective for AREVA in the coming years, both for the construction of new power plants and for services to the installed base.

- Sustainable development in the nuclear industry means technologically mature, long-term solutions for **used fuel management**. AREVA is far ahead of the competition, having developed a technology to recycle 96% of the materials contained in used fuel into fresh MOX fuel. AREVA's goal is to pursue growth in treatment and recycling operations, both at its own La Hague and MELOX facilities, and by actively participating in the development of new platforms in Europe as well as in Asia and the United States.

- The sustainability of the nuclear industry requires – and will increasingly require – **solutions for decontaminating and dismantling nuclear sites**. AREVA has recognized expertise in this sector, with the Group working for many years on dismantling projects in France and abroad, at its own sites and for its customers. The design and development of a complete water treatment system in a matter of weeks following the Fukushima accident is an example of the Group's accomplishments in this field.

To strengthen its presence in this segment, AREVA announced the creation of a decommissioning and dismantling expertise center in Germany as part of its “Action 2016” strategic action plan.

In the Renewable Energies market, AREVA's growth supplements its nuclear offering and responds to the political priority set by many countries on reducing greenhouse gas emissions for environmental reasons. The Renewable Energies Business Group's portfolio of solutions – including wind energy, solar power, bioenergies, hydrogen and energy storage – supplements the Group's offering for carbon-free energy production. In each of these segments, AREVA makes targeted offers based on a portfolio of technologies suited to customer requirements.

AREVA's ambition is to become a leading player in offshore wind and concentrated solar power. AREVA wishes to make its first projects commercial references and to refocus its renewable solutions on the most profitable operations.

To achieve these strategic objectives in the nuclear and renewable energy markets, the Group is devoting considerable resources in three key areas:

- **Human Capital:** Personnel training in particular is a priority for the Group's future.

- **Research & Development:** R&D projects are oriented towards supporting existing operations and businesses, and developing new business applications.
- **Industrial Investment:** Major investments are required to maintain competitiveness and expand our geographic footprint.

To meet the strategic objectives laid down in its “Action 2016” strategic action plan, AREVA relies on a large number of partners to contribute specific know-how and knowledge of local markets and customer requirements. For example, in recent years, AREVA entered into agreements with a number of players to meet its customers’ needs through access to the right skills. Partnerships are part of the Group’s culture and may include:

- industrial companies such as Cameco, URENCO, Mitsubishi, Kepco and Japan Steel Works;
- engineering groups such as Amec, Bechtel, Bouygues, URS-Washington Group, Shaw and Technip;
- power producers such as Duke, EDF, E.ON, RWE, Kanzai, Sojitz, KHNP, Kyushu, Tohoku and GDF SUEZ;
- national or state-owned companies such as Kazatomprom, the State of Niger, and CNNC and CGNPC in China.

Sustainable development

Aware of the contribution that nuclear power and renewable energies are making to the planet’s energy challenges, the Group has integrated sustainable development into its business strategy and operations. AREVA is aiming for growth that is profitable, socially responsible and respectful of the environment. Sustainable development is one of the Group’s core values, as stated in the Values Charter, inspired by the principles of the UN Global Compact and OECD guidelines.

These goals translate into commitments that are implemented throughout the Group as part of the AREVA Way Continuous Improvement Process. Each business unit must adopt objectives that are in line with the Group’s commitments. Performance is reported to management bodies during strategy and budget meetings, at which time performance improvement objectives are set and resources allocated through the budget process.

In addition, the **Values Charter** was adopted by the AREVA group in 2003. It applies to all operations controlled by the Group, whether nuclear or non-nuclear, in any country in which those operations are conducted, without exception. Written in the Group’s principal languages and available on the Group website (<http://www.aveva.com>), it evolves as a function of experience feedback and progress in international standards.

Strengthening relations with external stakeholders

For AREVA, the acceptance of nuclear power relies on the three pillars of nuclear safety, industrial safety and transparency. It is in this context that AREVA’s years-long commitment to dialogue and consensus-building, in keeping with its sustainable development policy, gives a major strategic dimension to stakeholder relations. By listening to its environment, by

learning about the concerns and expectations of its interlocutors, the Group enriches its plans in a spirit of continuous improvement.

The activities described below illustrate the Group’s initiatives in this field.

Consensus-building at the corporate level

Repeated every two years or so and expanded over time, the consensus-building sessions with a panel of stakeholders from civil society – NGOs, think tanks, communities and others – now have an international dimension: in France, four Stakeholders’ Sessions have been held since 2004 under the aegis of Comité 21, and three regional consensus-building sessions were held in North America with Business for Social Responsibility (BSR).

In 2011, for the third consecutive year, AREVA held a regional stakeholders’ session in the United States through its subsidiary AREVA Inc. The leadership of this one-day session was once again entrusted to Business for Social Responsibility (BSR).

The Group also organizes periodic intermediate sessions on specific themes; the most recent, held in November 2011, dealt with diversity and equal opportunity.

Summaries prepared by Comité 21 and BSR are available on the www.aveva.com website.

Mapping of local stakeholders

At the same time, the Group is continuing to carry out local external stakeholder mapping exercises near its plant sites to compare internal and external perceptions and to assess the quality of existing relations based on interviews of associations, residents, local elected representatives, administrations, the media, etc. As of the end of 2011, more than forty maps had been developed in seven countries. This exercise enables plant site operators to understand their stakeholders better and to identify priorities and avenues for improvement for local actions in the future, an initiative that is fully coherent with the Group’s commitment to dialogue and consensus building. In 2011, the mapping program concerned sites located in France and the United States.

AREVA’s policy of philanthropy

AREVA’s policy of philanthropy underpins the Group’s commitment to society and to involvement in the communities in which it is based, with concrete and targeted actions.

Through AREVA Foundation, projects of public interest and solidarity are conducted in two fields: health and knowledge sharing.

In the first field, the Foundation chose to focus its activities on the fight against AIDS, both in terms of research and in the field, but also to facilitate access to treatment for the destitute and to support the acquisition of medical equipment.

In the second, two main lines of action are followed: access to education and the fight against illiteracy, through support for programs or associations in several countries, including India, China and France.

6.3. Overview and strategy of the Group

6.3.3. Operating organization

In addition, AREVA Foundation encourages and supports Group employees who are or wish to be involved in humanitarian initiatives through calls for internal projects, volunteering opportunities and mentoring of young students.

In 2011, AREVA Foundation supported 48 projects, 20 of which are being led by AREVA employees, in 13 countries in which the Group is based.

6.3.3. OPERATING ORGANIZATION

The AREVA company (“AREVA” or the “Company”, together with all of its subsidiaries and consolidated shareholdings, the “Group”) is a global leader in solutions for low-carbon power generation and a major player in renewable energies production. AREVA’s operational organization is aligned with the Group’s strategy to strengthen its global number one position in nuclear power.

Following the meeting of AREVA’s Supervisory Board on June 30, 2011, a new Executive Board took up its functions at the head of the Group. The Supervisory Board noted the success of the integrated model that enables the Group to cover nuclear power plant design and construction, related services, and all the stages of the fuel cycle, and to offer its customers a service tailored to each of their needs. At the same time, the Group has developed a portfolio of solutions in renewable energies.

The Supervisory Board confirmed the operational organization of the Group set up in 2010. It is based on:

- five Business Groups (BG);
- an Engineering & Projects Organization (E&P);
- Functional Departments;
- two Regions (Germany and North America).

Mining: The Mining Business Group combines the four main operations of exploration (search for new deposits for the future), mining (extraction of uranium ore using various mining techniques), ore processing (chemical concentration of natural uranium), and site remediation after operations (reclamation of mining sites according to applicable environmental standards).

Front End: The Front End Business Group combines all of the operations required to convert uranium concentrates into nuclear fuel assemblies designed to generate electricity.

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’s operations relate to the three major stages of fuel fabrication, from chemical conversion of the ore (U_3O_8) into uranium hexafluoride (UF_6),

to enrichment of the natural uranium hexafluoride in uranium-235, to the design and fabrication of the nuclear fuel.

Reactors & Services: The Reactors & Services Business Group designs and builds nuclear power plants, naval propulsion reactors and research reactors, and manufactures related equipment. It also offers products and services for the operation, maintenance, modernization and performance Improvement of existing nuclear power plants. In addition, it offers tools for radioactivity detection and measurement.

Back End: The Back End Business Group manages all operations in the back end of the nuclear cycle, from used nuclear fuel recycling to the dismantling and value development of nuclear facilities. It also offers transportation solutions for each stage of the cycle. The Back End Business Group has operating bases in Europe, the United States and Japan. It offers technologies that help the Group meet its sustainable development commitments.

Renewable Energies: These energies supplement low-carbon energy production solutions.

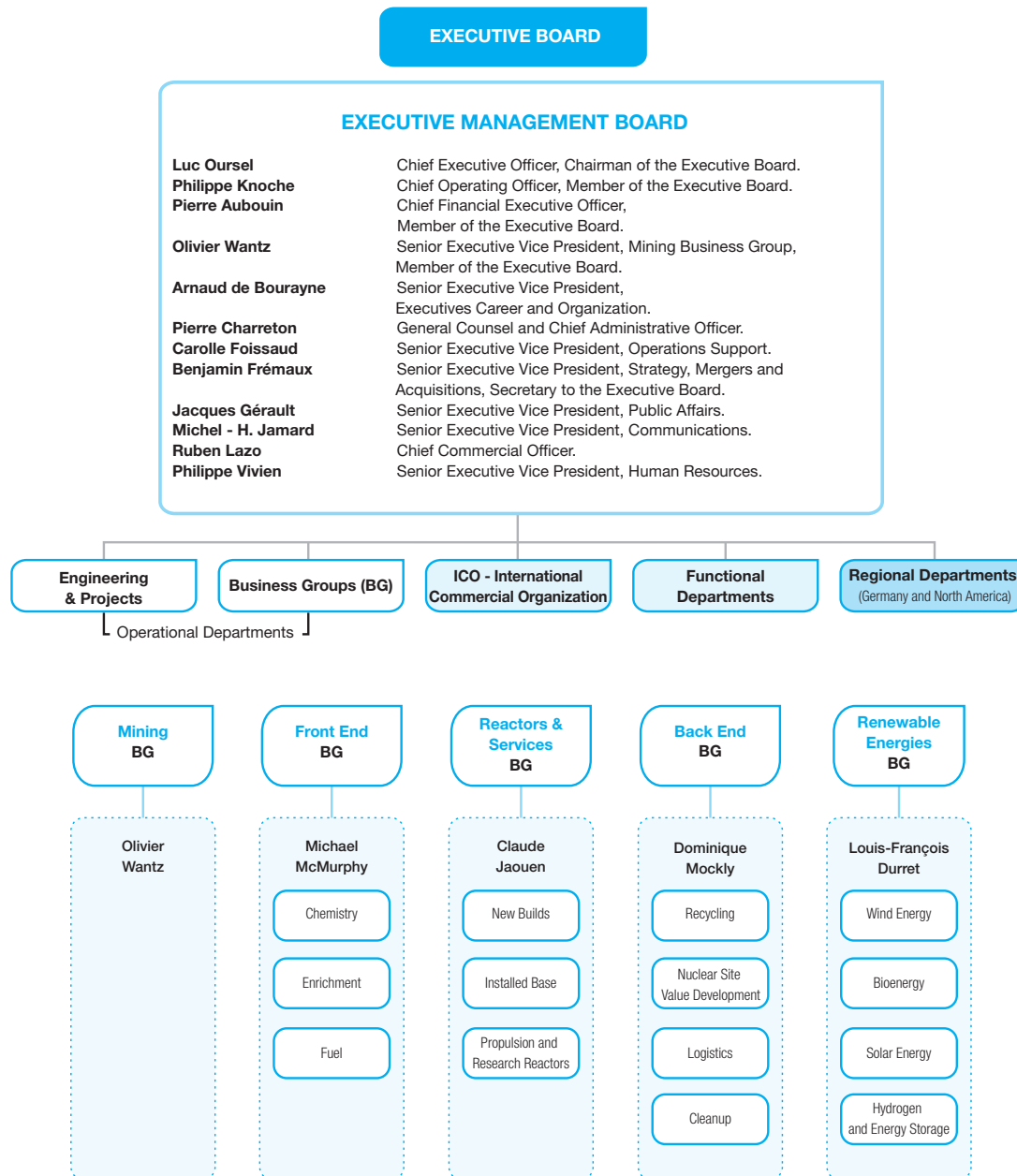
The Renewable Energies Business Group draws on a portfolio of operations concerning four renewable energies: wind energy, bioenergy, solar power, and hydrogen and energy storage. This offering responds to customer requirements for a diversified energy mix.

Through ongoing innovation and selective acquisitions, this entity embodies the Group’s intention of being a major player in these fields. 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.

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.

6.3. Overview and strategy of the Group

6.3.3. Operating organization



This information is as of March 31, 2012.

The integrated model set up by AREVA to complete its projects successfully is founded on the know-how of the engineering and project management team, whose size is unparalleled in the nuclear field. With 50 years of experience, this team is now placed under the authority of Engineering & Projects (E&P), a cross-business organization that brings together more than 6,500 professionals from around the world. Often working in international teams, these professionals are tasked with guaranteeing the reliable, safe and competitive performance of AREVA customer facilities. To accomplish this, E&P's associates may draw on standardized methods, procedures and tools developed by capitalizing

on lessons learned from more than 3,000 projects led every year in every aspect of the fuel cycle. The project teams are formed based on the requirements of each of the Business Group's customers in terms of risk sharing: turnkey projects or procurement packages, cost-plus contracts or fixed price contracts, sole supplier or team builder, whether at the local or global level. The Engineering & Projects organization is responsible for developing strategic partnerships with engineering firms and construction companies across the globe to support AREVA's customers by integrating local resources into the projects and ensuring the global competitiveness of AREVA's offering.

6.4. Operations

6.4.1. Mining Business Group

Engineering & Projects bolsters AREVA's position in the market through a unique mix of project execution capabilities and the technical expertise of its teams, which may work with technologies developed either by the Group or by its competitors. E&P's four centers of competence – project management, engineering, construction and testing, and inspection –

serve to expand these skills and offer attractive career opportunities. In addition, AREVA's global network of 810 experts contributes to the success of the projects by developing innovative technologies, transferring know-how and training technical contributors to the projects.

→ 6.4. Operations

6.4.1. MINING BUSINESS GROUP

AREVA's information by business segment is presented for each operating Business Group (Business Group), which is the level at which information is examined by the Group's governance bodies, as per the requirements of IFRS 8. Subsequent to the establishment of a separate subsidiary consolidating all of the Group's mining operations, data for the Mining Business Group is now reported separately from those of the Front End Business Group (see Section 6.4.2, Front End Business Group). The data from 2010 used for comparisons were restated to reflect this new organization. Information by business segment therefore corresponds to AREVA's five operating Business Groups: Mining, Front End, Reactors & Services, Back End and Renewable Energies.

KEY FIGURES

	2011	2010
<i>(in millions of euros)</i>		
Revenue*	1,289	1,092
Operating income	(1,169)	(222)
Workforce at year end	5,319	5,221

* Contribution to consolidated revenue.

CHALLENGES

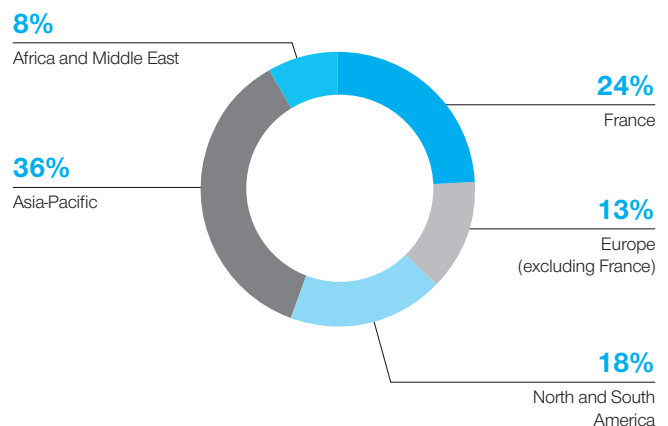
For more than ten years, the market for natural uranium has suffered from a large imbalance between demand for uranium and primary production.

This imbalance is offset by the use of so-called secondary resources, i.e. highly enriched uranium (HEU) from dismantled Russian and US weapons put on the civilian market, materials recovered from used fuel, and re-enriched depleted uranium.

The "Megatons to Megawatts" agreement between the United States and Russia signed on February 18, 1993 was the first non-proliferation agreement providing for the commercial reuse of such materials. Over a 20-year period through 2013, Russia agreed to convert 500 metric tons of HEU into low-enriched uranium for civilian use. Each year, AREVA markets an average of about 2,600 metric tons of natural uranium in the form of uranium hexafluoride (UF₆) under this agreement.

Mining production has increased in recent years, bringing supply and demand into balance. Still, secondary resources are set to diminish with the end of the HEU agreement in 2013. This factor, combined with the expected increase in uranium demand, calls for the continued development of mining capacities.

→ 2011 REVENUE BY BUSINESS AND GEOGRAPHICAL AREA



Source: AREVA.

In fact, the demand associated with new reactor construction will increase continuously and the Group's ability to meet it over the long term constitutes a significant advantage.

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

BUSINESSES

The four main businesses of the Mining Business Group are:

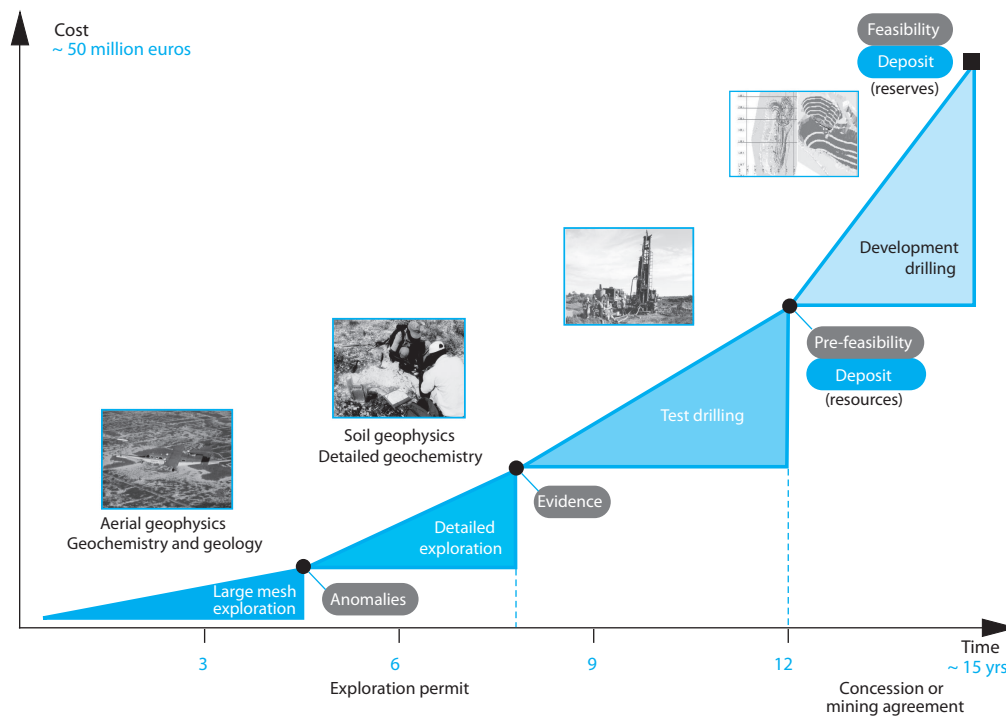
- mineral exploration: seeking new deposits for the future;
- mining operations: uranium ore extraction using various mining methods;
- ore processing: chemical concentration of the natural uranium;
- site rehabilitation after mining: rehabilitation of mine sites in accordance with applicable environmental standards.

The Group's mining operations primarily concern uranium. A relatively abundant metal in the earth's crust, natural uranium contains two main isotopes: more than 99% is non-fissile uranium-238 (U₋₂₃₈), while 0.7% is fissile uranium-235 (U₋₂₃₅).

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

Mining operations cover 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 income 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***



Source: AREVA.

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

The first phase of exploration in areas chosen by AREVA for their promising geological history consists of detecting surface or subterranean 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.

6.4. Operations

6.4.1. Mining Business Group

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 has been demonstrated, the uranium ore is mined either as an open pit or an underground mining operation, or by in situ recovery (see Glossary), depending on the characteristics of the deposit.

Ore extracted from open pit and underground mines is transported to a processing plant, where it is milled and leached, usually with acidic solutions. Leaching may be static (heap leaching) or dynamic. The uranium is extracted from the pregnant liquor using organic solutions or ion exchange resins. It 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.

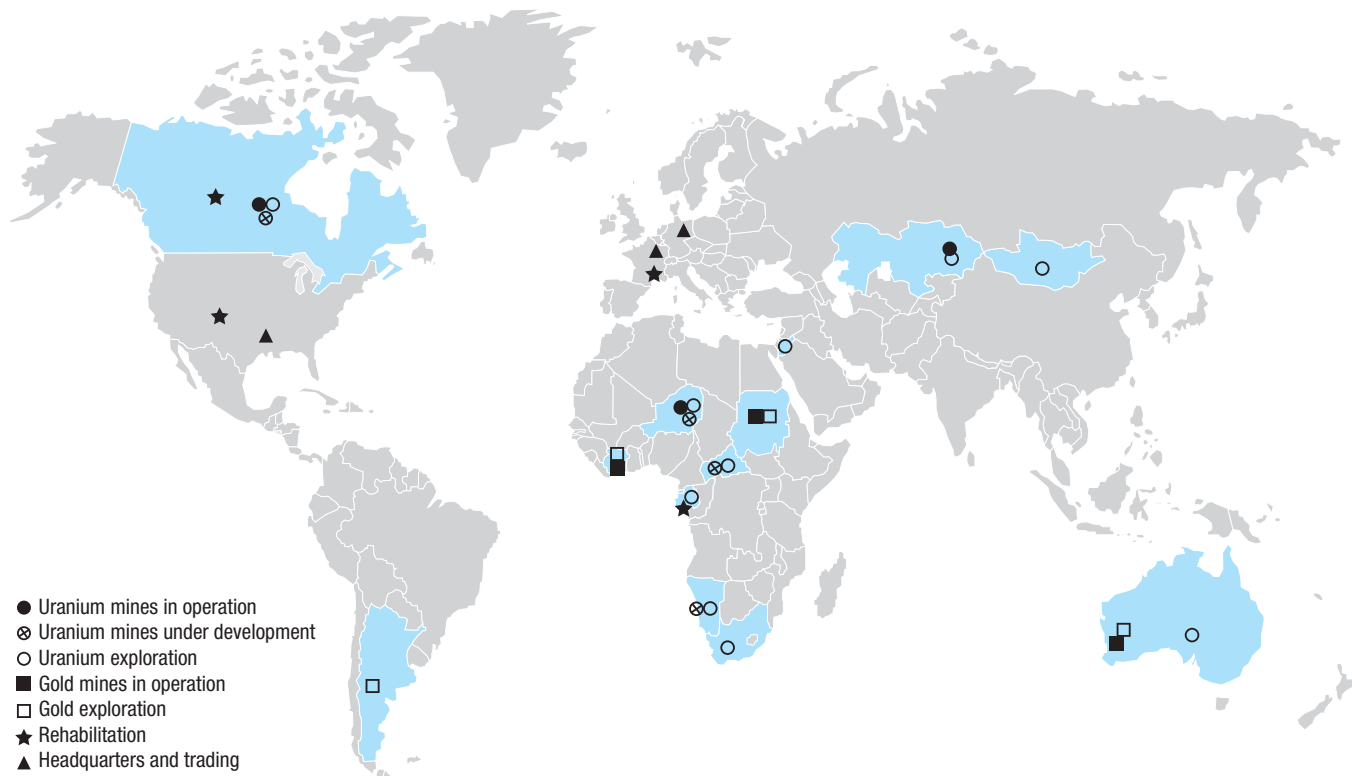
Most often, uranium in very low- to low-grade deposits is recovered with in situ techniques. In situ leaching can often be implemented quickly. It consists of injecting an oxidizing solution into the ore bed to dissolve the uranium selectively. The solution is then pumped to the surface and processed in special plants.

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 return the site to its natural state after operations, with a view to sustainable development.

MANUFACTURING AND HUMAN RESOURCES

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

→ LEADING SITES OF THE MINING BUSINESS GROUP



Source : AREVA.

Canada

In Canada, AREVA's production comes from McArthur River, operated by Cameco Corporation. A second deposit, Cigar Lake, also operated by Cameco Corporation, is slated to enter production at the end of 2013. These sites are located approximately 600 kilometers north of Saskatoon in Saskatchewan Province.

At all of the sites it operates and for all of its operations, the Group deploys environmental management systems that comply with the international ISO 14001 standard. The McClean Lake site, the Cluff Lake site (shut down six years ago) and the exploration operations received ISO 14001 certification in 2000 and 2004.

AREVA is conducting a major exploration program in this uranium-rich province, where it also holds majority interests in several deposits: McClean Lake (70% stake), Midwest (69.16% stake), now on standby for economic reasons, Shea Creek (51% stake), whose development is tied to technical assessments of the project's feasibility, and finally Kiggavik (64.8% stake), for which an Environmental Impact Statement was submitted at the end of 2011.

McArthur River

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

Remotely-operated equipment is used to mine the deposit to prevent direct exposure of the miners to the very high-grade ore body. The ore is processed at the Key Lake mill located about 100 kilometers south of the deposit. The mill is operated by Cameco Corporation, which holds an 83.3% interest (AREVA holds 16.7%). This joint venture employs about 310 people. McArthur and Key Lake have a licensed capacity of 7,200 metric tons (18.7 million pounds of U_3O_8), but the regulatory authorities have granted permission to exceed that amount by up to 7,850 metric tons to offset the deficit in past production.

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%.

Uranium production started in 1999. Mining was discontinued in early 2009. The ore extracted was processed in the JEB mill. The mill has a capacity of approximately 12 million pounds of U_3O_8 per year (4,600 metric tons), which could be increased. Ore processing at the Jeb mill stopped in June 2010. The mill was put on standby until the start of mining operations at Cigar Lake. Jeb is the only mill in the world capable of processing very high-grade ore (> 15%) without diluting it, and will process all of the ore produced at the Cigar Lake mine.

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 will be operated by Cameco. Cigar Lake is the world's second largest high-grade uranium deposit, after McArthur River.

AREVA discovered the deposit in 1981 and helped develop the mining method. Located 450 meters below the surface in fractured, water-saturated rock, the deposit cannot be mined with conventional methods. Sophisticated technology is used to freeze and harden the ground. The ore will be removed with the jet boring method involving high-pressure water jets. 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). During the first phase of operation

(approximately 15 years), 100% of the ore extracted will be processed at the Jeb mill under agreements signed in 2011 between the respective shareholders of the McClean Lake Joint Venture and the Cigar Lake Joint Venture.

Production was postponed due to flooding in 2006 and 2008. The mine was dewatered in 2010 and underground development work restarted.

The mine operator, Cameco, expects the deposit to enter production at the end of 2013.

Niger

Exploration teams from the Commissariat à l'énergie atomique (CEA, the French atomic energy commission) detected uranium in Niger at the end of the 1950s. The uranium deposit is located in the Piedmont plains west of the granitic Air Mountains. Two companies, Somaïr and Cominak, were established to mine the deposits, located 1,200 kilometers north of Niamey by road. Mine development led to the creation of two new cities, Arlit and Akokan.

More than 2,000 people work at these sites in addition to the employees based in the country's capital city, Niamey. Along with providing jobs, the operating companies offer health, social and educational services to the local communities in this isolated area.

As of today, deposits have only been mined in the Arlit / Akokan region. AREVA's mining claim covers 360 square kilometers (140 square miles). Both Somaïr and Cominak have received ISO 14001 certification.

Exploration work is ongoing in other permitted areas.

Somaïr

Société des mines de l'Air (Somaïr) 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 mining company).

Somaïr has operated several uranium deposits near the town of Arlit since 1971. The ore is extracted in open pit mines and processed in an on-site mill with an initial capacity of 2,000 metric tons of uranium per year (5.2 million pounds of U_3O_8). Mill capacity is being increased to 3,000 metric tons of uranium per year, in particular by developing the heap leaching process.

Cominak

Compagnie minière d'Akouta (Cominak) was established in 1974. AREVA is the operator of the company and owns 34% of its shares. Other shareholders are Sopamin of Niger (31%), Overseas Uranium Development Company of Japan (Ourd, 25%), and Enusa Industrias Avanzadas SA of Spain (10%).

Since 1978, Cominak has mined three main deposits, Akouta, Akola and Ebba, near the town of Akokan. The ore is extracted underground and is then processed in the on-site mill to produce approximately 1,500 metric tons of uranium per year (3.9 million pounds of U_3O_8).

6.4. Operations

6.4.1. Mining Business Group

Imouraren Project

The Imouraren deposit, located 80 kilometers south of Arlit, was discovered in 1966. Mining operations were deferred until market conditions warranted. 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 (85% AREVA, 15% Kepeco) holding a 66.65% interest and Sopamin of Niger holding the remaining 33.35%.

Kazakhstan

Katco, a company headquartered in Almaty, was established in 1997 to develop and mine the Muyunkum and Tortkuduk deposits in southern Kazakhstan, approximately 250 kilometers north of Shymkent.

Shareholders include AREVA (51%) and the Kazakh company Kazatomprom (49%), the national natural uranium producer of Kazakhstan.

Commercial development of the two sites, located about a hundred kilometers apart, started in April 2004 after the signature of a series of agreements between the two shareholders. These agreements followed a feasibility study lasting more than three years, including testing on a full-scale pilot plant. The in situ recovery (ISR) technology was chosen to recover the uranium; this process uses a chemical solution injected directly into the rock to dissolve the uranium.

The initial objective for nominal production was 1,500 metric tons of uranium per year (3.9 million pounds of U_3O_8) for the two deposits combined. This objective was reached in 2008 when Katco produced 1,356 metric tons of uranium.

However, considering the size of the deposits, the prospects for ore discovery in new areas under permit to the company, and the recent 35-year extension of Katco's underground mining concession, production could be increased to 4,000 metric tons. Katco produced 3,608 metric tons of uranium in 2011, confirming its status as the largest in situ recovery mine site in the world and the leading production site for AREVA.

Namibia – Trekkopje project

The industrial pilot plant for the Trekkopje project yielded significant data and a better understanding of the process, helping to optimize mining of the deposit over the longer term. Operation of the pilot will continue in 2012 to maximize improvements for the project. The decision to start production will depend on the results achieved with the pilot as well as on market conditions, which deteriorated markedly in 2011 following the Fukushima accident.

Bakouma and Ryst Kuil

In light of unfavorable market conditions, activities at Ryst Kuil were suspended and the Group announced its decision to suspend activities at the Bakouma site to the Central African Republic government. However, optimization studies on the Bakouma ore treatment process continue at AREVA's research centers in France.

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 this monitoring, under the mining sites' post-closure management plans, depends on the improvement and stability of chemical and radiological parameters. These plans are discussed with national administrations, although the objectives set by AREVA are more ambitious than those set by the regulations. 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.

MARKET AND COMPETITIVE POSITION**Market**

Global nuclear power programs consumed about 59,000 metric tons of uranium in 2011 ("gross" demand, expressed in natural uranium equivalent).

In terms of volume, demand has risen slightly over the past five years, from 0.5% to 1% per year, reflecting increasing load factors, connection to the grid of a few new reactors, and a growing number of power upratings at existing reactors. In addition, some utilities, seeking to build strategic inventories in line with their investments in new capacity, particularly in Asia, have contributed to rising demand in recent years.

The forecasts for increased global demand by 2020 were revised downwards following the Fukushima accident. However, strong market growth is still expected, with demand 45% greater in 2020 than in 2011.

Global production continued to rise, although not as sharply as in recent years, reaching 55,000 metric tons of uranium in 2011. Like last year, Kazakhstan led production, with 2,000 metric tons of uranium. Outside Kazakhstan, production continued to rise at Somair (AREVA), in the United States and in Australia, where Olympic Dam (BHP Billiton) returned to a stable production level. However, production was below forecast at the Ranger mine in Australia and the Rössing mine in Namibia.

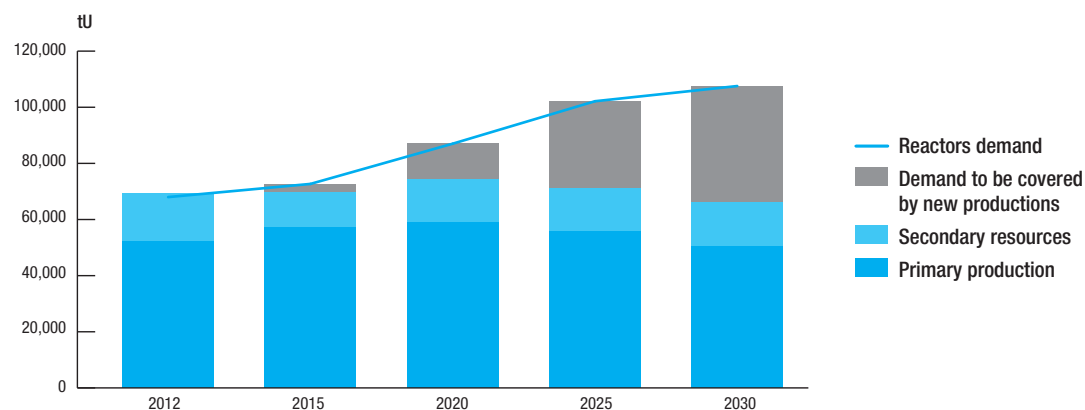
Prospects for an increase in global production over the medium to long term have declined: some projects have been postponed or cancelled, capital programs have been cut, and the global exploration effort is down, particularly on the part of junior mining companies with limited access to capital.

World production covers about 90% of uranium consumption; the balance is satisfied with secondary sources (excess inventories held by the DOE, material from diluted HEU, use of MOX fuel, recycled uranium and re-enriched uranium tails).

Primary production should represent an increasing share of total uranium supply as secondary resources are gradually drawn down (see chart below). The increase in production will mainly result from the development of new mining projects, offsetting production decreases and planned mine closures.

The Group believes that the rapidly made decisions by the producers to postpone or cancel the start of production for mining projects will offset the delay in increased demand, and thus that the balance of supply and demand over the medium and long terms is not significantly affected by the Fukushima accident.

→ WORLD SUPPLY AND DEMAND



Source: According to WNA 2011.

Estimated world production in 2011

→ TOP TEN URANIUM PRODUCING COUNTRIES

Rank	Producer	Production (MTU)	%
1	Kazakhstan	19,451	35%
2	Canada	9,148	17%
3	Australia	6,169	11%
4	Niger	4,659	9%
5	Russia	3,610	6%
6	Namibia	3,257	7%
7	Uzbekistan	2,500	5%
8	United States	1,536	3%
9	China	1,400	3%
10	Malawi	846	2%
TOTAL TOP 10		52,576	96%
	Other	2,424	4%
	Worldwide production	55,000	100%

Source: AREVA estimates based on available data.

→ TOP TEN URANIUM PRODUCERS

Rank	Producer	Available share of production (MTU)*	%
1	Kazatomprom	9,072	16.5%
2	AREVA	8,790	16%
3	Cameco	8,635	15.7%
4	U1/ARMZ	7,708	14%
5	Rio Tinto	4,060	7.4%
6	Navoi	2,500	4.5%
7	BHP Billiton	3,380	6.1%
8	Paladin	2,282	4.1%
9	CNNC	1,400	2.5%
10	CGNPC	1,155	2.1%
TOTAL TOP 10		49,981	89.1%
	Other	6,019	10.9%
	Worldwide production	55,000	100%

Source: AREVA estimates based on available data.

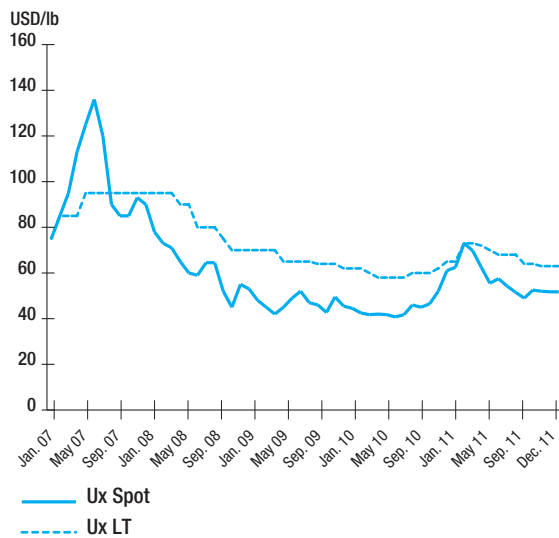
* Share of uranium production sold/distributed.

6.4. Operations

6.4.1. Mining Business Group

In 2011, AREVA produced 8,790 metric tons of uranium (in share of production available to the group). In addition to its own share of Somair production (1,728 metric tons), AREVA substituted for Sopamin for 556 metric tons of uranium, and thus sold 2,284 metric tons of uranium coming from Somair.

→ **URANIUM PRICE INDICATORS 2007-2011
(IN CURRENT US DOLLARS)**



Source: UxC.

Since the Fukushima events, spot indicators published by UxConsulting and TradeTech are in the range of 50-55 US dollars per pound, while long term indicators fluctuate between 61 and 65 US dollars per pound. Although below pre-Fukushima levels by about 25%, spot prices are still above the average recorded for the first half of 2010. In terms of uranium supply, the market was marked by a slew of project postponements, but also by a series of acquisitions of junior mining companies by majors, demonstrating the latter's interest in the long term uranium market.

RESOURCES, RESERVES AND PRODUCTION SITES

Uranium

Mineral reserves in deposits accessible to the group come to 187,628 metric tons of uranium (MTU). Reserves in the ground are supplemented with so-called secondary sources. In particular, AREVA has access to the equivalent of close to 2,600 metric tons of natural uranium per year through 2013 in connection with the so-called "Russian HEU" agreements to reuse the uranium from Russia's dismantled nuclear weapons.

The volume of resources that may reasonably be expected to be upgraded to reserves in the medium term (measured and indicated resources) is 114,486 metric tons. The volume of inferred resources available to AREVA is 140,141 metric tons.

For the longer term, the group had 52,717 metric tons of potential mineral resources in the ground at year-end 2011.

The Group's resources and reserves at year-end 2011, together with its uranium production in 2011, are shown in the tables below. Uranium from diluted Russian HEU and other secondary sources is not included.

Estimating methods

AREVA's resources and reserves are estimated based on data gathered by the Group's teams or taken from audited reports. The Studies and Reserves Department is responsible for these estimates.

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

In 2010, the AREVA group decided to comply with international standards for the classification of its resources and reserves. To date, 88% of the resources comply and 39% of the reserves comply. Of the remaining 61%, 57% comply with respect to resources only, and work is in progress to bring reserves into compliance. The latter primarily concerns Kazakhstan, Somair (Tamou west and east) and Cominak (Akouta north and south).

DEFINITION OF RESOURCES

Mineral Resources: Concentrations or indicators 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 knowledge. Mineral resources are subdivided into resources: measured, indicated and inferred. The Group also provides information on another category, other resources.

Measured Resources: Share of mineral resources for which the characteristics* 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 estimation 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* 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 estimation 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.

Other Resources: Share of mineral resources that cannot be mined for administrative or technical reasons or that cannot be mined profitably under current market conditions. Additional development work or changes in mining criteria may result in the reclassification of these "other resources" as "resources".

* Quantity, grade, density, form, physical characteristics.

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 time the report is 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 2010

- Based on AREVA Mines' share in the joint venture, uranium reserves fell 17,420 metric tons and measured and indicated uranium resources fell 6,258 metric tons due to the change in recognition of the joint venture share in the Imouraren deposit, from 66.65% to 56.65%.
- Somair
 - Uranium reserves fell 7,843 metric tons due to the downgrading of the Artois deposit to indicated resources (which, added to the 4,090 metric tons of Artois' uranium resources, bring its total indicated uranium resources to 11,933 metric tons at December 31, 2011). This downgrading is considered temporary and is tied to the fact that additional work must be carried out and the cost model brought up to date. Reclassification as reserves should take place in the next two years.
- A total of 4,342 metric tons of inferred uranium resources from the Nord Taza deposit were reclassified as measured and indicated resources following a new estimate.
- Trekkopje: AREVA finalized its estimate of resources in the second half of 2011, classifying 26,000 metric tons of uranium as inferred resources. The previous estimate had been carried out by SRK in 2008 and concluded that there were 45,561 metric tons of uranium, 42,462 metric tons of which were measured/indicated.
- Cameco updated resources for the McArthur deposit, resulting in the reclassification of 6,530 metric tons of inferred uranium resources to measured and indicated resources.
- Inferred resources at Bakouma were raised to 36,475 metric tons following a new estimate done by AREVA. This new estimate includes the work conducted since 2007. The previous estimate, done in 2008 by AMC, was 32,224 metric tons of uranium classified as inferred resources.
- At Ryst Kuil, 5,722 metric tons of inferred uranium resources were downgraded to other resources.

6.4. Operations

6.4.1. Mining Business Group

→ AREVA'S EQUITY INTERESTS IN URANIUM PROJECTS

Country	Site	Type*	Operator	AREVA share		
				Share in JV (%)	Available to AREVA** (%)	Financial consolidation*** (%)
South Africa	Ryst Kuil Project	n.d.	AREVA NC	74.00%	74.00%	100.00%
Australia	Koongarra	n.d.	AREVA NC	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 NC	64.80%	64.80%	64.80%
Canada	McArthur	UG	Cameco	30.20%	30.20%	30.20%
Canada	McClellan	OP	AREVA NC	70.00%	70.00%	70.00%
Canada	Midwest	OP	AREVA NC	69.16%	69.16%	69.16%
Canada	Millennium	UG	Cameco	27.94%	27.94%	27.94%
United States	Pathfinder	OP	AREVA NC	100.00%	100.00%	100.00%
France	AREVA Mines	n.d.	AREVA NC	100.00%	100.00%	100.00%
Kazakhstan	Katco	ISR	AREVA NC	51.00%	100.00%	100.00%
Mongolia	Dulaan Uul	n.d.	AREVA NC	100.00%	100.00%	100.00%
Namibia	Trekkopje Project	OP	AREVA NC	100.00%	100.00%	100.00%
Niger	Arlit Concession	n.d.	AREVA NC	100.00%	100.00%	100.00%
Niger	Cominak	UG	AREVA NC	34.00%	34.00%	34.00%
Niger	Imouraren	OP	AREVA NC	56.65%	56.65%	100.00%
Niger	Somaïr	OP	AREVA NC	63.40%	63.40%	100.00%
CAR	Bakouma	n.d.	AREVA NC	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.

Source: AREVA estimates based on available data.

→ 2011 PRODUCTION IN METRIC TONS OF URANIUM (MTU)

Country	Site	Share in JV 2011 MTU	Available share * 2011 MTU	Financial consolidation 2011 ** MTU	Type***
Canada	McArthur	2,321	2,321	2,321	UG
Total	Canada	2,321	2,321	2,321	
France	Hérault Mining Division	6	6	6	
Total	France	6	6	6	
Kazakhstan	Katco	1,840	3,608	3,608	ISR
Total	Kazakhstan	1,840	3,608	3,608	
Niger	Cominak	487	571	487	UG
Niger	Somaïr	1,728	2,284	2,726	OP
Total	Niger	2,216	2,855	3,213	
TOTAL		6,382	8,790	9,148	

* 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 estimates based on available data.

→ MINERAL RESERVES IN THE GROUND IN METRIC TONS OF URANIUM (MTU) (YEAR-END 2011 ESTIMATES)

Country	Site	Proven			Probable			Total reserves				AREVA share	
		Mineral kt	Grade %U	Metal MTU	Mineral kt	Grade %U	Metal MTU	Mineral kt	Grade %U	Metal MTU	Recovery %	Share in JV MTU	Avai- lable to AREVA * MTU
Canada	Cigar Lake	234	189.17	44,191	303	129.08	39,175	537	155.22	83,367	98.50%	30,465	30,465
Canada	Key Lake	62	4.40	272	0	0.00	0	62	4.40	272	98.70%	45	45
Canada	McArthur	457	187.18	85,633	413	94.50	39,002	870	143.22	124,635	98.70%	37,144	37,144
Canada	McClean	93	3.00	280	0	0.00	0	93	3.00	280	96.00%	188	188
Canada	Total	846	154.02	130,377	716	109.15	78,178	1,563	133.46	208,555	98.62%	67,843	67,843
Kazakhstan	Katco	0	0.00	0	20,268	0.77	15,507	20,268	0.77	15,507	80.37%	6,356	12,463
Kazakhstan	Total	0	0.00	0	20,268	0.77	15,507	20,268	0.77	15,507	80.37%	6,356	12,463
Niger	Cominak	2,367	3.26	7,706	3,596	3.39	12,192	5,963	3.34	19,898	92.00%	6,224	6,224
Niger	Imouraren	120,160	0.69	82,885	185,888	0.70	130,837	306,048	0.70	213,722	81.51%	98,682	98,682
Niger	Somaïr	82	1.38	113	1,656	2.40	3,969	1,738	2.35	4,082	93.38%	2,417	2,417
Niger	Total	122,609	0.74	90,704	191,140	0.77	146,998	313,749	0.76	237,702	82.59%	107,323	107,323
TOTAL		123,455	1.79	221,081	212,124	1.13	240,683	335,579	1.38	461,764		181,521	187,628

* 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.

Sources: AREVA estimates based on available data.

6.4. Operations

6.4.1. Mining Business Group

→ MINERAL RESOURCES IN THE GROUND IN METRIC TONS OF URANIUM (MTU) (YEAR-END 2011 ESTIMATES)

Country	Site	Measured			Indicated			Measured + Indicated		
		Mineral kt	Grade %U	Metal MTU	Mineral kt	Grade %U	Metal MTU	Mineral kt	Grade %U	Metal MTU
Canada	Cigar Lake	19	14.27	270	25	23.02	585	44	19.28	854
Canada	Dawn Lake	0	0.00	0	184	37.46	6,885	184	37.46	6,885
Canada	Kiggavik	0	0.00	0	10,418	4.70	48,953	10,418	4.70	48,953
Canada	McArthur	74	47.34	3,490	114	215.34	24,636	188	149.50	28,126
Canada	McClellan	84	30.55	2,561	142	16.68	2,365	226	21.83	4,926
Canada	Midwest	0	0.00	0	463	4.81	2,227	463	4.81	2,227
Canada	Millennium	0	0.00	0	508	38.56	19,578	508	38.56	19,578
Canada	Total	176	35.82	6,321	11,854	8.88	105,229	12,031	9.27	111,550
Kazakhstan	Katco	0	0.00	0	0	0.00	0	0	0.00	0
Kazakhstan	Total	0	0.00	0	0	0.00	0	0	0.00	0
Namibia	Trekkopje Project	3,351	0.15	501	0	0.00	0	3,351	0.15	501
Namibia	Total	3,351	0.15	501	0	0.00	0	3,351	0.15	501
Niger	Arlit Concession	0	0.00	0	0	0.00	0	0	0.00	0
Niger	Cominak	0	0.00	0	163	3.93	639	163	3.93	639
Niger	Imouraren	15,159	0.54	8,139	93,509	0.58	54,445	108,668	0.58	62,584
Niger	Somaïr	1,605	0.89	1,423	31,229	1.25	39,169	32,834	1.24	40,592
Niger	Total	16,764	0.57	9,562	124,901	0.75	94,253	141,665	0.73	103,815
Car	Bakouma	0	0.00	0	0	0.00	0	0	0.00	0
CAR	Total	0	0.00	0	0	0.00	0	0	0.00	0
	TOTAL	20,292	0.81	16,384	136,755	1.46	199,482	157,047	1.37	215,866

* 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 based on available data.

AREVA share		Inferred			AREVA share	
Measured + Indicated Share in JV MTU	Measured + indicated available to AREVA * MTU	Mineral kt	Grade % <i>U</i>	Metal MTU	Inferred Share in JV MTU	Inferred Available to AREVA * MTU
317	317	448	106.74	47,831	17,745	17,745
1,590	1,590	46	8.44	385	89	89
31,722	31,722	731	2.82	2,059	1,334	1,334
8,493	8,493	405	82.05	33,242	10,037	10,037
3,448	3,448	16	9.78	156	109	109
1,540	1,540	9	180.65	1,662	1,149	1,149
5,469	5,469	298	21.57	6,424	1,794	1,794
52,578	52,578	1,953	46.99	91,758	32,259	32,259
0	0	19,359	0.75	14,510	7,400	14,510
0	0	19,359	0.75	14,510	7,400	14,510
501	501	250,000	0.10	26,000	26,000	26,000
501	501	250,000	0.10	26,000	26,000	26,000
0	0	12,845	1.59	20,403	20,403	20,403
217	217	3,741	3.40	12,723	4,326	4,326
35,454	35,454	4,394	0.66	2,879	1,631	1,631
25,735	25,735	7,066	1.99	14,061	8,915	8,915
61,406	61,406	28,046	1.79	50,066	35,274	35,274
0	0	17,974	2.03	36,475	36,475	32,098
0	0	17,974	2.03	36,475	36,475	32,098
114,486	114,486	317,331	0.69	218,809	137,408	140,141

6.4. Operations

6.4.1. Mining Business Group

→ OTHER MINERAL RESOURCES IN THE GROUND IN METRIC TONS OF URANIUM (MTU) (YEAR-END 2011 ESTIMATES)

Country	Site	Measured			Indicated			Measured + Indicated		
		Mineral kt	Grade %oU	Metal MTU	Mineral kt	Grade %oU	Metal MTU	Mineral kt	Grade %oU	Metal MTU
South Africa	Ryst Kuil Project	0	0.00	0	0	0.00	0	0	0.00	0
South Africa	Total	0	0.00	0	0	0.00	0	0	0.00	0
Australia	Koongarra	624	10.55	6,585	0	0.00	0	624	10.55	6,585
Australia	Total	624	10.55	6,585	0	0.00	0	624	10.55	6,585
Canada	Midwest	0	0.00	0	640	22.05	14,113	640	22.05	14,113
Canada	Total	0	0.00	0	640	22.05	14,113	640	22.05	14,113
United States	Pathfinder	0	0.00	0	1,156	2.89	3,346	1,156	2.89	3,346
United States	Total	0	0.00	0	1,156	2.89	3,346	1,156	2.89	3,346
France	Areva Nc France	143	1.20	172	6,249	1.81	11,279	6,392	1.79	11,451
France	Total	143	1.20	172	6,249	1.81	11,279	6,392	1.79	11,451
Mongolia	Dulaan Uul	0	0.00	0	0	0.00	0	0	0.00	0
Mongolia	Total	0	0.00	0	0	0.00	0	0	0.00	0
Niger	Cominak	435	3.06	1,331	300	2.71	812	735	2.92	2,143
Niger	Somair	8,694	0.61	5,340	408	2.44	996	9,102	0.70	6,336
Niger	Total	9,129	0.73	6,671	708	2.55	1,808	9,837	0.86	8,479
	TOTAL	9,896	1.36	13,428	8,753	3.49	30,546	18,649	2.36	43,974

* 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 based on available data.

AREVA share		Inferred			AREVA share	
Measured + Indicated Share in JV MTU	Measured + Indicated Available to AREVA * MTU	Mineral kt	Grade % <i>U</i>	Metal MTU	Inferred Share in JV MTU	Inferred Available to AREVA * MTU
0	0	9,095	0.85	7,733	5,722	5,722
0	0	9,095	0.85	7,733	5,722	5,722
6,585	6,585	0	0.00	0	0	0
6,585	6,585	0	0.00	0	0	0
9,761	9,761	0	0.00	0	0	0
9,761	9,761	0	0.00	0	0	0
3,346	3,346	1,385	0.78	1,080	1,080	1,080
3,346	3,346	1,385	0.78	1,080	1,080	1,080
11,451	11,451	287	0.48	139	139	139
11,451	11,451	287	0.48	139	139	139
0	0	59,044	0.17	9,888	9,888	9,888
0	0	59,044	0.17	9,888	9,888	9,888
729	729	0	0.00	0	0	0
4,017	4,017	0	0.00	0	0	0
4,746	4,746	0	0.00	0	0	0
35,888	35,888	69,811	0.27	18,840	16,829	16,829

6.4. Operations

6.4.1. Mining Business Group

Gold

La Mancha, an AREVA subsidiary, is a diversified international gold producer that operates two gold mines in Africa and two in Australia. La Mancha is developing several projects in Australia, Sudan, Côte d'Ivoire and Argentina.

At December 31, 2011, the gold mines and mining projects were as follows:

Country	Site	Operator	AREVA share	
			Share in JV (%)	Available to AREVA (%)
Australia	Frog's Leg	LMRA	32.32	32.32
Australia	White Foil	LMRA	63.38	63.38
Côte d'Ivoire	Fetekro	Cominor	41.19	41.19
Côte d'Ivoire	SMI	Cominor	29.09	29.09
Sudan	AMC	Cominor	25.35	25.35

→ **2011 PRODUCTION IN KILOGRAMS OF GOLD (KG)**

Country	Total (100%) kg	Share in JV kg	Share Available to AREVA kg
Australia	4,348	1,496	1,496
Côte d'Ivoire	1,143	332	332
Sudan	2,231	566	566
TOTAL	7,722	2,394	2,394

At the time this document was drafted, AREVA did not have up-to-date data on La Mancha resources and reserves. This information is available on their website, www.lamancha.ca.

RELATIONS WITH CUSTOMERS AND SUPPLIERS**Customers**

The contract portfolio shows a slight trend towards longer term contracts at the utilities' request as they strive to secure their supplies for their power plant operations. At the same time, customers tend to sign contracts with mixed price formulas that maintain controlled exposure to market conditions. Mixed price formulas are a combination of a base price indexed to inflation and price indicators.

Trading and Partnerships

The Group sold 12,607 metric tons of uranium in 2011, compared with 12,329 metric tons in 2010. Calls for tender were limited in 2011 as a majority of customers decided to remain on the sidelines following the events at Fukushima.

The partners in the Cigar Lake Joint Venture and the McClean Lake Joint Venture agreed to process all of the Cigar Lake ore at the Jeb mill. This decision will optimize the processing costs of the future mine, enhancing its profitability.

Suppliers

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

RESEARCH AND DEVELOPMENT**Mineral exploration and outlook**

Unlike most uranium mining companies, AREVA has continuously invested in its mineral exploration for the past 20 years. Approximately 5% of the Business Group's revenue is allocated to this program today. This strategy has preserved the know-how of its teams of geologists, enabled the collection and analysis of up-to-date scientific data, and allowed new projects to be prepared in anticipation of a market turnaround. With a budget in the neighborhood of 50 million euros in 2011, AREVA will deploy an ambitious exploration program over the coming 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) and Niger, both historical uranium-producing regions that are still among the most promising, AREVA is pursuing exploration programs in a dozen countries. Work focuses in particular 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 terms

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

AREVA is also performing research and studies to develop its techniques in estimating, mining, ore milling in the plant as well as heap leaching, with direct applications at its sites in production or planned. 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.

OPERATIONS**Production**

In 2011, AREVA produced 8,790 metric tons of uranium (in share of production available to the Group). Although no expatriates were present at the Niger sites, the Group was able to produce 2,726 metric tons of uranium at Somaïr and 1,433 metric tons at Cominak (on a 100% basis). In Kazakhstan, efforts to increase production continued, with Katco producing 3,608 metric tons of uranium in 2011. In Canada, AREVA's share of production from the McArthur mill was 2,321 metric tons of uranium.

OUTLOOK AND DEVELOPMENT GOALS

In a post-Fukushima environment, and despite a slower pace of growth in demand, AREVA intends to remain a key supplier of natural uranium. The Group's plan is to increase production at the existing mines, develop projects based on market conditions, and continue to invest significantly in exploration.

Having gathered together the necessary technical, human and financial resources to increase its production and marketing capabilities, AREVA intends to consolidate its position on the uranium market and remain one of the most competitive producers.

AREVA MED**Radio-immunotherapy (RIT)**

RIT works by radiolabeling a monoclonal antibody with a radioactive isotope such as lead-212 (^{212}Pb). Using cancer cell-specific antigens, this treatment targets and destroys cancer cells while limiting the toxicity to healthy cells. AREVA Med is an AREVA subsidiary established to industrialize the production of medical-grade ^{212}Pb and to develop innovative therapies using this isotope to fight cancer. AREVA Med has developed new processes for producing ^{212}Pb , a rare radioactive isotope that is currently at the heart of promising anti-cancer research projects. AREVA is building a new facility to produce large-scale quantities of medical-grade ^{212}Pb in Bessines-sur-Gartempe, in the Limousin region of France. This one-of-a-kind industrial facility will deploy innovative processes developed by AREVA teams.

Activities

In 2011, AREVA Med received authorization from the US Food and Drug Administration (FDA) to begin Phase I clinical trials of ^{212}Pb -TCMC-Trastuzumab aimed at combating intra-abdominal HER-2 expressing cancers. It is the first use of ^{212}Pb in clinical trials. This clinical program is currently underway in the United States at the University of Alabama at Birmingham (UAB). Phase I was initiated in July 2011 and is expected to be completed in approximately two years. Before new drugs become available to doctors and patients, researchers must demonstrate the drug's therapeutic efficacy through an extensive series of clinical trials. The collected data are reviewed at the end of each phase and used for planning the following phase. In addition to the current clinical trial, AREVA Med and its partners in France and in the United States are currently implementing several preclinical RIT studies using ^{212}Pb . Construction of the Maurice Tubiana Laboratory began in May 2011 at the Bessines-sur-Gartempe site and is proceeding on schedule. In 2011, AREVA Med acquired the US firm Macrocylics, the global leader in production of chelating agents and ligands, which are used to bond isotopes to monoclonal antibodies for radioimmunotherapy treatments.

OUTLOOK AND FUTURE DEVELOPMENT**Industrial production of ^{212}Pb at the Maurice Tubiana Facility**

Production of the ^{212}Pb needed for the development of the new, powerful and targeted drugs is scheduled to begin in 2013. The facility's products will support ongoing research programs led by AREVA Med and its partners. AREVA Med will also deploy the synergies created by the acquisition of Macrocylics to expand its commercial offering.

6.4. Operations

6.4.2. Front End Business Group

6.4.2. FRONT END BUSINESS GROUP

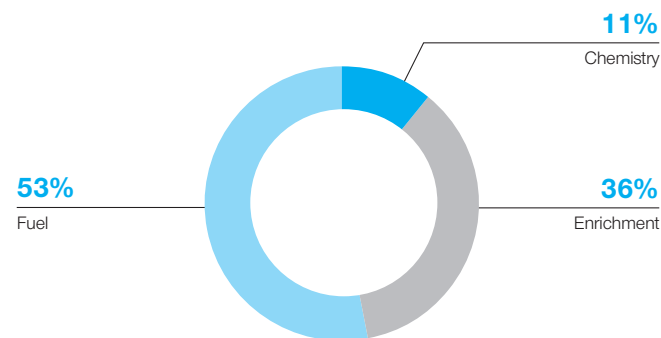
KEY FIGURES

AREVA's business segment information is presented by operating Business Group (Business Group), which is the level at which this information is examined by the Group's managing bodies, in accordance with the recommendations of IFRS 8. Subsequent to the establishment of a separate subsidiary combining all of the Group's mining operations, data for the Mining Business Group is now reported separately from those of the Front End Business Group (see Section 6.4.1., Mining Business Group). The data from 2010 used for comparisons were restated to reflect this new organization. Information by business segment therefore corresponds to AREVA's five operating Business Groups: Mining, Front End, Reactors & Services, Back End and Renewable Energies.

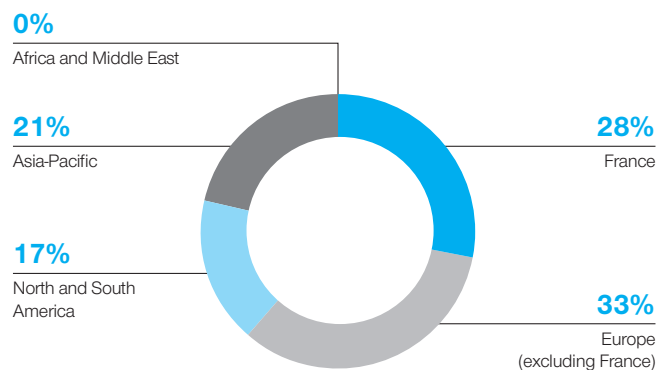
	2011	2010
(millions of euros)		
Revenue*	2,282	2,612
Operating income	(780)	85
Workforce at year end	8,888	8,808

* Contribution to consolidated revenue.

→ 2011 REVENUE BY BUSINESS AND GEOGRAPHICAL AREA



Source: AREVA



Source: AREVA

OVERVIEW

The Front End Business Group represented 26% of the AREVA group's revenue in 2011; its backlog is presented in Chapter 9. The Front End Business Group combines all of the operations necessary to transform

uranium concentrates into nuclear fuel assemblies designed to generate electricity.

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

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 or research reactors. 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.

The **Chemistry** business unit purifies mining concentrates and converts the uranium oxide into uranium hexafluoride. The Business Group also provides uranium chemistry services to other segments of the fuel cycle, including defluorination services (conversion of depleted uranium hexafluoride into oxide) and denitration services (recycling of uranium recovered through used fuel treatment). It also sells the technologies involved.

The **Enrichment** business unit increases the uranium-235 assay of natural uranium from 0.7% to 3-5%, as specified by the customer, depending on the type of reactor in which the fuel will be loaded and how the fuel will be managed.

The **Fuel** business unit combines the operations of nuclear fuel assembly design, fabrication and marketing for pressurized water reactors (PWR), boiling water reactors (BWR) and research reactors. In addition to conventional enriched natural uranium oxide fuel, the Business Group also markets MOX fuel (fabricated by the Recycling business unit of the Back End Business Group) and enriched reprocessed uranium fuel. The Fuel business unit also manufactures zirconium components necessary for the fabrication of fuel assemblies and markets some of these components outside the Group. In addition, the Business Group sells a number of fuel-related engineering services and onsite services.

STRATEGY AND OUTLOOK

Global demand for natural uranium is approximately 66,000 metric tons per year, requiring about 50 million separative work units (SWU - see *Glossary*) to enrich the uranium. In the fuel business, 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 to 7,000 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. AREVA intends not only to support market growth in the Front End, but also to expand its business there, in particular with its integrated services offer.

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 the United States, Europe and Russia.

To prepare for rising demand for fuel made with natural uranium, AREVA decided in 2007 to renew its conversion production capabilities by launching a major project to build new units and extend the lifecycle of the existing facilities of its subsidiary Comurhex, both at the Malvési site in southern France and at the Tricastin site in the Rhone Valley.

With respect to the Enrichment business unit, the Group’s Georges Besse gaseous diffusion enrichment plant now in operation is gradually being replaced by a new plant named Georges Besse II. This new plant uses commercially proven centrifugation technology, which will make enrichment prices less dependent on the price of electricity, the principal component of current production costs. This investment will enable production of up to 7.5 million separative work units (SWU) per year starting in 2016. Spin-up of the first centrifuge cascade took place in 2009. Production of commercial enriched uranium began on April 12, 2011.

AREVA is also planning to expand its enrichment operations in the United States with the Eagle Rock Enrichment Facility (EREF) in Idaho, which will produce for the US market. This plant is set to use the same technology and the same design as the Georges Besse II plant and could produce up to 3.5 million SWU per year. However, this capital expenditure was put on hold in the framework of the “Action 2016” strategic action plan due to uncertainties, of which in particular AREVA’s ability to fund such capital expenditure in the short term.

The Fuel business unit has been implementing a comprehensive industrial optimization plan for several years: In the United States, all fuel fabrication operations are gradually being transferred to the Richland site. In Europe, production plant streamlining and performance improvement continues. In this regard, the decision to close the Dessel plant in Belgium was announced at the end of 2011, while the Lingen site in Germany is launching an optimization plan and the Romans site in France is pursuing its operational excellence program.

Following the Fukushima events, at the request of French nuclear safety authority ASN, supplemental safety assessments (SSA) were conducted at several of the Group’s industrial sites to assess their ability to withstand natural disasters of exceptional proportions. In the Front End Business Group, this involved the Tricastin site (Chemistry and Enrichment businesses) and the Romans site (fuel fabrication business). The SSA reports were submitted to the ASN on September 15, 2011.

For the Front End Business Group’s two sites, the reports testify to the strong seismic resistance of recent facilities or facilities under construction. However, some improvement activities must be implemented in crisis management and supplemental assessments on the Tricastin site’s mitigation resources are planned for 2012.

Strengthening the integrated fuel offer

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 growth prospects for nuclear power and the need for renewal of production resources for the very long term, AREVA intends to provide its customers the added value of its unique position in every stage of the fuel cycle and to develop innovative integrated offers that harvest internal synergies.

In December 2011, AREVA signed an integrated fuel contract in the amount of 500 million US dollars with the US utility Xcel Energy (Xcel). This contract covers the supply of natural uranium, conversion and enrichment services, fuel design and fabrication and related engineering services for the Monticello nuclear power plant in Minnesota.

Xcel was attracted by the possibility of benefitting from an integrated offer guaranteeing, in an uncertain environment, the supply of the enriched uranium and fuel needed to operate the power plant until 2025.

This contract is an illustration of the attractiveness of AREVA’s integrated model for customers seeking an offer tailored to their requirements and that guarantees fuel supply to their reactors at a predictable cost. With the signature of integrated contracts such as this one, AREVA is creating real partnership relationships with its customers.

6.4.2.1. CHEMISTRY

Key figures

	2011	2010
<i>(millions of euros)</i>		
Revenue*	241	267
Workforce at year end	1,671	1,605

* Contribution to consolidated revenue.

6.4. Operations

6.4.2. Front End Business Group

Businesses

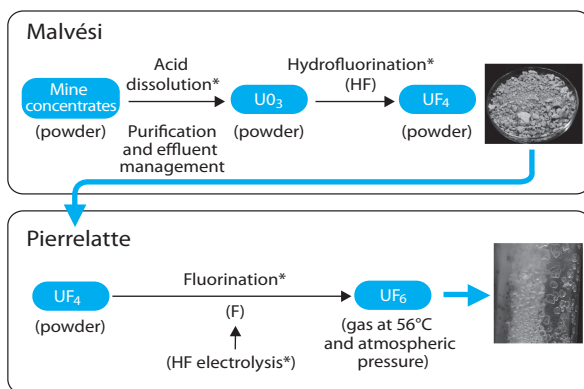
Conversion of natural uranium into uranium hexafluoride

The Chemistry business unit's primary business is to convert natural uranium (U_3O_8) into uranium hexafluoride (UF_6). Uranium enrichment, the stage that follows conversion in the nuclear fuel cycle, requires uranium in the chemical form of UF_6 as feed material for practically all types of enrichment processes.

To meet its customers' requirements while adjusting its facilities to current market conditions, AREVA converted 10,500 metric tons of U_3O_8 into UF_6 in 2011, down from 12,850 metric tons in 2010, primarily due to the drop in Japanese requirements.

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. The UO_3 powder is then hydrofluorinated with hydrofluoric acid, which converts it into UF_4 . These operations are carried out at the Malvési plant of Comurhex, an AREVA subsidiary, near Narbonne in southern France.
- In the second stage, the UF_4 is converted through fluorination into uranium hexafluoride (UF_6), a chemical compound that offers the advantage of existing 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 the Comurhex plant at the Tricastin site in southern France.



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

Source: AREVA.

Conversion of depleted uranium hexafluoride into an oxide

The enrichment of uranium (see Section 6.4.2.2., *Enrichment*) generates uranium hexafluoride (UF_6) depleted in the U_{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. In France, AREVA's defluorination plant is located at the Tricastin site in Pierrelatte.

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

Defluorination operations produced approximately 13,000 metric tons in 2011, compared with production of 12,100 metric tons in 2010.

Recycling of uranium from used fuel treatment

After nearly four years in the reactor, used nuclear fuel still contains about 95% uranium. 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 to the Tricastin site for chemical conversion into a stable oxide powder. In 2011, approximately 780 metric tons of uranium were denitrated. Uranium from used fuel treatment (reprocessed uranium, or RepU) may then be reconverted into uranium hexafluoride and re-enriched for reuse, in which case it is called enriched recycled uranium (ERU).

Some European reactors – in Switzerland, Germany, the Netherlands and France – are loaded with fuel made with recycled uranium.

Other fluorine derivatives

The know-how involved in conversion, particularly in the field of uranium fluorination, has served to develop fluorination activities such as the production of chlorine trifluoride, which will be used to clean enrichment barriers from Eurodif Production when production is shut down in 2012.

Technology sales

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.

In this field, the Chemistry business unit sold a plant with two defluorination lines for depleted UF_6 to Tenex for the latter's Zelenogorsk site in Siberia. This defluorination facility was placed in service at the end of 2009.

In 2011, a contract was signed with Urenco for the sale and installation of two defluorination furnaces at the site of its Capenhurst enrichment plant in England, with startup scheduled for 2015.

Manufacturing and human resources

The Chemistry business unit operates at various industrial sites in France:

- the Comurhex Malvési plant produces UF_4 in five furnaces, operating concurrently;
- the Comurhex Pierrelatte plant produces UF_6 in two flame reactors;
- the AREVA NC Pierrelatte plant defluorinates depleted uranium in four production lines;
- the AREVA NC Pierrelatte plant converts uranyl nitrate into oxide;
- the AREVA Miramas plant, previously used to recycle lithium, is now being cleaned up and dismantled.

Annual production capacities are approximately 14,000 metric tons for UF_6 conversion, 13,000 metric tons for defluorination and 1,250 metric tons for denitration.

The proximity of the Chemistry business unit's facilities at the Tricastin site to those of the Enrichment business unit is a real asset for customers, as

it reduces UF₆ transportation costs to the Georges Besse and Georges Besse II enrichment plants and enhances safety.

The personnel employed in the facilities are certified for the use of hazardous chemicals and for the special aspects of uranium work.

Market and competitive position

Annual global demand for conversion was estimated around 55,000 metric tons of uranium concentrates in 2011, including 17,200 metric tons in Western and Central Europe (Euratom area), 6,600 metric tons in Eastern and Southeastern Europe, 18,000 metric tons in North America, and 12,100 metric tons in Asia.

With production capacity of 14,000 metric tons of UF₆ in 2011, AREVA is a major global player in uranium conversion services. Its main competitors are AtomEnergProm (AEP) in Russia, Converdyn in the United States and Cameco in Canada. Russia has a large amount of conversion capacity at its AtomEnergProm plants, estimated at around 20,000 metric tons per year (although these estimates are based on a number of uncertainties, in particular concerning the condition of the Russian facilities, which are rather old). Converdyn and Cameco have nominal conversion capacities comparable to those of AREVA, at 13,500 metric tons per year and 12,500 metric tons per year respectively.

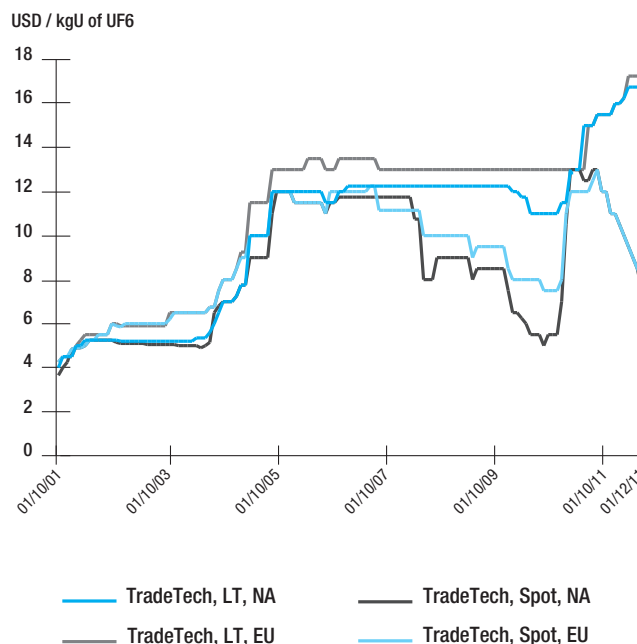
The Fukushima accident of March 2011 led to a drop in spot market indicators (for deliveries within the 12 months following the conclusion of negotiations), for several reasons:

- decreased demand due to the shutdown of the damaged Japanese reactors – and of other Japanese reactors as a precaution – 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 UF₆ 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.

As a result, the spot price fell to \$8.5/kg at the end of 2011, compared with \$13/kg at the end of 2010.

Conversely, despite the market context post-Fukushima, indicators representative of multiyear (“long-term”) transactions continued to follow the rising trend begun in mid-2010, reaching \$17/kg at the end of 2011. This rising trend expresses the perception of a weak long-term conversion market, marked by the need to renew aging production facilities.

→ UF₆ CONVERSION PRICES (LONG-TERM AND SPOT)



Source: Trade Tech.

Relations with customers and suppliers

Customers

At the request of nuclear utility customers, the average term of recently signed conversion contracts is on an upward trend. In 2011, Comurhex delivered to more than 25 utility customers around the world, mainly in Europe, Asia and the United States, and entered into new agreements for a total volume in excess of one year of full capacity, mostly with European customers, but also with US and Asian customers.

Suppliers

The Chemistry business unit limits the risks of interruptions of chemical reagent supplies needed for its production operations by contracting with suppliers based in Europe as well as in the rest of the world.

6.4. Operations

6.4.2. Front End Business Group

Operations and highlights

In 2011, civil engineering of new conversion facilities begun in August 2009 at the Tricastin site and at the Malvési site in November 2009, together constituting the Comurhex II project, continued according to plan.

Due to its strong commercial position in Japan, the Chemistry business unit was impacted by the Fukushima events, with deliveries and backlog falling in 2011. In a market characterized by the short-term availability of secondary resources, and thus of spot prices bearing no relationship to the converters' production costs, Comurhex's 2011 production schedule for the Pierrelatte and Malvési plants had to be curtailed. The impact represents the equivalent of two months of production; more detail is provided in Chapter 9.

Outlook and development goals

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

To achieve this goal, AREVA decided to renew its uranium conversion production capabilities by investing in a new conversion plant at the Malvési and Pierrelatte sites; this is known as the Comurhex II project. The full production capacity of the new plant will be 15,000 metric tons, which could be extended to 21,000 metric tons if market conditions warrant.

To recycle uranium arising from used fuel treatment, a project is on the drawing board to renew 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).

Technical studies aimed at strengthening long term industrial operations and replacing the Chemistry business unit's facilities continued in 2011, primarily to:

- use the best technologies in new conversion facilities for natural uranium and uranium from used fuel treatment (RepU);
- enhance the productivity of existing facilities; and
- reduce the plants' environmental impacts.

6.4.2.2. ENRICHMENT

Key figures

	2011	2010
<i>(millions of euros)</i>		
Revenue*	882	1,181
Workforce at year end	2,812	2,697

* Contribution to consolidated revenue.

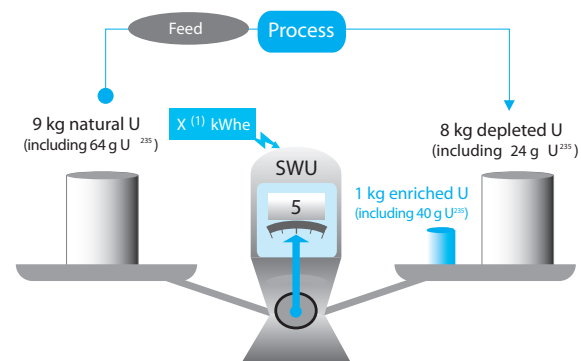
Businesses

The Enrichment business unit increases 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 U_{235} isotope. The separative work unit (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 nine kilograms of UF_6 and five SWU to produce one kilogram of enriched uranium (at a 4% enrichment level) and eight kilograms of depleted uranium (at 0.3%).

→ ENRICHMENT PROCESS



(1) Varies depending on the process.

Source: AREVA.

Two enrichment processes are in use on an industrial scale worldwide: centrifugation and gaseous diffusion. The AREVA group currently uses the latter process in the Georges Besse plant at the Tricastin site in France.

However, the agreement finalized with URENCO and its Shareholders in July 2006 gives AREVA access to the centrifugation technology that is being used at the new Georges Besse II plant. This new plant was inaugurated on December 14, 2010, with more than a hundred customers attending.

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 of centrifugation is its modular construction, enabling rapid ramp-up of production and adjustment of production capacity to market demand.

The enrichment industry is very capital intensive. It also has a strong political dimension. Historically, major nuclear nations have sought to secure their own production capabilities to ensure energy self-sufficiency. This political will is linked to a concern for non-proliferation. This dimension is vital to an understanding of decisions made in this field.

Manufacturing and human resources

The Enrichment business unit is based at the Tricastin nuclear site, which spans the Drôme and Vaucluse departments in France's Rhone Valley.

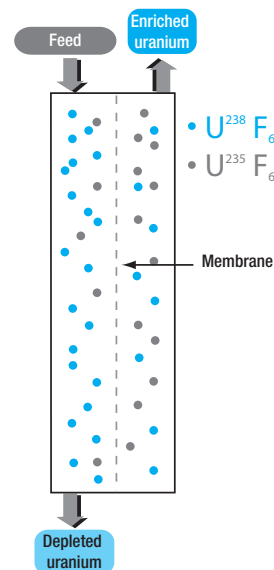
The Enrichment business unit uses the Georges Besse plant of its subsidiary Eurodif to perform enrichment services. AREVA NC holds a 59.66% stake in Eurodif, with foreign partners⁽¹⁾ holding the remaining 40.34%.

The Socatri plant, a wholly-owned subsidiary of Eurodif at the same site, maintains the equipment of the Georges Besse plant and processes the uranium-bearing liquid effluents arising from the process, among other activities.

The Georges Besse plant and Socatri received the trio of certifications – ISO 9001, ISO 14001 and OHSAS 18001 – for their integrated management systems in 2004 and 2006 respectively. Since finalization of the agreement on centrifugation in 2006, the Enrichment business unit's workforce includes 50% of the ETC⁽²⁾ workforce. Excluding ETC, approximately 85% of the Enrichment business unit's employees work at the Georges Besse and Socatri plants.

The gaseous diffusion process takes advantage of the difference in the atomic weight of U_{235} and U_{238} to separate those two isotopes in the UF_6 . The gas molecules are all in perpetual motion and strike the walls of whatever encloses them. Since these molecules all have the same kinetic energy, the lightest ones (the U_{235} isotope) are also the fastest and thus strike the wall more often statistically than the heavier molecules (the U_{238} isotope). If that wall is porous, the lighter molecule has a higher probability of crossing through this barrier than the heavier molecule. The gaseous UF_6 is thus enriched in the U_{235} isotope through a series of stages in a cascade of diffusion barriers. The Georges Besse plant consists of a cascade with 1,400 diffusion stages divided into 70 groups. It has a maximum enrichment capacity of 10.8 million SWU per year.

→ GASEOUS DIFFUSION OPERATING CONCEPT



Source: AREVA.

At full capacity, the plant consumes as much electricity as the greater Paris area (3 to 4% of France's electricity production) to provide the enrichment services needed to operate about a hundred nuclear reactors operated by more than thirty power generators around the world.

Société d'enrichissement du Tricastin (SET) operates the Georges Besse II plant, which uses the centrifuge enrichment technology developed by ETC.

AREVA is the majority owner of SET. GDF-Suez acquired a 5% interest in the company in 2008, followed by the Japanese utility Kansai with Sojitz (2.5% combined interest acquired in 2009) and the South Korean utility Korea Hydro & Nuclear Power Co. Ltd (KHNP, 2.5% acquired in 2009). Other partnership agreements were signed in 2010 with the Japanese utilities Kyushu Electric Power (1% interest) and Tohoku Electric Power (1% interest).

The agreements with these six partners, representing a total of 12% of SET's share capital, reflect the interest that utility customers have in participating in this major project and in securing their enriched uranium supplies.

The centrifuge enrichment process also uses the difference in atomic weight between the U_{235} and U_{238} isotopes in the UF_6 , although the technology is different.

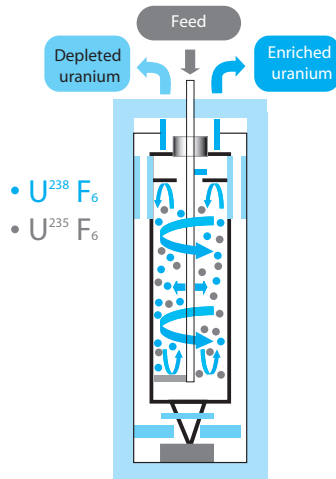
(1) The other Shareholders of Eurodif SA are Synatom of Belgium, Enea of Italy, Enusa of Spain, and Sofidif, a company owned by French and Iranian interests.

(2) Enrichment Technology Company.

6.4. Operations

6.4.2. Front End Business Group

→ CENTRIFUGATION CONCEPT



Source: AREVA.

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.

Market and competitive position

Available worldwide enrichment capacity⁽¹⁾ is slightly less than 50 million SWU per year, including the equivalent of 5.5 million SWU from the dilution of highly enriched uranium (HEU) from Russian weapons, of which USEC of the United States is the exclusive importer.

Production capacities are estimated below:

Operator	Estimated capacity	Process
USEC-production	5 million SWU/year	Gaseous diffusion
USEC-Russian HEU	5.5 million SWU/year	Dilution
AREVA Eurodif and Georges Besse II (France)	4 million SWU/year	Gaseous diffusion and centrifugation
Rosatom (Russia)	18 million SWU/year	Centrifugation
URENCO (UK, Germany, Netherlands, USA)	13.5 million SWU/year	Centrifugation
CNNC (China)	1.6 million SWU/year	Centrifugation
Other (Japan, Brazil)	0.1 million SWU/year	Centrifugation
TOTAL	47.7 MILLION SWU/YEAR	

Sources: AREVA estimates based on available data.

Eurodif's Georges Besse enrichment plant has been operating at its minimum production level since January 2011. Meanwhile, the new Georges Besse II enrichment plant entered production in April 2011. Its

(1) Taking into account agreements limiting Russian sales in the European Union and the United States.

installed production capacity had reached one million SWU at the end of 2011, just a few months after startup. Thanks to the modular nature of centrifugation, production capacity will ramp up quickly at Georges Besse II. With two new centrifuge cascades scheduled to enter service each month, it will reach its nominal production capacity of 7.5 million SWU per year in 2016.

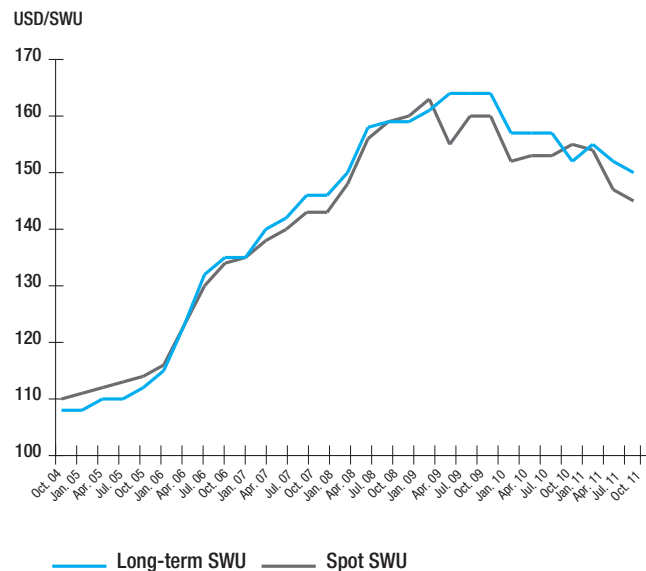
In Europe, AREVA, URENCO and Rosatom are the major operators on the enrichment market with USEC. In the Commonwealth of Independent States, demand is essentially met by Rosatom, for historical reasons.

In the United States, the market is mainly supplied by URENCO, USEC (which primarily sells Russian enrichment) and AREVA and is, since shortly, directly accessible to ROSACOM.

AREVA, USEC and URENCO are key players in the Asian market in 2011, it being understood that local players are starting to be present.

Prices had begun to rise significantly in 2004, but have sagged slightly in the past two years.

→ SPOT AND LONG-TERM PRICES FOR SWU FROM 2004 TO THE END OF 2011 (IN CURRENT US DOLLARS) – SOURCE: UXC



Source: Average SWU values published monthly by Nuexco / Trade Tech.

Market growth continues to be limited in volume but is relatively steady, essentially driven by Asia, where nuclear power programs are growing faster than in the other three major regions of the world. The 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.

The market is also regulated by geopolitical considerations. In Europe, the Euratom Supply Agency supervises the supply of uranium and enrichment services within the framework of the Corfu Declaration, which restricts enriched uranium imports into the European Union. In the United States, application of the HEU agreement allows imports into the US of

materials from dismantled Russian weapons. Until very recently, Russia had agreed not to deliver any more enrichment services to the United States in application of the “Suspension Agreement”, but the situation is changing. The US Congress amended the Suspension Agreement in 2008, allowing Rosatom to gradually raise its supply up to 20% of US utilities’ requirements starting in 2014.

Access to the Russian enrichment market is a de facto impossibility for Rosatom’s competitors.

Customer relations

The enrichment market is structured around multiyear commitments. The Enrichment business unit’s order book includes close to 35 utility customers, primarily in the United States, Europe and Asia, corresponding to the supply of an average of about a hundred reactors worldwide each year.

Operations and highlights

Inaugurated in December 2010, the Georges Besse II plant began producing enriched uranium commercially on April 12, 2011. The modular design of the plant allows for rapid rampup of operations: production capacity had already reached 1 million SWU at the end of 2011, just a few months after startup.

In addition, AREVA received the license to build and operate an enrichment facility next to Eagle Rock from the US Nuclear Regulatory Commission (NRC) in October 2011. This plant will use the same gas centrifuge enrichment technology as the Georges Besse II plant in France. On the diplomatic side, the five-party treaty necessary for construction of the plant was signed in February 2011 by France, the United States, Great Britain, the Netherlands and Germany. The treaty was ratified by all parties in November 2011.

Due to its strong commercial position in Japan, the Fukushima events had an impact on the Enrichment business unit.

Outlook and development goals

Demand is assured for the next 15-20 years, based on the known operating life of reactors in the current fleet. Growth is limited in volume but relatively steady. The sharp upturn in demand in Asia will largely offset an expected decline in demand in Europe.

For the coming years, the Enrichment business unit’s objective is the successful transition from the gaseous diffusion process to the centrifugation process, with shutdown of the Georges Besse plant in 2012 and production at full capacity at the Georges Besse II plant in 2016.

This new plant will gradually take over from the Georges Besse plant, ensuring the continuity of deliveries to the Group’s customers over the very long term.

The industrial, technological and social transition from the Georges Besse plant to the Georges Besse II plant is a major project for which AREVA and the Enrichment business unit have been preparing for many years.

Concerning the results of the ASN audit and order cancellations, these subjects are dealt with in Chapter 9.

6.4.2.3. FUEL

Key figures

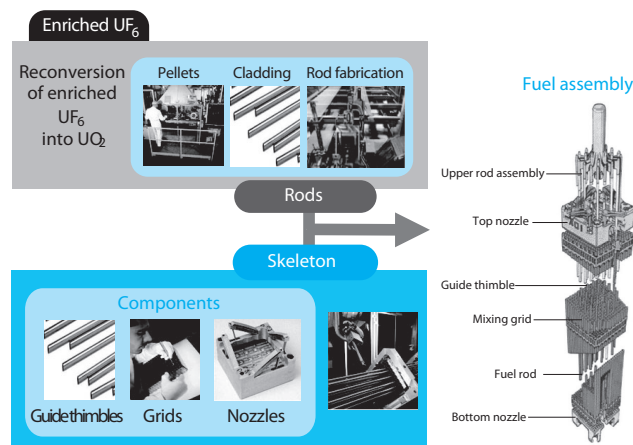
	2011	2010
<i>(millions of euros)</i>		
Revenue*	1,219	1,164
Workforce at year end	4,406	4,506

* 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), and for research reactors. In addition to conventional enriched natural uranium oxide fuel (UO₂), 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., *Recycling*).

→ PRINCIPAL STAGES IN LIGHT WATER REACTOR FUEL ASSEMBLY FABRICATION



Source: AREVA, PWR reactor system.

6.4. Operations

6.4.2. Front End Business Group

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 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 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 and onsite services.

Manufacturing capabilities

The Fuel business unit is organized into six business lines with a global reach, with facilities in Europe and the United States:

- Fuel Design;
- Contracts and Services;
- 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 Fabrication**, organized into seven production sites, two 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.

CERCA is also part of the Fuel business unit's organization. With facilities in Romans and Pierrelatte, France, CERCA is mainly active in the fabrication and sale of fuel elements for research reactors. Additionally, it also and sells low-enriched uranium fuel targets (LEU), which are irradiated to produce a molybdenum radioisotope used in medical applications.

Lastly, as part of its "Action 2016" strategic action plan, the Group launched a study seeking a diversification opportunity for the Duisburg site in Germany.

Market and competitive position

Except for CERCA, which specializes in the research reactor fuel market, the Fuel business unit's target is the light water reactor fuel market. This market consisted of 303 reactors at the end of 2011, compared with 318 reactors at the end of 2010. The United States now accounts for 40% of the market, while Europe and Asia represent 35% and 25% respectively.

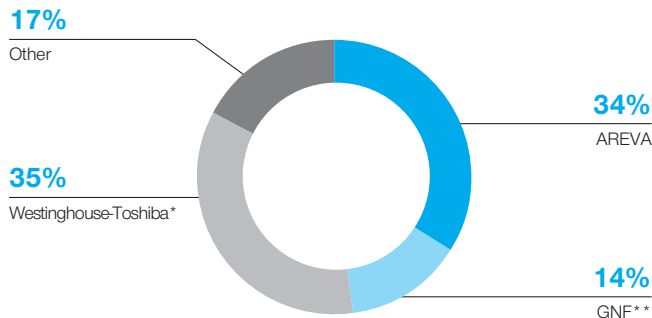
AREVA's overall share of this market segment is stable at approximately 35%.

The fuel industry has reorganized several times over the past few years, leaving 85% of the demand for light water reactors (excluding VVERs), to be met primarily by AREVA, Toshiba-Westinghouse⁽¹⁾ and Global Nuclear Fuel (GNF)⁽²⁾. As of the end of 2011, the AREVA group had supplied a cumulative total of more than 207,000 fuel assemblies to its customers. Of the 300 PWRs and BWRs in operation worldwide at the end of 2011, 124 of them routinely use AREVA fuel. 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 reactors segment, where TVEL remains the majority supplier.

(1) Westinghouse-Toshiba, including NFI and the share of fuel subcontracted to ENUSA (Europe).

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

→ MARKET SHARE OF LIGHT WATER REACTOR FUEL SUPPLIERS, EXCLUDING VVER REACTORS, IN 2011



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

** GNF including GNF-ACUSAI, GNF-J (Japan) and the share of fuel subcontracted to GENUSA (Europe).

Source: Nuclear Assurance Corporation (Fuel Trac, October 2011); average data for 2011 +/-1 year, based on the fresh fuel loaded in the reactors each year.

Given the stability in the number of the world's power plants to be supplied with fuel until 2012, the fuel market will remain generally flat in terms of volume at approximately 7,000 metric tons of heavy metal (uranium or plutonium contained in the fuel assemblies). A noticeable increase in fuel demand will occur when a sufficient number of new power plants have been connected to the grid, considering that older reactors will be retired in the meantime.

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 stabilizing in the second half of 2008, commodity prices began climbing again in the second half of 2010 and continued to rise in 2011.

Very strong price pressures in the market for zircon sand (staple commodity for the extraction of zirconium metal at the Jarrie plant), primarily related to the recovery of building sector in China, a large consumer of zircon, made their mark on 2011: prices continued to climb in 2011, for a total increase of 285% at year end. Concerning the other alloy components, the price of nickel has also been rising since mid-2010, a trend that is expected to continue in 2012, and carbon black continues to fluctuate in tandem with variations in the price of the barrel of oil, to which it is pegged, with a 7.5% increase in 2009, a 12.6% hike in 2010, and a 25% jump in 2011. Rates for electricity (including the contract between EDF and AREVA in France) have been rising steadily since 2007, triggering an automatic increase in the rates paid for industrial gases (argon, helium, hydrogen and nitrogen).

Conversely, the Group's magnesium supplies are secured under a multiyear contract renewed for a period of five years. Niobium supplies will also be secured by contract in 2012.

Subcontracted fabrication services for the cutting of grid straps (a key structural component of a fuel assembly) are secured through partnerships with Métalis, Novus and ETM, the principal suppliers of this type of service. Subcontracts for silver/indium/cadmium rods used to manufacture rod cluster control assemblies are secured under agreements with Heraeus and Umicore. The supply of stainless steel tubes is secured under a contract with Sandvik Precitube. Lastly, manufacturing of the BWR fuel channel boxes will be secured starting in 2012 through a multiyear contract signed in 2011 with Kobe Steel.

Several of these subcontractors may expect very high workloads from 2012 to 2014 due to rising sales of AREVA components in China.

Operations and highlights

In the United States, the Lynchburg plant closed according to plan in March 2011 and its operations were transferred to the Richland site. In 2011, the Richland plant fabricated and delivered the first PWR fuel assemblies of the type fabricated previously in Lynchburg.

Concerning the Erwin site in Tennessee, AREVA announced in October 2011 the decision to close the Blended Low Enriched Uranium fuel fabrication facilities for the US Department of Energy (DOE). These operations will be transferred to the Richland site in 2012 and the Erwin site will be closed in 2013.

Concerning the Dessel site in Belgium, AREVA announced in December 2011 the phased closure of the plant: uranium dioxide fabrication and assembly operations will be shut down starting in 2012, with part of the rod assembly operations and building dismantling continuing into 2015.

In other developments, AREVA and Mitsubishi Nuclear Fuel (MNF) formed a 50/50 joint venture to fabricate fuel assemblies for generation III power plants in the North American market. The joint venture will operate in the facilities of the Richland plant. However, given the delays in new power plant projects in the United States, production is not expected to start for several years.

6.4. Operations

6.4.3. Reactors & Services Business Group

In China, a 50/50 joint venture was formed in January 2011 with SGTC, a subsidiary of the Chinese nuclear group CNNC, for zirconium tubing manufacture. Called "CAST" (CNNC AREVA Shanghai Tubing Co.) and based near Shanghai, the joint venture plans to manufacture 1,500 kilometers of tubing by 2015. It will serve the Chinese market and supply TREX (tube-reduced extrusions) to the Zirconium division.

To serve the global market, AREVA is pursuing the development of a new generation of PWR and BWR fuel assemblies with enhanced performance, known respectively as ATRIUM 11 and GAIA:

- for boiling water reactors (BWR), several agreements were signed with various European utilities to deliver ATRIUM 11 test assemblies in Switzerland (AXPO), Finland (TVO) and Germany (RWE);
- for pressurized water reactors (PWR), an agreement was signed with the Swedish utility Vattenfall to deliver GAIA test assemblies.

In June 2011, Germany's decision to phase out nuclear power led to a drop in deliveries and in the backlog for the Fuel business unit: AREVA had supplied fuel to seven of the eight reactors that were shut down immediately after the decision.

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, industrial safety and environmental impacts, with excellence as its objective (see Section 6.4.2., *Front End Business Group*, section on *Strategy and outlook*).

In Asia, and particularly in China, AREVA is continuing to expand through acquisitions or joint ventures. The partnership with Kazatomprom initiated in 2010 with the creation of the Ifastar joint venture company for fuel assembly marketing and sales in the Asian market is 49% owned by Kazatomprom and 51% by AREVA. A second joint venture will follow with Kazakhstan Fuel Fabrication Company (KFFC), with Kazatomprom holding 51% and AREVA holding 49% of the company. AREVA is planning to build a fuel fabrication plant of its own design at the Ulba site.

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.

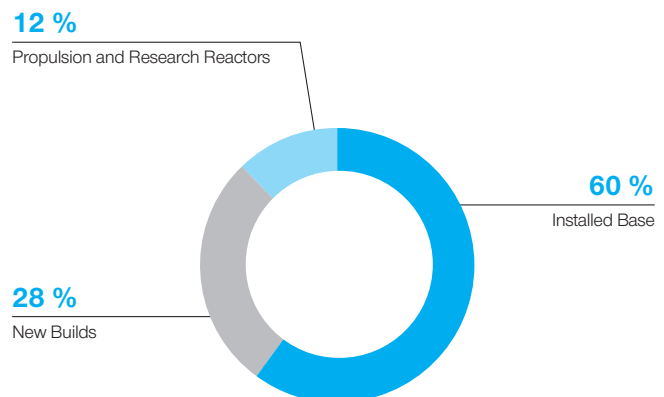
These growth prospects will also draw on the development of a new generation of PWR and BWR fuel assemblies offering enhanced performance, for which the first test assemblies will be loaded in European reactors starting next year. This ultimate phase of development should bolster the very promising results already achieved and enable the loading of the first commercial reloads in 2016.

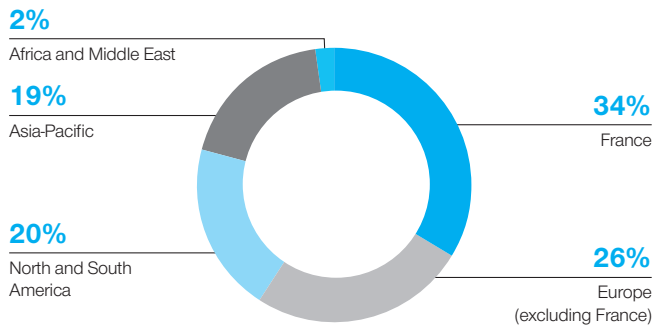
CERCA's growth opportunities are mainly tied to securing multiyear contracts to supply fuel to existing research reactors, or those that are planned in the coming years. Conversion of low-enriched uranium targets could lead to an increase in the number of targets to be supplied, depending on the customers' technical choices. The fabrication of radioactive sources for the medical field is also a major area for development.

6.4.3. REACTORS & SERVICES BUSINESS GROUP**KEY FIGURES**

	2011	2010
<i>(millions of euros)</i>		
Revenue*	3,262	3,384
Operating income	(512)	(251)
Workforce at year end	16,367	16,985

* Contribution to consolidated revenue.

→ 2011 REVENUE BY MARKET SEGMENT AND GEOGRAPHICAL AREA



Source: AREVA.

OVERVIEW

The Reactors & Services Business Group, which represents 37% of the AREVA group's revenue and whose backlog is presented in Chapter 9, designs and builds the two leading types of reactors currently in use around the world – pressurized water reactors (PWR) and boiling water reactors (BWR) – as well as reactors for naval propulsion and research. It also offers products and services for the modernization, inspection and servicing of all types of nuclear reactors.

The Business Group is organized into three market segments supported by technical units for product design, standardization and certification and equipment manufacturing units for the nuclear steam supply system (NSSS):

- New Builds market segment: proposals for new nuclear reactors and execution of construction projects;
- Installed Base market segment: solutions and products for existing and future nuclear reactor fleets, including the design and manufacture of radioactivity detection and measurement systems;
- Propulsion and Research Reactors market segment: naval propulsion, research reactors and vital instrumentation and control systems for transportation.

In terms of installed capacity, AREVA supplied a significant share of the global 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 main competitors are groups such as Westinghouse/Toshiba or General Electric for New Builds, Mitsubishi Heavy Industries or the team of General Electric and Hitachi for the Installed Base, and engineering companies specialized in technology and systems such as Tractebel, Babcock or KAERI for Propulsion & Research Reactors.

The Group also has solid experience in boiling water reactors (BWR), for which General Electric is the world leader. There is a more limited market for BWRs than for PWRs; BWR units are in service in Japan, the United States, Germany, Northern Europe, Spain and Switzerland.

STRATEGY AND OUTLOOK

The Reactors & Services Business Group aims to assert its world leadership in nuclear power by achieving profitable growth founded on the construction of new power plants added to a solid recurring base, and by 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 unique 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 and has acquired a considerable market share in heavy equipment replacement at operating reactors as well as in instrumentation and control system modernization and plant lifecycle extension. 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 seeking 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 won a contract in late 2007 and is building the first two EPR™ nuclear islands in Guangdong province. 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 several strategic lines of action:

- successfully complete construction of the first EPR™ reactors and mine lessons learned from them to optimize future projects;
- strengthen the reactor offering with the 1100 MWe ATMEA1 pressurized water reactor developed in partnership with Mitsubishi Heavy Industries and the 1250 MWe KERENA boiling water reactor;
- secure the supply chain for reactor construction, both by investing and by forming the necessary partnerships;
- continue to develop expertise in the reactor services field and offer innovative integrated services, particularly in nuclear safety improvement and outage management;
- pave 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. Operations

6.4.3. Reactors & Services Business Group

OPERATIONS AND HIGHLIGHTS**Fukushima accident**

The strength of the Group's commercial relations with its customers is confirmed by the substantial growth in backlog after a year marked by the Fukushima accident. The limited decline in revenue in 2011 is a reflection of the strength of AREVA's integrated model in general and the quality of the industrial synergies established between the different entities of the Reactors & Services Business Group in particular.

The temporary pause observed in ongoing bidding processes in new builds was largely offset by the large majority of recurring business related to the nuclear installed base, much of it concerning nuclear safety, despite the drop in workload registered in Germany.

Reactors under construction**China**

The Taishan 1&2 project met major milestones in 2011.

Concerning unit 1, hydraulic testing of the reactor vessel was successfully completed in Japan in August, marking a major milestone for the project objective of turning over the vessel to the customer, Taishan Nuclear Power Joint Venture Company (TNPJVC), within the allotted schedule. On September 15, the reactor vessel support ring was installed in the reactor building. On October 23, the dome, for which AREVA supplied the drawings, was hoisted and installed by TNPJVC and the internal structures of the reactor building are finished.

Currently, civil engineering for the two units is only six months apart. At AREVA, 1,500 people are working on the Taishan project, and the customer has mobilized 13,000 people at the site.

Finland

The consortium has nearly 3,300 employees at the job site today, including 400 AREVA employees.

The nuclear island of the OL3 project is 80% complete. Construction is 70% complete, with the placement of the external dome in June 2011 adding a symbolic finishing touch.

Starting in January 2011, the transition from the installation phases to the testing phases was accompanied by the establishment of an organization by system, with seven functional groups to remain in place until fuel loading.

The transition to power plant operations is also being prepared by integrating TVO personnel (a total of 70 to 80 people ultimately) in an interim "Operating Integrated Organization" (OIO) that brings together the AREVA-Siemens consortium and TVO. The customer TVO and regulator STUK accepted the instrumentation and control system architecture concepts in 2010. Its formal acceptance requires adaptation of the corresponding documentary record currently in preparation. All of the primary cooling system components have been installed and installation of the reactor internals is in progress. Tests of the used fuel pools with water were successful.

The instrumentation and control platforms and cabinets will be tested thoroughly in Germany before delivery. The part corresponding to electric power distribution will be delivered in early 2012 so that electrical testing of the equipment and components of each system can be performed. The instrumentation and control cabinets of the Turbine part had been installed in early 2011 and are now being used for testing of conventional island systems.

To take into account the cumulative time limits for completing electromechanical installation and finalizing the instrumentation and control configuration needed for system-by-system testing, a revised schedule proposed by the AREVA-Siemens consortium was approved by the customer TVO at the end of December 2011. Fuel loading is now scheduled for the end of 2013 and will be followed by a gradual power ascension carried out under TVO's responsibility as nuclear operator and lasting an estimated eight months until full power is reached.

France

The design and safety studies for the EPR™ reactor at Flamanville 3 have progressed to the point that an update of the request for an operating license was submitted to the Autorité de sûreté nucléaire (ASN, the French nuclear safety authority). Documentation will continue to be submitted through July 2012.

Following modifications to the operating instrumentation and control system, the second validation testing campaign began at the end of 2011, as planned. The first test campaign went according to the project schedule.

Manufacturing of the key components in the nuclear steam supply system (reactor vessel, steam generators, pressurizer) continued in 2011. In particular, the reactor vessel body has been completed and is ready for hydrostatic testing. Hydrostatic testing of the first two steam generators, of the reactor coolant pump set volutes, and of most of the primary piping were carried out successfully. Prefabrication of the auxiliary system piping is in progress and pipe support installation has begun.

Deliveries of the electromechanical components of the nuclear island to the site continued, enabling their assembly and installation by AREVA and its subcontractors.

In July, EDF announced that the reactor's first commercial production will be shifted to 2016. This means that AREVA will have to delay full mobilization of its installation and testing personnel.

New Build projects**Canada**

On February 15, 2011, ATMEA, a joint venture between AREVA and Mitsubishi Heavy Industries Ltd. (MHI) submitted a request for a preliminary design review of its ATMEA1 reactor to the Canadian Nuclear Safety Commission (CNSC). This initiative is part of the Clean Energy Park project to be developed by AREVA near the Point Lepreau nuclear power plant in New Brunswick.

United States

In March 2008, the US Nuclear Regulatory Commission (NRC) agreed to perform a technical review of AREVA's license application for the EPR™ reactor design. AREVA worked closely with the NRC to review the certification request, with completion of phase 3 is under progress. AREVA keeps the NRC informed of the status of its ongoing work. The consequences of the Fukushima accident for the regulatory process in the United States are still under review and could delay the certification schedule and thus the issuance of the license.

Throughout 2011, AREVA continued working with UniStar and PPL on their EPR™ projects at Calvert Cliffs 3 in Maryland and Bell Bend 1 in Pennsylvania. Both companies filed a request with the NRC for a combined construction and operating license (COL), and AREVA is supporting both license applications by carrying out design and engineering work in accordance with the requirements of the applicants.

Finland

In July 2011, the utility Fennovoima invited AREVA to submit a proposal to supply an EPR™ reactor for its Pyhäjoki site in Northern Ostrobothnia. The proposal was at the end of January 2012.

France

Negotiations between EDF and AREVA for the first phase of detailed design studies for the nuclear steam supply systems of the Penly (France) and Hinkley Point (UK) power plants culminated in December 2011 with the signature of a design contract common to both projects. The actual start of the design studies for the Penly project is subject to the signature of the decree authorizing construction.

India

Throughout 2011, negotiations continued between AREVA and Nuclear Power Corporation of India Limited (NPCIL) concerning the contracts needed for the establishment of two EPR™ reactors at the Jaitapur site, consistent with the agreements signed on December 6, 2010. The signature of these contracts will remain subject to an agreement on the terms of the decree related to India's law on nuclear liability.

Following the Fukushima accident, the preliminary studies needed for preparation of the Jaitapur site were redefined and were the subject of a contract amendment, which was signed on August 3, 2011.

Jordan

On August 14, 2011, in partnership with ATMEA, its joint venture with MHI, AREVA submitted a proposal to the Jordan Atomic Energy Commission (JAEC) to build a reactor at a site undergoing characterization. Negotiations are in progress, with JAEC expected to choose a technology and an operator in 2012.

United Kingdom

Certification of the EPR™ reactor met a major milestone with the receipt of the Interim Design Acceptance Confirmation from the Health and Safety Executive (HSE) and the Environment Agency (EA) on December 14, 2011.

The first phase design contract for the detailed design studies of the Hinkley Point reactor's nuclear steam supply system was signed on December 27, 2011 by EDF and AREVA. Meanwhile, EDF, representing the Nuclear New Build Generation Company Limited (NNB GenCo), a joint venture company of EDF Energy and Centrica, officially notified AREVA of the start of these design studies.

Horizon Nuclear Power (HNP), a joint venture company of the German utilities E.ON and RWE, are developing two power plant projects for their Wylfa and Oldbury sites. HNP and AREVA engaged in negotiations and clarification sessions throughout 2011 to enable HNP to choose the technology in the first quarter of 2012.

Installed base services**Belgium**

In June, AREVA won a contract to manufacture and replace reactor vessel heads for the Doel and Tihange power plants. The contract covers the supply and installation of the two vessel heads along with new control rod drive mechanisms.

Brazil

The Angra 3 contract was signed on July 28, 2011. Its effective date of implementation is still uncertain at this stage, given the difficulties the customer is facing in raising the necessary financing.

Bulgaria

The operator of the Kozloduy nuclear power plant in Bulgaria signed a three-year contract with AREVA to supply services concerning the electrical and instrumentation and control systems of units 5 and 6 of the power plant.

China

Following the establishment in August 2010 of Beijing-RIC (BRIC), a joint venture company of AREVA and China Nuclear Power Technology Research Institute specializing in in-core instrumentation systems, AREVA signed a first contract in June 2011 to supply in-core instrumentation systems with China Nuclear Power Engineering Company for two reactors at the Chinese power plant of Ningde, followed by a second one for the Daya Bay power plant. JSPM won a contract to supply electromotor systems for the Chinese customer SNO1.

In March, AREVA Dongfang JV (ADJV) signed three contracts with the utility CNPEC to supply spare parts for the CPR 1000 pumps manufactured by ADJV and JSPM.

In August, the utility Jiangsu Nuclear Power Corporation, a subsidiary of China National Nuclear Corporation, awarded a contract to AREVA and its partner to supply TELEPERM® XS and SPPA T2000 instrumentation and control systems for nuclear safety and operations respectively. They are earmarked for units 3 and 4 of the Tianwan VVER power plant currently under construction.

6.4. Operations

6.4.3. Reactors & Services Business Group

United States

In February 2011, AREVA signed an alliance agreement with Dominion Resources to provide recurring and specialized services to the US group's four nuclear power plants, which have seven reactors in all. This partnership covers about 25 unit outages over the next five years and includes an option to renew the agreement for an additional five years.

AREVA's teams will provide steam generator maintenance services, specialized non-destructive inspection services, fuel reloading services and reactor coolant pump set maintenance services.

In April, the TELEPERM® XS safety-related digital instrumentation and control Reactor Protection Systems was installed in the Oconee plant, and testing was successfully completed in June. This is the first digital safety instrumentation and control system to be certified and installed in a power plant in the United States.

It garnered the Engineering Project of the Year award for AREVA during the 13th annual Platts Global Energy Awards ceremony in the United States.

In late June, AREVA DZ, LLC, a joint venture company formed by AREVA and Day & Zimmerman ECM, entered into a series of agreements with the US utility Entergy Nuclear for work to upgrade its nine nuclear power plants. The five-year agreements include a full range of engineering, procurement and construction services (EPC) for upgrade projects designed to boost power plant production.

In early July, AREVA signed a five-year contract to provide non-destructive inspection of the steam generators of all six units of the Entergy fleet.

Tennessee Valley Authority (TVA) selected AREVA as its principal partner to complete the construction of the Bellefonte power plant. AREVA will be prime contractor in charge of engineering, construction and replacement of nuclear components. In addition, AREVA will supply the instrumentation and control system, the control room and a training simulator.

In November, the Chalon/St-Marcel plant delivered the replacement vessel head for the Davis Besse power plant in Ohio.

France

In February 2011, AREVA and EDF signed the contract renewal for steam generator tube inspections and maintenance. The six-year renewable contract, with an option for three additional years, covers the inspection of about 35 to 40 steam generators per year.

On March 15, ASTRID, the prototype generation IV reactor project, met its first major milestone by completing the pre-project phase.

The five months since signature of the cooperative agreement with the CEA were thus devoted to:

- setting up Reactors & Services teams;
- organizing the project;
- the first "orienting" technical studies.

On September 28, EDF selected AREVA to supply 32 of the 44 steam generators of its 1,300 MWe power plants in France.

In addition, JSPM won a contract to supply four replacement pumps and to upgrade twelve shafts for EDF for the 1,300 MWe fleet.

In December, EDF awarded a contract to AREVA to upgrade the instrumentation and control systems of the twenty 1300 MWe reactors in the French fleet. As prime contractor, AREVA will draw on its TELEPERM® XS technology and Rolls Royce technology to supply the majority of these systems.

EDF and AREVA also renewed the reactor vessel inspection contract for all 58 of EDF's reactors for a period of 10 years, including an option for a 5-year extension to 2027.

Japan

Following the natural disasters in Japan, the Nuclear Measurements unit developed two products to meet the growing need for food: FoodScreen™, a radiological food monitoring system, and FoodSpec™, a radiological food analysis system. Hitachi Aloka Medical, Ltd. (ALOKA), one of Japan's leading manufacturers of various high-tech health and safety products, placed two large orders for this type of monitoring system.

In June, the Japanese Minister of Economy, Trade and Industry ordered gamma spectroscopy systems to meet an urgent need in the Fukushima Prefecture for contamination monitoring of agricultural products.

In addition, the Nuclear Measurements team participated in AREVA's Actiflo water decontamination project at Fukushima.

Russia

In February 2011, AREVA and VNIIAES, a Russian integrator of instrumentation and control systems, signed a contract to supply the TELEPERM® XS safety instrumentation and control system to the Kola 4 power plant.

Sweden

The Reactors & Services Business Group has participated in two projects:

- the PLEX project to upgrade and uprate unit 2 of the Oskarshamn power plant, where the conceptual design of the operational safety instrumentation and control system was completed in 2011.
- the FREJ project, the world's largest PWR power uprating project, which includes the supply and replacement of the steam generators and the pressurizer, with unit 4 reconnected to the grid in late November, 2011 following the replacement of these components.

Switzerland

AREVA and the Swiss operator Kernkraftwerk Gösgen-Däniken AG (KKG) signed a contract in March 2011 to replace the instrumentation and control system of the Gösgen nuclear power plant in Switzerland.

On June 30, AREVA and Kernkraftwerk Leibstadt AG (KKL) signed a contract to modify the reactor circulation system at the Leibstadt power plant in Switzerland, upgrading it with the TELEPERM® XS system. The contract also covers modifications to the power plant's mechanical equipment.

Propulsion and Research Reactors

Some of the highlights of 2011 are as follows:

- equipping and loading the nuclear steam supply system module of the **RES test reactor**, which is under construction at Cadarache to support the next generation of naval nuclear propulsion reactors, thus meeting a major milestone and enabling the successful completion of the first qualification tests of the main NSSS functional systems;
- notification of award from the DGA (General Directorate for Armament) to build the NSSS for the third Barracuda type submarine, as per the scheduled date, under the contract to build six attack submarines and the related support systems won by AREVA TA in late 2006 as a co-contractor with DCNS (French naval defense company);
- notification of award from the CEA for the contract to build the reactor block of the **Jules Horowitz Reactor (RJH)**, currently under construction at Cadarache; this contract is separate from AREVA TA's prime contract for reactor construction;
- package build contract from **Airbus** (EADS group) to make modifications to the A320 wing assembly line at its Broughton site in the United Kingdom;
- sale of 01dB-Metravib, a subsidiary of Propulsion and Research Reactors, to its management team in association with an investment fund, in December 2011.

6.4.3.1. NEW BUILDS

Key figures

	2011	2010
<i>(millions of euros)</i>		
Revenue*	921	979
Workforce at year end	3,032	3,075**

* Contribution to consolidated revenue, technical and production units included.

** Estimates based on 2009 staffing, restated for the new organization of 2010.

Businesses

The missions of the New Builds market segment 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, 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.

Manufacturing and human resources

The New Builds teams are primarily based in:

- France (38% of the workforce),
- Germany (46% of the workforce), and
- the United States (16% of the workforce).

Proposals are an important activity for the teams, with personnel mobilized for proposals in several countries, including India, the United Kingdom, France, China, Sweden, Finland and the Czech Republic. Most of these proposals concern the EPR™ reactor.

Market and competitive position

In new reactor construction, AREVA is the first nuclear reactor constructor in the Western world to have received new reactor orders since 1999. Its competitors are Westinghouse, which was sold by BNFL to Toshiba of Japan in 2006, General Electric of the United States, FAE of Russia, AECL of Canada, and KHNP of South Korea.

Despite a slowdown attributable to the Fukushima accident, reactor construction is still a market with considerable growth prospects. New power plant commissioning is set to generate more than 300 GWe by 2030. Please refer to Section 6.1.2. for a discussion of the nuclear power market.

Relations with customers and suppliers

New Builds customers are utilities from all over the world, whether established companies or newcomers to the market.

New Builds offers reactor solutions that are synergistic with the Group's other businesses, such as Fuel and the Installed Base. New Builds also works closely with the Mining, Front End and Back End Business Groups to offer integrated solutions.

Operations and highlights

Please refer to Section 6.4.3., *Reactors & Services Business Group*.

Outlook and development goals

The Group's objectives are to be the leader in Europe, to increase its presence in China, and to seize opportunities that may arise in the United States as well as in the rest of the world. This should translate into 10 EPR™ reactor orders by 2016.

6.4. Operations

6.4.3. Reactors & Services Business Group

6.4.3.2. INSTALLED BASE**Key figures**

	2011	2010
<i>(millions of euros)</i>		
Revenue*	1,953	2,007
Workforce at year end	7,615	7,669**

* Contribution to consolidated revenue, technical and production units included.

** Estimates based on 2009 staffing, restated for the new organization of 2010.

Businesses

The leading missions of the Installed Based market segment are to:

- supply products and services for to maintain, upgrade and extend the lifecycle of operating reactors;
- offer engineering, procurement and construction services for reactor completion;
- support new power plant construction and commissioning by the New Builds market segment;
- design, manufacture and market radioactivity measurement and detection instrumentation and systems used in the monitoring of industrial nuclear facilities, in waste characterization and in radiation protection, along with related services.

Manufacturing and human resources

Operating under a global strategy, the Installed Base's teams are regionally-based to offer services tailored to the customer and facilitate compliance with local codes, standards and regulations. The regional bases in the United States, France and Germany have other foreign locations as well: AREVA NP Uddcomb in Sweden (subsidiary), AREVA NP Services Spain (subsidiary), AREVA NP Ltd in Canada (subsidiary), Shenzhen Nuclear Engineering in China (joint venture) and Lesedi Nuclear Services in South Africa (subsidiary).

In addition, the Installed Base market segment has hot workshops in Europe and the United States for offsite maintenance and three facilities dedicated to personnel training and education, one in France co-owned by the EDF group and AREVA (Cetic), one in Germany, and one in the United States.

The unit devoted to Nuclear Measurements spans the global market at eight major sites in the United States, France, the United Kingdom, Belgium and Canada, providing engineering, manufacturing, services and distribution to their local markets.

Market and competitive position

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

- pressurized water reactors (PWR), including the Russian-designed VVER reactors, which constitute a market with limited but regular access for the Installed Base,
- boiling water reactors (BWR), or
- pressurized heavy water reactors (PHWR), on a more limited basis.

PWR and BWR outages are scheduled every 12 to 24 months for fuel reloading, for servicing and maintenance, and to replace heavy components when required. Capital spending programs to maintain or improve reactor performance and extend the operating lifecycle are also carried out at this time.

AREVA estimates the global installed base services market at around 5.5 billion euros per year.

It is a growing market, particularly for power plant upgrades to extend the lifecycle or boost power ratings, for engineering, and for operations to bolster safety measures required by the regulatory authorities.

In Nuclear Measurements, the global market is estimated at 500 million euros per year. The unit of the Installed Base market segment operating under the Canberra brand ranks among the leaders, with a global market share of around 35% and a market share in France of about 30%.

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 local level, such as KPS in South Korea, AECL in Canada, and numerous other specialized companies in every country with nuclear power plants. Competition exists in some market segments, most notably in non-destructive inspections and general maintenance, and is becoming even more so, particularly in France and the United States, whether with local companies or with global ones. The trend is towards consolidation of nuclear services companies and increasingly global competition.

Relations with customers and suppliers**Customers**

The Installed Base market segment's customers are utilities in Europe (France, Germany, Belgium, Great Britain, Sweden, Switzerland, etc.), Asia (China, South Korea, Japan and Taiwan), North and South America (the United States, Canada and Brazil), and South Africa.

Deregulation pressures are pushing the market towards global solutions to achieve performance objectives, lower costs and extend power plant lifecycles, all while improving safety levels. This new environment is leading operators to combine services under integrated maintenance services umbrellas, under multiyear "Alliancing" contracts with power plant performance incentives, or under contracts that combine component supply, engineering, modifications, maintenance and even fuel supply.

The Nuclear Measurements unit's traditional customers belong to a large number of diversified segments: nuclear fuel fabricators, nuclear power generators, radiochemical laboratories, environmental monitoring laboratories, laboratories of national and international control and regulatory agencies, the medical sector and so on.

Suppliers

Orders to suppliers represent a not insignificant 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 for component replacement activities and power plant upgrades, for which instrumentation and control systems represent a large share.

Purchasing volumes will evolve considerably in the coming years due to reactor completion projects such as Bellefonte in the United States.

Operations and highlights

Please refer to Section 6.4.3., *Reactors & Services Business Group*.

Outlook and development goals

The overall outlook for the Installed Base market segment is good, given the utilities' determination to continue to operate their fleets with optimum reliability and availability, to extend unit lifecycles, and to enhance performance. Moreover, the Fukushima accident prompted nuclear safety authorities to raise nuclear safety requirements for facilities, thus offering new avenues for growth. Ever since the decision to close power plants in Germany, the Installed Base has worked to increase its volume of business beyond its three domestic markets even more. Its objective is sustainable, growing operations, and it is working to be even more competitive by adjusting its offering to new customer requirements and improving its work tools and methods.

Two new categories of services were confirmed in 2011: innovative "Global Offers", "Alliances", and unit upgrades and completion services, and installation operations related to reactor construction by the New Builds market segment. These two areas will be further expanded in 2012 and into the coming years.

With an eye on future growth, the Installed Base market segment will build on its technology innovations and expertise to win business in its strategic markets and in new segments, and will promote the international sale of products and services that have proven their effectiveness in their home base.

6.4.3.3. PROPULSION AND RESEARCH REACTORS

Key figures

	2011	2010
<i>(millions of euros)</i>		
Revenue*	388	397
Workforce at year end	2,330	2,748

* Contribution to consolidated revenue.

Businesses

Power supply systems for naval propulsion

The core business of the Propulsion and Research Reactors market segment is to design, manufacture and maintain naval nuclear propulsion reactors for the French Navy, and to provide related equipment, fuel and services. 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. It requires mastery of key methodologies and technologies, such as systems architecture, project management, digital safety systems, safety analysis, thermohydraulics and neutronics, acoustics and vibration, and integrated logistical support. Nuclear reactors designed by the Propulsion and Research Reactors market segment have powered the French Navy's submarines and aircraft carriers during all of the fleet's operating missions for nearly 40 years.

The Propulsion and Research Reactors market segment also meets propulsion-related requirements, including control systems, monitoring systems, and acoustic discretion of systems and facilities and their components. The market segment has unique experience as a designer and facilities operator for the CEA. In addition to reactor design and related fuel design and fabrication, it provides support to the operator of the reactors aboard submarines and aircraft carriers in the form of services, maintenance and training. This includes in-service support and operation of qualification, training and test reactors, whose role is to prevent technological and human risks at several levels (validation of onboard reactors before sea duty, full-scale testing of innovations, endurance tests, predictive maintenance, and operator training).

Engineering of complex facilities, including research reactors, scientific research facilities, industrial facilities and fuel cycle facilities

The Propulsion and Research Reactors market segment 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:

- **Major scientific research instruments and facilities**

On behalf of the CEA, Propulsion and Research Reactors teams are in charge of the definition and design studies for the Jules Horowitz research reactor (RJH), which is now under construction.

Propulsion and Research Reactors was awarded the contract to constitute the safety and regulatory documentation needed for the license to build the ITER facility.

6.4. Operations

6.4.3. Reactors & Services Business Group

● Nuclear facilities

As part of a team of companies, the Propulsion and Research Reactors market segment is responsible for the design of the low- and medium-level waste disposal facility at the Ignalina nuclear power plant in Lithuania and for providing on-site construction support.

● Industrial facilities

AREVA TA was the lead company in the industrial team that designed and built the final assembly line of the A380 airplane for Airbus Industrie in Toulouse. The cooperation with Airbus was expanded in 2009 and 2010 to include the assembly lines of the A350 airplane.

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

In the rail transportation market, the Propulsion and Reactors market segment offers customers the design and fabrication of highly safe onboard and ground electronic equipment and systems ensuring passenger comfort and safety while offering a high level of reliability and availability. The market segment has secured a significant role in this sector, which demands performance levels analogous with those of the nuclear industry in terms of safety and availability.

Manufacturing and human resources

Propulsion and Research Reactors has four main manufacturing and engineering locations in France:

- Saclay: support functions and marketing and project operations;
- Aix-en-Provence: engineering projects;
- Cadarache: in-service reactor support and operations;
- Toulouse: electronic equipment and engineering projects for the aeronautics industry.

The Propulsion and Research Reactors market segment conducts operations in several other countries as well, principally the United Kingdom, the United States and China.

Market and competitive position

The Propulsion and Research Reactors market segment works primarily in France in the defense, major scientific instruments, guided transport and manufacturing sectors. For national security reasons, there are very few international business opportunities in naval nuclear propulsion.

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

Propulsion and Research Reactors 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 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.

Relations with customers and suppliers

The market segment's leading customers are the CEA, the Délégation Générale pour l'Armement (DGA, the French defense procurement agency), and DCNS (French naval defense company). In the civilian nuclear power, transportation and manufacturing sectors, the CEA, EADS, Paris transit authority RATP and Sytral account for the largest share of the segment's revenue.

Operations and highlights

Please refer to Section 6.4.3., *Reactors & Services Business Group*.

Outlook and development goals

Propulsion and Research Reactors designs, builds, services and dismantles nuclear steam supply systems used in naval propulsion. In the civilian sector, it designs and builds small reactors, mainly research reactors today, but tomorrow small power-generating reactors, and it is 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. The Propulsion and Research Reactors market segment also opted to apply its technology building blocks and well-known references in engineering and design to position itself in short-cycle growth markets – airplane assembly lines, the engineering of medical radioisotope production facilities, and safety instrumentation and control for the urban and peri-urban guided transport industry – to maintain key naval propulsion skills and expertise and innovate and develop its key technologies.

6.4.3.4. MANUFACTURING PLANTS**Key figures**

	2011	2010
Workforce at year end	2,192	2,345

Businesses

The manufacturing plants mainly supply:

- 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 supports⁽¹⁾, which are the main components required to build a nuclear steam supply system; and

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

- 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.

Manufacturing and human resources

Forgings

Manufacturing capacity for machined parts and forgings is located at the Creusot Forge, Creusot Mécanique, Sfar and Civad sites in the Saône-et-Loire department of central France. These sites' production resources consist mainly of machining facilities and a steelmaking plant equipped with two presses (7,500 metric tons and 11,300 metric tons). Investments have been made in recent years to increase production capacity at Creusot Forge and Creusot Mécanique, which manufacture and machine large forgings and castings needed to manufacture heavy components for the nuclear island. 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. In October 2011, AREVA sold the Sfar and Civad companies, which specialize in mechanized welding and boilermaking, to the SOTRALENTZ group.

The market for large forgings meeting nuclear standards is very concentrated due to the high quality requirements of the nuclear industry. Creusot Forge and its leading competitor, the Japanese company Japan Steel Works (JSW), supply the majority of the Western world's demand for some products. The industrial resources and know-how of these two companies make them key players in the manufacture of large forgings used in heavy components for the nuclear island.

Heavy components

The Chalons/St-Marcel plant near Chalons-sur-Saône, France, is dedicated to the manufacturing of heavy nuclear equipment. The main building covers a surface area of 39,000 m² and has a hoisting capacity of 1,000 metric tons. In 2008, AREVA and Northrop Grumman Shipbuilding teamed to create a new component manufacturing site in Newport News, Virginia, to serve the needs of the US nuclear market in particular. The joint venture, named AREVA Newport News LLC⁽¹⁾, launched the construction of the new plant in July 2009 and work progressed in 2010. This project was subsequently slowed down and then mothballed in 2011, given the market situation in the United States.

The market for heavy components is characterized by substantial international competition made up of six leading companies: Westinghouse/Toshiba, Doosan, MHI⁽²⁾, ENSA, Mangiarotti (formerly Ansaldo) and Babcock & Wilcox. With its integrated business model,

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. Since that market was opened, in late 2004, AREVA has won contracts to replace 9 steam generator triplets and an option for another triplet from the EDF group. More recently, AREVA was awarded the manufacturing of 32 steam generators for EDF's 1300 MWe power plants in France.

Mobile components

The JSPM⁽³⁾ plant in Jeumont, northern France, manufactures mobile equipment for nuclear power plants. Established in 1898, the plant specializes in the design and manufacture of mobile mechanical components for the nuclear island, such as reactor coolant pump sets and control rod drive mechanisms, as well as the replacement parts for that equipment. Component installation and maintenance services also represent a significant share of its operations. JSPM's new reactor coolant pump test center has been in service since 2010. The test loop is a world first: it is the only one in the world capable of testing reactor coolant pumps of the size used in the EPRTM reactor at full power in terms of pressure, temperature and flowrate.

AREVA also operates in China through the AREVA Dongfang Joint Venture⁽⁴⁾ (ADJV) formed between JSPM and the DFEM group to manufacture JSPM-designed reactor coolant pumps for the Chinese market. The manufacturing site celebrated its fifth anniversary in 2011, and also inaugurated facility extensions that double ADJV's production capacity.

For more than 20 years, the JSPM subsidiary SOMANU⁽⁵⁾, based in Maubeuge in northern 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.

JSPM's leading competitors in the mobile components market are Toshiba/Westinghouse, MHI, Curtis Wright and, in China, KSB.

Plant life extension (PLEX) and optimized maintenance strategies (PLIM, for Plant Life Management) are two important issues for operators, who are becoming more demanding in terms of performance improvement, reliability and maintenance costs for reactor coolant pumps.

(1) AREVA 67%, Northrop Grumman 33%.

(2) Mitsubishi Heavy Industries.

(3) Jeumont Systèmes pour Pompes et Mécanismes.

(4) JSPM 50%/DFEM (DongFang Electrical Machinery) 50%.

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

6.4. Operations

6.4.3. Reactors & Services Business Group

Outlook and development goals

The manufacturing plants' core mission concerns pressurized water reactors (PWR) of all types, but also boiling water reactors (BWR). The nuclear equipment market is divided into two segments: the component maintenance and replacement market, and the new builds market.

The near-term outlook for mobile components is favorable due to a strong backlog, ensuring significant capacity utilization. With regard to forgings and heavy components, manufacturing business is assured for the replacement market and for the new builds market. On this latter market segment, business growth cannot be dissociated from the growth of nuclear power programs and the consequences of the Fukushima accident.

The principal challenge for the manufacturing plants is to optimize industrial performance at all sites. For the Business Group as a whole, the challenge remains to deliver primary cooling system components 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. TECHNICAL UNITS**Key figures**

	2011	2010
Workforce at year end	1,198	1,149*

* Estimates based on 2009 staffing, restated for the new organization of 2010.

Businesses

The technical units support the operations of the Reactors & Services Business Group through the technical performance and certification of its products and by supplying advanced products and technologies offering high performance levels.

The units are organized along four major lines: Research and Development, Design Authority for the Reactors & Services Business Group, Technical Center, and Instrumentation & Control and Electrical Products.

Following the Fukushima accident in 2011, the technical units set up an international organization to ensure the overall consistency of technical activities launched in the wake of the events in Japan, both in new builds and in the installed base. Coordinated 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 Research & Development entity of the Reactors & Services Business Group is responsible for key technologies, both for pressurized water reactors and for boiling water reactors. It is also responsible for the development of new systems and technologies for next-generation reactors, particularly the ATMEA1 and KERENA reactors, as well as for high temperature reactors and fast neutron reactors.

Upon the completion in 2010 of the basic design of the nuclear island for ATMEA1, the new reactor designed by AREVA and Mitsubishi, the ASN is reviewing the safety options selected for the reactor design, which factor in the results of post-Fukushima stress tests. 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. The French nuclear safety authority ASN continued its design assessment to ensure that the ATMEA1 reactor's safety options comply with applicable regulations in France.

In the meantime, AREVA completed the basic design of the KERENA reactor in June 2011. This mid-range boiling water reactor was developed with the support and participation of the German utility E.ON based on reactors in service in Germany. AREVA and E.ON are agreed that the design will serve to build customer proposals.

AREVA conducted a vast testing program for large-scale validation of the principal improvements to this type of reactor.

The technical units are also in charge of AREVA's participation in the Next Generation Nuclear Plant project (NGNP) initiated by the US Department of Energy. 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. Additionally, the technical units are working to keep AREVA on track in terms of its commitments in European high temperature reactor projects.

Design Authority

Together, the technical units are the Group's Design Authority for reactors and services. They are tasked with managing product design for the Reactors & Services Business Group, ensuring that required performance levels are met, standardizing solutions and handling certification.

The Design Authority is working on instrumentation and control system architecture with a cross-business unit to define instrumentation and control models and recommend a strategy. Another of its missions is to secure the Design Acceptance Certificate for the EPR™ reactor in the United Kingdom, the first key milestone in that country's nuclear renaissance. In December 2011, the British safety authorities granted Interim Design Acceptance of the EPR™ reactor. After four years of thorough, detailed review of the EPR™ design, the British regulatory bodies concluded that the result was generally satisfactory, in terms of both the design and nuclear safety.

The development of the EPR™ reactor is primarily based on lessons learned from projects conducted in Finland, France and China, from which are drawn corresponding optimization initiatives.

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, and in Le Creusot and Chalon/St-Marcel in France. The new facilities of the AREVA Technical Center devoted to nuclear safety research and innovation were inaugurated in Le Creusot on April 12, 2011.

Instrumentation & Control Systems and Electrical Products

Working cooperatively with the Reactors & Services Business Group's stakeholders, the Instrumentation & Control and Electrical Products entity develops concepts and technologies in the field of electrical systems and safety instrumentation and control. It handles their qualification and their lifecycle as well as delivery logistics.

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).

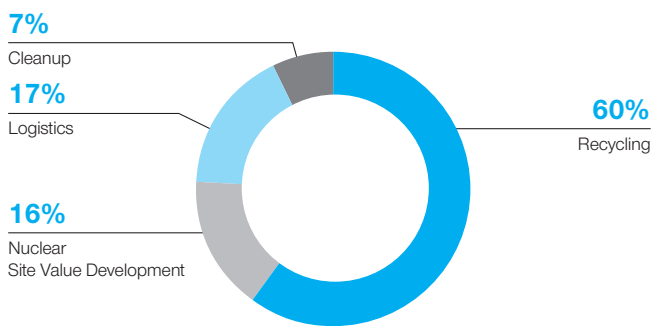
6.4.4. BACK END BUSINESS GROUP

KEY FIGURES

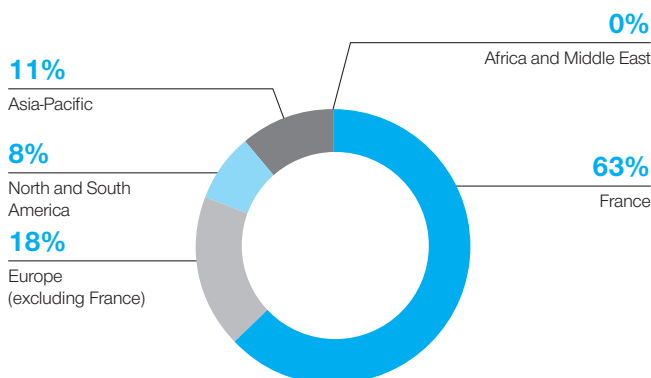
	2011	2010
<i>(millions of euros)</i>		
Revenue*	1,594	1,709
Operating income	191	280
Workforce at year end	11,009	10,931

* Contribution to consolidated revenue.

→ 2011 REVENUE BY BUSINESS UNIT AND GEOGRAPHICAL AREA



Source: AREVA.



Source: AREVA.

OVERVIEW

The Back End Business Group, whose backlog is discussed in Chapter 9, represents 18% of the AREVA group's revenue. It offers efficient, sustainable solutions for managing the back end of the nuclear cycle. It is organized into four business units: Recycling, Logistics, Nuclear Site Value Development and Cleanup.

The Back End Business Group recycles used fuel for reuse in reactors, supervises and carries out radioactive materials transportation, and cleans up nuclear facilities, returning them to productive use after operations have stopped. 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:

- Direct disposal, also called the "once-through cycle": When the used fuel is unloaded from the reactor, 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, final 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.
- Recycling: This solution takes into account the fact that the used fuel contains a significant quantity of reusable materials capable of producing a large amount of energy. Uranium and plutonium, which represent 96% of the used fuel, can be recycled into fresh fuel in the form of MOX fuel (containing a mixture of plutonium and depleted uranium) and enriched recycled uranium fuel (ERU).

6.4. Operations

6.4.4. Back End Business Group

Used fuel recycling conserves natural uranium resources and facilitates radioactive waste management by significantly reducing waste volumes and radiotoxicity and by packaging waste in standardized containers specifically designed to trap the radioactivity 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. Several countries seeking to deploy large-scale nuclear power programs are turning to recycling technology as an important factor in energy self-sufficiency and public acceptance. 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.

POSITION OF THE BUSINESS UNITS

The **Recycling business unit** uses processes to retrieve reusable resources representing 96% of the content of used nuclear fuel and to safely package and stabilize the remaining 4%, which is final waste, in standardized containers.

The Group is also organized to design and build new recycling plants in partnership with foreign countries seeking to acquire their own production capability.

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;
- the organization and supervision of nuclear materials transportation and, as needed, management of the related equipment fleets.

It also oversees all transportation operations involving class 7 radioactive materials on AREVA's behalf.

The business unit's main customers are European, American and Japanese utilities and nuclear fuel cycle operators serving nuclear power plants and research reactors: mining companies, uranium converters and enrichers, and fuel fabricators.

The **Nuclear Site Value Development business unit** designs and supervises nuclear site dismantling and rehabilitation after production has been discontinued, for purposes of site reuse. The Nuclear Site Value Development business unit takes over where the industrial use of these facilities leaves off; its dismantling operations thus constitute a second life for the sites.

The business unit works primarily for the AREVA group, but also for the Commissariat à l'énergie atomique (CEA, the French atomic energy commission).

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 carries out complex dismantling projects, provides radiation protection and nuclear measurement services, and offers training programs for work in a nuclear environment.

STRATEGY AND OUTLOOK

The Back End Business Group's objectives follow four lines.

Rely on recognized nuclear and industrial safety expertise to:

- affirm its leadership position in used fuel recycling operations;
- expand its presence in the dismantling and cleanup markets, particularly abroad;
- participate in the development of new recycling platforms;
- develop products and services related to the transportation of fuel and nuclear materials while confirming its position as a major player in the market for dry used fuel storage.

HIGHLIGHTS OF THE PERIOD**Recycling**

In 2011, AREVA continued operations under the "treatment and recycling" agreement with EDF for the 2008 to 2012 period. This agreement ensures multiyear visibility for both EDF and AREVA in their relations on recycling.

Since 2009, a dozen AREVA employees have been assigned to the Sellafield nuclear site in the United Kingdom for execution of the site management and operations contract signed in 2008, in partnership with Nuclear Management Partners (NMP – URS Washington Division and AMEC plc). In 2011, AREVA also began design work for a liquid fission product storage facility at the Sellafield site, the recycling center for the West Cumbria region of the United Kingdom. This work is carried out under a contract won in 2010 in partnership with AMEC and Balfour Beatty.

Construction of the MOX Fuel Fabrication Facility (MFFF) begun in August 2007 at the Savannah River site near Aiken, South Carolina, is continuing, meeting cost, schedule and safety commitments. The Shaw AREVA MOX Services consortium (SAMOX) is building the facility for the US Department of Energy (DOE). In 2010, AREVA was chosen to set up a training program called MOX-STAR (MOX Services Training on AREVA Reference Sites), for which preparations are currently underway. AREVA will train 93 MFFF employees at the MELOX and La Hague sites in France starting in 2013.

In September 2011, the Recycling business unit submitted reports to French nuclear safety authority ASN on additional safety assessments for the La Hague and MELOX sites. ASN's requests are part of a European initiative to audit nuclear facilities in the aftermath of the Fukushima Daiichi nuclear accident in Japan on March 11, 2011. The MELOX ten-year review report, whose purpose is to demonstrate the facility's

compliance with safety requirements and to maintain the facilities at the highest level of safety in view of changes to come, was also submitted at the end of the summer. The submittal of these reports does not signify the end of the process, but rather the beginning of the ASN review phase.

Logistics business unit

In particular, in the front end of the nuclear cycle, the Logistics Business Unit consolidated its logistics network in Africa and carried out shipments from Kazakhstan and to China. In Europe, an important contract was signed with Urenco for the shipment of natural uranium hexafluoride.

In the back end of the cycle, used fuel shipments from the Netherlands to the La Hague recycling site for the operator EPZ resumed in 2011, and the last shipment of high-level vitrified waste was made from La Hague to Germany in November 2011.

In the field of used fuel storage, the business unit's development continued. In Belgium, customer Synatom renewed its confidence by giving it an additional order for TN24 casks for the Doel site. In Switzerland, a contract to supply two additional TN24GB casks was signed with the utility Axpo to enable it to remove used fuel from its cooling pools when the time comes. In the United States, the business unit won new market share with customers such as the utility First Energy, which chose the Nuhoms technology for dry fuel storage at its Beaver Valley site.

In France, in the cask management and operating services field, the Logistics Business Unit won a contract from EDF to remove and receive fresh and used fuel. In the United States, a "pool-to-pad" contract was signed with Florida Power & Light for the Turkey Point nuclear power plant.

In the reactors and services field, the Logistics Business Unit was selected to deliver to the Flamanville EPR™ reactor innovative neutron shielding systems consisting of special resins developed by the business unit. In the field of research reactors, the Logistics Business Unit began in December to ship used fuel from the Phenix reactor to the AREVA La Hague plant for their recycling, and shipped sealed sources that had been used by the CEA for scientific purposes to the United States. In addition, the Logistics Business Unit strengthened its know-how in the shipping of medical sources with the development of a lead-212 shipping cask.

Cleanup

In 2011, the Cleanup business unit continued to implement the action plan to boost performance launched in 2009 by capturing new markets, increasing its economic and operational performance, strengthening its presence near customers and adding to its skills.

The Cleanup business unit was awarded significant contracts during the year:

- in specialized maintenance: steam generator lancing for EDF for the 2011-2014 period in partnership with the SRA-SAVAC company, and a contract for decontamination of primary piping nozzles for 900 MWe reactors during steam generator replacements for the Installed Base business unit of AREVA's Reactors & Services Business Group;
- in dismantling: the contract to dismantle the chemical cell of the HAO facility at La Hague for the Nuclear Site Value Development business

unit and the project to dismantle evaporator and bituminization processes at the liquid effluent treatment station for CEA Saclay;

- in total project support services: logistics and installation/removal of access means and thermal insulation at the Paluel power plant for EDF for the 2012-2018 period;
- in industrial operations: the project for investigations of columns in the T4 facility at the La Hague site with ACE as subcontractor for the Recycling business unit;
- in radiation protection and measurements: the projects for technical radiation protection support and for maintenance of radiation protection equipment for the Recycling business unit at La Hague, in partnership for the latter project with IMEX, a Reel group company, and a five-year contract to monitor very high efficiency filters and iodine traps for some of EDF's nuclear power plants.

Nuclear Site Value Development

In April 2011, the Nuclear Site Value Development business unit was tasked by AREVA to support TEPCO in its rehabilitation of the Fukushima site following the natural disaster that occurred in March 2011. The business unit led the design and installation of a contaminated water treatment station. Co-developed with Veolia, the system reduces the water's level of radioactivity ten thousand-fold and can process up to 50 metric tons of contaminated water per hour. As of the end of 2011, 80 000 metric tons of water had been processed. In this regard, the Group's 250 employees mobilized to bring their expertise enabled TEPCO to control the risk of a contaminated water spill during the post-accident phase.

Also in 2011, negotiations for the renewal of contracts with the CEA at the Marcoule site for the 2011-2015 period were completed successfully.

At the La Hague site, dismantling of the HAO/South facility is in progress. Three other dismantling decrees for regulated nuclear facilities (INB 33, INB 38 and INB 47) are to come. The three public inquiries held in late September 2010 received a favorable decision by the inquiry commission and the Prefect in January 2011.

The Nuclear Site Value Development business unit also received most of the necessary permits to restart dismantling work at the ATPu plutonium technology workshop in Cadarache. Work was stopped by French nuclear safety authority ASN in October 2009 following an incident related to a non-conformity in the method of sending information to the authorities following a record discrepancy in plutonium detected in the equipment.

Since the beginning of 2010, the business unit is also involved in the details of dismantling scenarios for the Eurodif enrichment plant at the Tricastin site, whose shutdown is slated for 2012.

Lastly, illustrating the business unit's mission of giving former nuclear sites a new lease on life with new uses, dismantling of the SICN nuclear fuel fabrication plant in Annecy was completed at the end of 2011 and the installation of a biomass power plant at the site for urban heating was inaugurated with IDEX.

6.4. Operations

6.4.4. Back End Business Group

6.4.4.1. RECYCLING**Key figures**

	2011	2010
<i>(millions of euros)</i>		
Revenue*	958	1,110
Workforce at year end	5,725	5,695

* 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 waste 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, a mixture of uranium and plutonium oxides. AREVA is the world's leading producer of MOX.

Manufacturing and human resources

Most of the Recycling business unit's operations are conducted at two recycling sites, the La Hague site in northern France and the MELOX site in southern France.

La Hague

The first stage of recycling is performed at the La Hague plant: recyclable materials and waste in used fuel from French and foreign power plants and research reactors are separated, and the materials and final waste are packaged.

The plant has two production lines, UP2-800 and UP3, which currently have a combined capacity of 1,700 metric tons of used fuel per year, corresponding to the generation of 450 TWh per year of electricity.

The La Hague plant met its production targets in 2011, treating 1,044 metric tons of heavy metal (MTHM). More than 4,000 AREVA employees work at the site.

MELOX

MELOX, an AREVA subsidiary, is the global market leader in the fabrication of recycled nuclear fuel (MOX).

With a view to improving the industrial flexibility of its facilities, MELOX added another layer of industrial robustness in 2011 by increasing production 10% compared with 2010.

MELOX adjusted its production schedule to deliver the flexibility expected by its customers. To do this, MELOX suspended some capital spending on additional capacity not needed in the short term while maintaining spending on facility maintenance and nuclear safety at a level analogous to that of 2010. These projects are part of the plant's Total Sustainability initiative, in which nearly 20 million euros are invested each year. These efforts will continue in the years to come.

Recycling platforms

The Group is already involved in projects in several key countries:

- China confirmed its intention of supporting the development of its nuclear power program with a high-capacity treatment and recycling plant. In 2011, discussions continued between AREVA and CNNC on cooperation between the two companies in the Chinese used fuel treatment and recycling field, pursuant to the industrial agreement signed in November 2010.
- In Japan, the Group has had a major technical assistance program with its Japanese partner customers since 1987. The partnership developed in this field culminated in the construction of a used fuel treatment plant by Japan Nuclear Fuel Limited (JNFL), with AREVA's support, at the Rokkasho Mura site.
- In the United States, the administration had opted for the direct disposal strategy at the end of the 1970s in response to the risk of proliferation. In 2009, the Obama administration decided to terminate the direct disposal project under construction at Yucca Mountain and in February 2010 established a blue ribbon commission to study alternatives to Yucca Mountain. The recycling option assessed by the commission, with its advanced technologies, is increasingly viewed as a viable solution for the management of the back end of the cycle. Already, the Group's recycling technologies form the basis of the US Plutonium Disposition Program, which involves building a MOX fuel fabrication facility in the United States for the US Department of Energy (DOE) to recycle US defense plutonium. AREVA is contributing significant technology and engineering to this project.
- On December 1, the UK Minister of Energy and Climate Change published his findings following the public consultation held in February 2011 on the long-term management of plutonium inventories. He confirmed that he was in favor of the option of reusing the 100 metric tons of plutonium in storage in the United Kingdom in the form of MOX fuel.

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:

- a concentrated industry with a limited number of suppliers of recycling services;
- the very high level of technological expertise required;
- capital-intensive operations;
- stringent emissions and environmental impact requirements; and
- services under multiyear contracts.

In 2011, the MELOX plant produced 145 MTHM of MOX, corresponding to a market share of more than 95% for the AREVA group.

The installed capacity of the La Hague and MELOX plants along with AREVA's cumulative experience rank the Group number one worldwide in recycling.

Research and development

Under the umbrella of the agreement between AREVA and the CEA, production using the cold crucible, a new generation melter for the vitrification facility, continued in 2011.

In 2011, French nuclear safety authority ASN authorized the startup of production of a second type of vitrified waste package using a cold crucible.

The first industrial tests of the force-feedback electrical remote manipulator at the La Hague site were completed successfully in 2011.

This new generation of remote manipulators is both easier to use and delivers better performance, enabling significantly enhanced reliability and productivity gains in maintenance.

The 100% MOX EPR™ project continued in 2011. This concept is to recycle and manage a fuel core comprised solely of MOX, which is easier to manufacture and heightens performance. Four patent applications have been submitted. Discussions are intensifying with safety authorities and with interested utilities in Europe.

Operations and highlights

Please refer to Section 6.4.4., *Back End Business Group*.

Outlook and development goals

In 2012, the Recycling business unit plans to continue to promote recycling technology abroad by:

- participating in the establishment of appropriate infrastructure in partner countries;
- increasing French uranium recycling operations;
- offering services using its own industrial assets; and
- offering recycling services to customers of AREVA's EPR™ reactor and ATMEA1 reactors.

6.4.4.2. NUCLEAR SITE VALUE DEVELOPMENT

Key figures

	2011	2010
<i>(millions of euros)</i>		
Revenue*	258	225
Workforce at year end	1,621	1,719

* 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 Nuclear Site Value Development business unit operates as the project owner for AREVA projects. It is in charge of projects both as an operator and as a project manager. The business unit acts as prime contractor for some projects. It leads and coordinates all partners and subcontractors to deliver on-time, in-budget performance while maintaining high levels of nuclear and occupational safety. In addition, to optimize the management and good governance of end-of-lifecycle provisions, the Nuclear Site Value Development business unit is responsible for those provisions once the facilities are shut down, under the oversight of the Nuclear Assets department, which is responsible for monitoring the AREVA group's end-of-lifecycle provisions.

Manufacturing and human resources

In 2011, the Nuclear Site Value Development business unit had seven key projects:

La Hague site

The UP2-400 plant entered service in 1966 and processed 9,360 metric tons of used fuel from the NUGG, light water and Phenix reactors. Final shutdown of operations was decreed in 2003. At the La Hague site, dismantling of the HAO/South facility is in progress. Three other dismantling decrees for regulated nuclear facilities (INB 33, INB 38 and INB 47) are to come. The three public inquiries held in late September 2010 received a favorable decision by the inquiry commission and the Prefect in January 2011.

In addition, an administrative process is underway for a new request to amend the license for the STE3 facility (regulated nuclear facility INB 118) to allow for sludge retrieval and packaging operations. This project currently mobilizes some 500 employees of AREVA and its subcontractors.

Cadarache site

Production was discontinued at the MOX fuel fabrication plant in Cadarache in 2003. Repackaging operations and the removal of recyclable materials were completed in June 2008. The Nuclear Site Value Development business unit is now operating as project owner and prime contractor for cleanup and dismantling operations at the site's plutonium shop (ATPu) and at the chemical purification laboratory. After completion of these operations, the facilities will be transferred to the CEA for final decommissioning. Approximately 100 AREVA employees and 200 subcontractor personnel were working at the site at the end of 2011.

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. Approximately 900 AREVA employees are involved in these projects.

6.4. Operations

6.4.4. Back End Business Group

SICN's Annecy and Veurey sites

The Annecy and Veurey plant sites were established in the mid-1950s to fabricate natural uranium fuel and to machine parts made of uranium metal. AREVA is in the process of cleaning up and dismantling the two sites to release them for new industrial uses. Both projects are now in their final phase.

A partnership with local players and public authorities was set up in Annecy and Veurey to ensure the long-term sustainability of existing operations or to welcome new ones. The SICN Annecy site was reindustrialized in 2011 with the installation of a biomass power plant operated by the IDEX group, which will provide urban heating for the city of Annecy.

Eurodif's uranium enrichment plant at Tricastin

The Nuclear Site Value Development business unit is currently preparing the project to dismantle the Georges Besse I enrichment plant operated for thirty years by Eurodif Production, with plant shutdown scheduled for 2012. The Georges Besse II plant, on which construction began in 2006, will ultimately replace the first plant.

Miramas site

The Nuclear Site Value Development business unit is responsible for soil cleanup at this former AREVA chemical plant, involved in the isotopic separation of lithium and lithium product manufacturing. One of the project's objectives is to minimize waste production. In 2011, 5,400 metric tons of earth had already been processed. Some 50 people are working on the project, which began in late 2009 and should last about five years.

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 50s, 60s and 70s. Some of these facilities are reaching the end of their operating life today. Their dismantling is thus under preparation or in progress.

In France, the net present value of provisions for the three main project owners – 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. AREVA's Nuclear Site Value Development business unit has a major role to play in that effort.

Relations with customers and suppliers

To improve the cost-competitiveness of its projects, the business unit is engaged in dialogue with its suppliers to improve their visibility on the future workload over the short and medium terms and to work on improving performance.

The Nuclear Site Value Development business unit will set up a dismantling center of excellence with a global bias in Germany in early 2012.

Research and development

To support its growth, the business unit has established a Research and Innovation plan with partners in key areas, including performance improvement for work in progress by developing remotely-operated equipment, research on new processes to retrieve sludge and package waste, and decontamination techniques for engineered structures.

→ OPERATIONS AND HIGHLIGHTS

Please refer to Section 6.4.4., *Back End Business Group*.

Outlook and development goals

The strategic objective of the Nuclear Site Value Development 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.

Negotiations to renew contracts with the CEA for the 2011-2015 period were completed in June 2011 and represent a major commercial challenge for the business unit. At the CEA's request, a competitive bidding process will be phased in for the operation and production of workshops supporting the dismantling projects. The Nuclear Site Value Development business unit will be positioned to win these contracts starting in 2013.

To strengthen its external growth, the Nuclear Site Value Development business unit conducted studies in 2011 on market prospects in the United States, the United Kingdom and Germany. It also set up a marketing and sales department to strengthen its position in export markets and bolster its commercial activities and presence in key countries.

6.4.4.3. LOGISTICS BUSINESS UNIT**Key figures**

	2011	2010
<i>(millions of euros)</i>		
Revenue*	263	257
Workforce at year end	1,361	1,242

* 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;
- 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. The business unit was also tasked with the supervision of transportation operations for the AREVA group, in order to guarantee a high safety level of these operations.

The business unit also supplies nuclear fuel storage rack solutions for power plant cooling pools as well as neutron shield systems for reactors.

Manufacturing and human resources

The Logistics business unit is based in several regions of the world:

- in Europe, where the business unit’s leading entity, TN International, has expertise in every aspect of logistics, possesses a large fleet of shipping casks, and carries out radioactive materials transportation, in particular through its subsidiaries LMC, Mainco and Mécagest;
- in the United States, where Transnuclear Inc. designs and sells storage casks to US nuclear utilities and operates at two sites, in Columbia, Maryland, and Aiken, South Carolina;
- in Japan, where its subsidiary Transnuclear Ltd provides engineering, transportation and the sale and maintenance of reactor fuel casks;
- in Niger, where the business unit ships mining concentrates.

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.

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 mainly 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 2011, 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 number one 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 nuclear reactors in China.

The Logistics business unit is the world leader in both of its main businesses and is active in every stage of the nuclear fuel cycle on an international level.

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 its own manufacturing capabilities for casks and transportation equipment through its subsidiaries Mécagest and LMC.

It also developed a diversified international network of suppliers for all of its key components.

Operations and highlights

Please refer to Section 6.4.4., *Back End Business Group*.

Outlook and development goals

The Logistics business unit is pursuing three major objectives:

- to support the strategy of AREVA’s Back End Business Group for the development of used fuel recycling;
- to supervise AREVA group shipments and promote safety standards all over the world;
- to bolster its global position in transportation and storage for both the front end and back end of the nuclear fuel cycle.

In Europe, the business unit is asserting its already solid position in the storage market and is expanding 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 leadership position in storage and to capture a significant share of the transportation market. In Asia, the objectives are to conquer significant market share in storage and to expand to the intercontinental transportation market for the front end of the cycle.

The business unit also continues to develop new products for the EPR™ reactor, such as fuel storage racks or neutron shielding, where the Logistics business unit is a recognized expert.

6.4.4.4. CLEANUP

Key figures

	2011	2010
<i>(millions of euros)</i>		
Revenue*	114	117
Workforce at year end	2,302	2,275

* Contribution to consolidated revenue.

Businesses

The Cleanup business unit provides global services and solutions to nuclear facility operators to ensure clean and safe operation of their nuclear sites and facilities.

This offering encompasses the following activities:

- outsourced operation of nuclear waste treatment facilities;

6.4. Operations6.4.4. *Back End Business Group*

- 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;
- logistics operations and management for jobsites or support operations at the sites or nuclear facilities, including installation and removal of elevated 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;
- training for operations in a nuclear environment and skills management support to contractors.

Manufacturing and human resources

The business unit provides services to almost all of the French nuclear sites. The majority of these services involve workers who are deployed to customer sites throughout the country.

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. Backed by its experience and its ability to innovate, the business unit is able to offer its customers cost-effective, demonstrated solutions.

The business unit has operated the Triade environmentally regulated facility (see *Glossary*) since 1994. There, 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.

Market and competitive position

The Cleanup business unit's market is located almost exclusively in France. It is bolstered by new requirements from customers who are increasingly outsourcing their operations.

In 2011, the Cleanup business unit began developing its international operations, building on the foreign presence of the Group's other business units, including the Nuclear Site Value Development business unit to provide radiation protection skills during set-up of the Actiflo Rad installation at Fukushima, or AREVA Federal Services LLC (AFS) in the United States for the dismantling of high-level cells at Oak Ridge or to promote the Nithrow® technology for the cleanup of Plutonium Reclamation Facility installations at Hanford, Washington.

The Cleanup business unit is a major player in France, with a market share of about 22%.

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 that handle nuclear waste, such as Andra, the CEA and the EDF group. The business unit also operates in Belgium for Electrabel, in particular at the Tihange site.

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.

Operations and highlights

Please refer to Section 6.4.4., *Back End Business Group*.

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 position is not as strong.

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, and operations pursuant to additional safety assessments and the "major overhauls" program for EDF's nuclear generating stations;
- "Dismantling", particularly of high-level facilities at AREVA or CEA nuclear sites for the Nuclear Site Value Development 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, and development related to services pursuant to the additional safety assessments and EDF's "major overhauls" program for its nuclear generating stations.
- "Training", with a strong presence maintained in the training of workers for the nuclear environment.

The Cleanup business unit is also investing heavily in innovation to secure the technologies needed to successfully carry out the above developments.

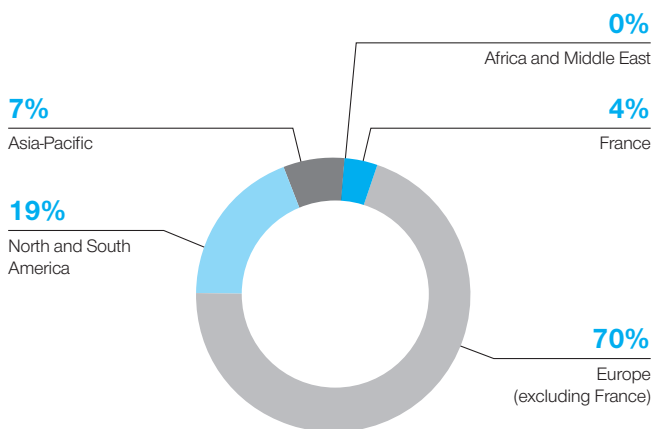
6.4.5. RENEWABLE ENERGIES BUSINESS GROUP

KEY DATA

	2011	2010
<i>(in millions of euros)</i>		
Revenue*	297	150
Operating income	(78)	(123)
Workforce at year end	1,255	1,176

* Contribution to consolidated revenue.

→ 2011 REVENUE BY GEOGRAPHICAL AREA



Source : AREVA.

OVERVIEW

The Renewable Energies Business Group (BG) had 1.778 billion euros in backlog at December 31, 2011, down 3.5% compared with the end of 2010. The BG reported revenue of 297 million euros in 2011, an increase of 98.2% on a reported basis and of 98.3% like for like from 2010.

The BG's portfolio comprises four solutions: offshore wind, concentrated solar power (CSP), bioenergy, and hydrogen as an energy carrier and storage solution.

Strategy and outlook

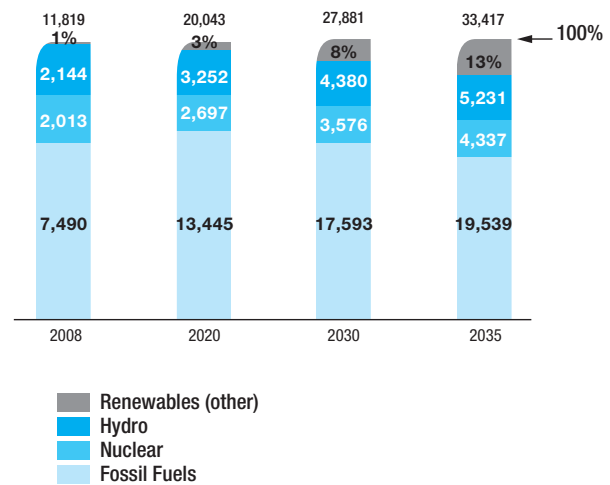
The Renewable Energies BG aims to become a leading player in the international renewable energies market. The BG's short-term strategy is to:

1. continuously enhance the competitiveness and efficiency of its solutions;
2. deliver large-scale landmark projects;
3. further strengthen its operational track record.

Market and competitive position

The core scenario of the *World Energy Outlook* published by the International Energy Agency (IEA) in 2011 – the “New Policies Scenario” – anticipates a dramatic change in the electricity mix by 2030, with the share of non-hydro renewable energies expected to rise from slightly more than 3% in 2009 to close to 13% of global electricity generation. This growth is expected to occur alongside an increase in global electricity generation of two thirds over the same period.

→ GLOBAL ELECTRICITY GENERATION MIX - NEW POLICIES SCENARIO (TWH)



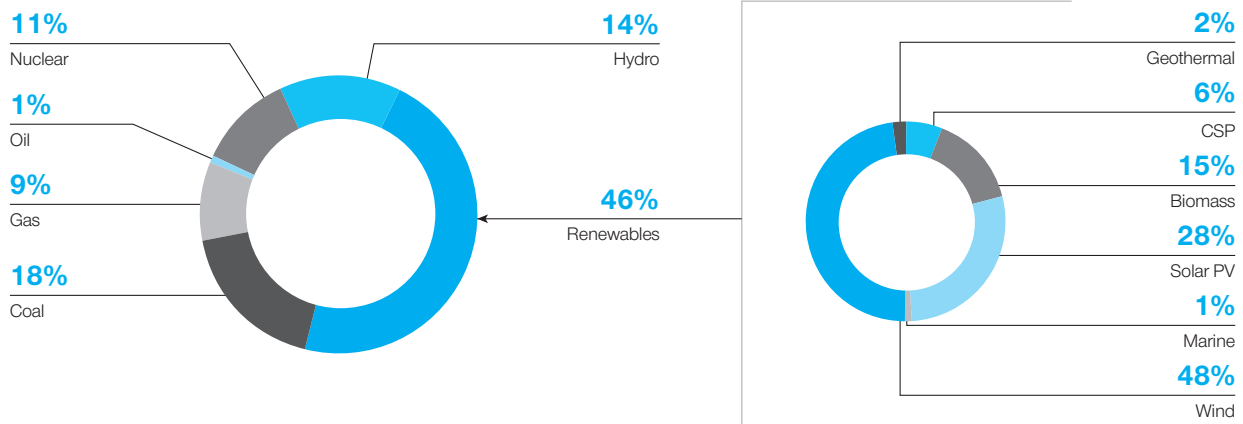
Source: WEO 2011.

Renewable energies (including hydro) are expected to represent 60% of all capital spending in new power plants from 2011 to 2035. Major investments are set to be carried out in China, India, Europe and the United States.

6.4. Operations

6.4.5. Renewable energies Business Group

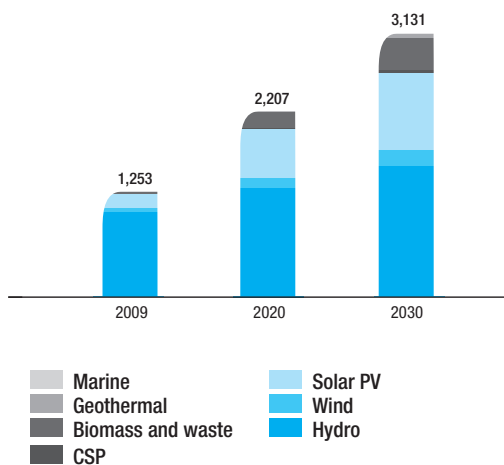
→ INVESTMENT IN RENEWABLE-BASED ELECTRICITY GENERATION BY TECHNOLOGY-NEW POLICIES SCENARIO (\$2010 BILLION)



Source: IEA, World Energy Outlook 2011.

As highlighted in Chapter 6.1.1, utilities are increasingly being driven by governments worldwide to increase the share of renewable energies in their portfolios. The central scenario of the *World Energy Outlook* foresees strong growth of every power generation segment in which the Renewable Energies BG is a player. Global biomass capacity is set to grow more than fourfold from 2009 to 2035, while CSP capacity is expected to experience the strongest growth with more than 20% CAGR between 2009 and 2035.

→ GENERATING CAPACITY FROM RENEWABLE ENERGIES – NEW POLICIES SCENARIO (GW)



Source: IEA, World Energy Outlook 2011.

The *World Energy Outlook* also emphasizes that due to the variability of some renewable power generation technologies (mostly solar

photovoltaic and onshore wind), energy storage will be one of the key low-carbon intermittency mitigation technologies for grid stability. The BG's energy storage operations are ideally positioned to benefit from the growth of this market.

Relations with customers and suppliers

Customers

The Renewable Energies BG's customers are major utilities, developers, independent power producers (IPPs), and power-intensive industries.

Suppliers

Purchasing represents an important part of the Renewables BG's product offer. As such, the BG has developed a comprehensive purchasing strategy based on:

- equipment, components and mechanical systems;
- electricity, electronics and instrumentation;
- forgings, boilers and piping;
- raw materials and semi-finished products;
- civil engineering.

The Purchasing department supports the BG's profitable development by focusing on:

- Securing the offshore wind supply chain through long-term agreements and multi-sourcing;
- Establishing a comprehensive, global and cost-efficient solar power supply chain;
- Implementing a strong supplier quality management process;
- Defining comprehensive global sourcing policies and technical optimizations for all commodities.

2011 Highlights

Solar

AREVA Solar entered into a contract with Australian utility CS Energy to install a 44 MWe solar steam generator to increase power production at the company's Kogan Creek coal-fired power plant in Queensland, Australia. Construction is underway and the generator is expected to be in full operation at the start of 2013. Additionally, the Australian government selected the Solar Dawn Consortium, of which AREVA Solar is the lead member, as the preferred bidder to develop the 250 MWe Solar Dawn CSP plant.

AREVA won a contract with a major operator in India to build a concentrated solar power plant and provide operating and maintenance services. The order includes a first unit of 125 MW and an option for a second unit of the same capacity.

AREVA Solar is leading international marketing and sales actions to develop its customer base.

Wind

AREVA Wind is supplying 80 M5000 turbines to the Global Tech 1 offshore wind project following the successful closing of the 1-billion-euro financing plan. Global Tech 1 will be connected to the grid in 2012 and fully commissioned in 2013.

In addition, AREVA Wind manufactured the turbines for the initial phase of the Borkum West II project for delivery to Trianel in 2012.

AREVA Wind has proposed its M5000 wind turbine to equip five government-selected areas along the French coast. The group responded to the call for tender as the supplier to two consortiums.

AREVA Wind is expanding its international marketing and sales activities to further broaden its customer base.

Bioenergy

AREVA Bioenergy, leader of a consortium with Dutch civil engineering company Ballast Nedam and Finnish boilermaker Metso Power Oy, signed a contract with ENECO for the construction of a 50 MWe biomass plant in Delfzijl, Netherlands. ENECO invested 155 million euros in the Delfzijl project, while AREVA's share was 51 million euros.

On May 23, 2011, AREVA acquired the remaining 30% share of AREVA Koblitz, a subsidiary specialized in integrated biomass solutions for the production and cogeneration of electricity.

The business unit (BU) began construction of a biomass cogeneration plant (12 MWe/30 MWeth) in Pierrelatte, France. Operations are set to commence in the last quarter of 2012.

Phase 1 of the Seresta sugar factory expansion project began in Brazil on August 11, 2011. The project will modernize the factory and its milling process for sugar and electricity production.

Hydrogen and Energy Storage

On the technology side, the BU in charge of hydrogen and energy storage activities worked with its subsidiary Héliion to:

- Qualify its Greenergy Box product;
- Commission the MYRTE facility in Corsica – a test platform that uses a 100 kW Héliion system.

Research and development

In the renewable energies market, R&D is key to achieving competitive advantage. R&D activities are geared towards improving the existing offer and creating new and innovative products and services.

Solar

A collaborative network is constantly being built with entities such as the Indian Institute of Technology Rajasthan (IITR) in Jodhpur for cooperation in research and development to support the development of concentrated solar power (CSP) in India, the CEA in France, Sandia National Lab in the USA, and Medgrid, a company established in December 2010 to develop the interconnection system for the future pan-Mediterranean power grid.

Wind

AREVA Wind unveiled the latest extension of its M5000 product platform: the M5000-135. This model builds on the M5000's proven technology with a new 135m rotor. The BU continues to participate in the RAVE project (Research Alpha Ventus) coordinated by the Fraunhofer Institute.

Bioenergy

A strategic objective of the Bioenergy BU is differentiation through key technology ownership. R&D objectives are to reduce CAPEX and develop CFD-based models⁽¹⁾ and simulation tools to optimize flexBio grate and boiler design for complex biomass fuels.

Hydrogen and Energy Storage

The Hydrogen and Energy Storage BU and its core company Héliion continued to develop its *Greenergy Box* product, commissioning a non-integrated hydrogen-based energy management system as part of the MYRTE project in Corsica.

Sustainable development

In 2011, the Renewable Energies BG strengthened its quality assurance system. The AREVA Blades factory in Stade, Germany, which produces wind turbine blades, earned ISO 9001 certification and renewed its standard GL 2005 qualification. The Bremerhaven site received ISO 14001 and OHSAS 18001 certification.

Human Resources

In order to meet its business objectives, the BG has increased its workforce significantly, mainly in Germany and the US.

(1) Computational fluid dynamics.

6.4. Operations

6.4.5. Renewable energies Business Group

6.4.5.1. WIND

Key data

	2011	2010
<i>(in millions of euros)</i>		
Revenue*	202	88
Workforce at year end	571	345

* Contribution to consolidated revenue

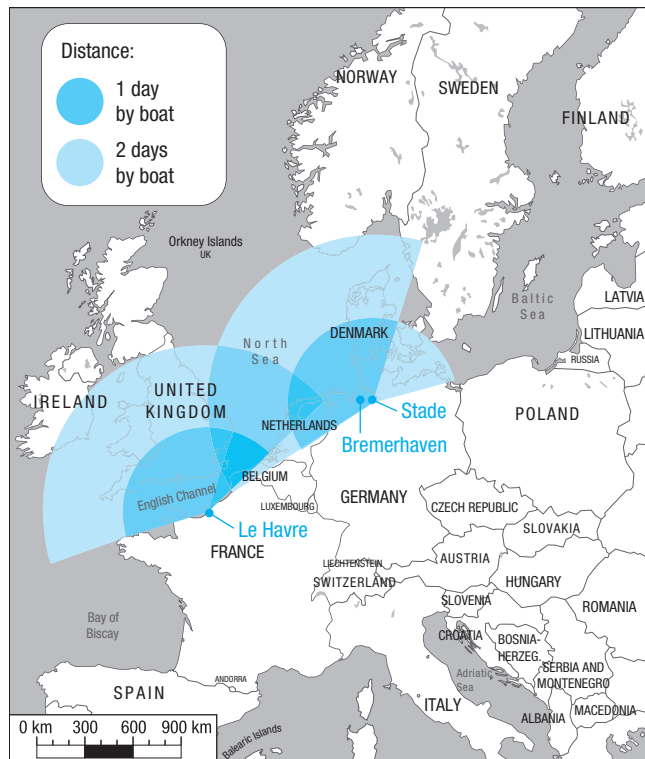
Businesses

AREVA Wind designs, builds, assembles and commissions high-efficiency 5 MWe wind turbines designed specifically for the offshore market. It offers installation services and service plans.

Manufacturing and human resources

AREVA Wind's main production plant is in Bremerhaven, Germany, where it employs around 470 people. The plant manufactures the M5000 wind turbine nacelles and hubs, which are delivered directly to offshore wind farms. AREVA Blades's rotor blade factory is in Stade, close to Bremerhaven, where it has a workforce of 100 people.

→ AREVA WIND PLANTS IN GERMANY, PROPOSED PLANT IN FRANCE, AND DISTANCES FROM THE LEADING EUROPEAN MARKETS FOR OFFSHORE WIND



Market and competitive position

Market

Offshore wind is a fast-growing market. By 2020, offshore wind power is expected to rise to more than 25 GWe of installed capacity in Europe.

THE UNITED KINGDOM

The United Kingdom is expected to be the largest European and worldwide offshore market with:

- 1.5 GWe of wind power in operation in December 2011 and 2 GWe under construction (source: British Wind Energy Association);
- a target of 13 GWe by 2020;
- a third round of 32GW launched in 2010.

GERMANY

With a target of 10 GWe of installed offshore wind capacity in the North Sea and Baltic Sea by 2020, Germany represents the second largest European market. An additional 10 to 15 GWe of capacity is planned for 2025 to 2030.

FRANCE

In July 2011, the French government launched calls for tender for 3 GWe in offshore wind to be installed at five sites by 2020. Responding to this tender, AREVA has partnered exclusively with:

- GDF SUEZ and VINCI for the three zones in Normandy;
- Iberdrola and EOLE RES, associated with Technip, for the two zones in Brittany.

OTHER OFFSHORE MARKETS

Other European countries plan to commission offshore wind capacity of approximately 15 GWe by 2020, including Benelux and Sweden. Japan is showing increased interest, and China and South Korea are aiming for fast deployment with formal government-set development targets. Meanwhile, the sector is emerging in the United States, mainly on the East Coast and Great Lakes.

Position

AREVA Wind possesses the world's first 5 MWe full-load test bench, the result of a strategic investment in best-in-class quality assurance of the drive train, nacelle and electrical systems.

AREVA is one of two players with a proven track record in 5 MWe offshore wind. The M5000 platform has successfully operated offshore at the Alpha Ventus pilot site for more than two years. AREVA will have an installed base of more than 120 wind turbine generators by 2014.

AREVA's partnership with Geosea Hochtief, a joint venture in marine construction and shipping services, enables installation and maintenance services for large-scale offshore wind farms.

Relations with customers and suppliers

Please refer to Section 6.4.5., Renewable Energies Business Group.

Operations and highlights

Please refer to Section 6.4.5., Renewable Energies Business Group.

Outlook and development goals

AREVA intends to leverage its special offshore wind turbine design by capitalizing on the lessons learned at Alpha Ventus, the first offshore wind farm in the German North Sea.

6.4.5.2. BIOENERGY

Key data

	2011	2010
<i>(in millions of euros)</i>		
Revenue*	76	61
Workforce at year end	419	629

* Contribution to consolidated revenue.

Businesses

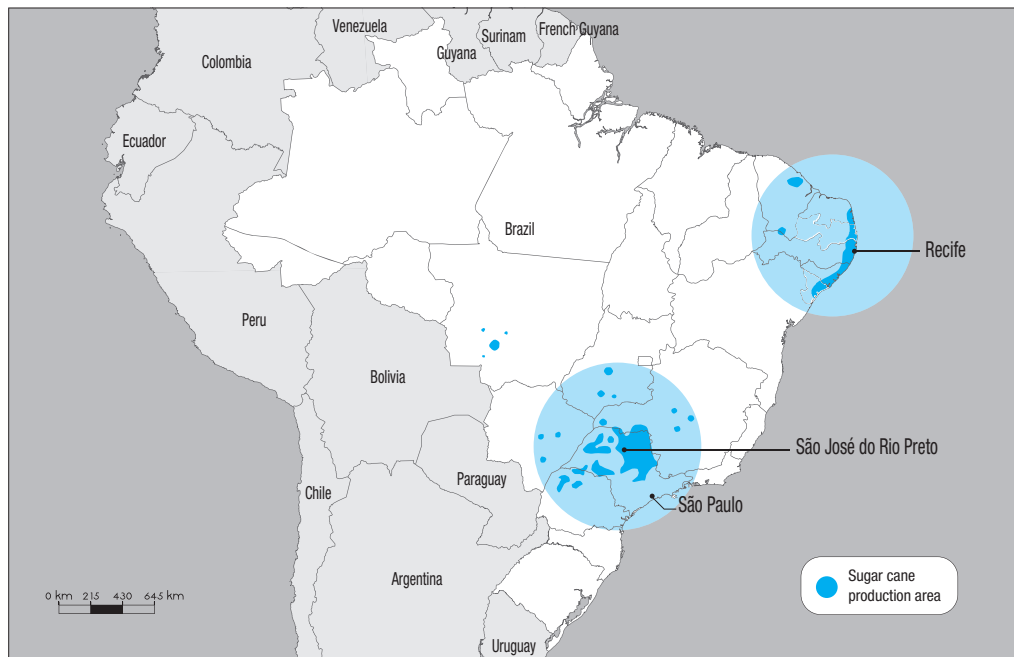
The AREVA Bioenergy business unit provides integrated solutions for the design, construction and commissioning of biomass power plants, and balance of plant solutions for customers in Europe, South America and Southern Asia. These carbon-neutral plants convert organic residue (wood, bagasse, straw, etc.) into energy.

Manufacturing and human resources

The AREVA Bioenergy BU is organized into three operational units:

- Europe and Africa: offices in France and Germany;
- Asia: offices in India and Singapore;
- Latin America: AREVA Koblitz is the biggest operational unit, with more than 400 employees (three Brazilian sites in Recife, São Paulo and São José do Rio Preto, and a subsidiary in Panama).

→ AREVA'S BIOENERGY SITES IN BRAZIL AND LEADING SUGARCANE PRODUCTION AREAS



Market and competitive position

Market

The global market for biomass capacity should grow by 6.8 GWe per year by 2015, with nearly 1.8 GWe per year in each BU's target market.

Though the biomass market is highly fragmented by the diversity of companies and types of biomass, it remains the world's largest renewable energies market. Emerging countries, notably Brazil and Southeast Asian nations, represent areas of dynamic growth for biomass.

Position

The Bioenergy BU is an industrial pioneer in the development of power engineering solutions with a strong focus on biomass technology. With a global historical contribution of 5.1 GWe, it encompasses more than 100 biomass power plants in Europe, South America and Asia and a total of 2.5 GWe of installed electricity production capacity. The BU plans to

6.4. Operations

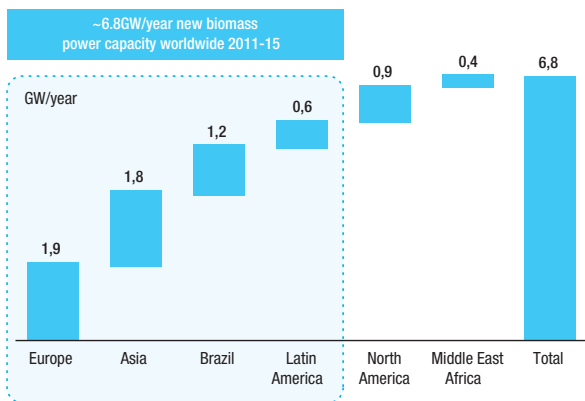
6.4.5. Renewable energies Business Group

maintain its position as a leading supplier of turnkey power plants and balance of plant solutions in its target markets:

- sugarcane residue and hydroelectricity in Latin America (notably Brazil);
- solid biomass in Europe;
- complex and mixed biomass in Asia (wheat and rice straw, palm stalks, coconut shells).

In addition, the BU is developing its own FlexBio combustion solution for complex biomass. In particular, the FlexBio technology is a combustion solution developed by AREVA for complex biomass, which is abundant on the markets of India and Southeast Asia.

→ GLOBAL INSTALLED GENERATING CAPACITY FROM BIOMASS AND WASTE



Source: UDI database.

Relations with customers and suppliers

Please refer to Section 6.4.5.1. *Renewable Energies Business Group*.

Operations and highlights

Please refer to Section 6.4.5.1. *Renewable Energies Business Group*.

Outlook and development goals

Biomass power plant projects will see sustained development, given the context of government tax incentives and abundant agricultural and forestry residue. Building on the FlexBio program, the Bioenergy BU plans to conquer other high-potential markets with future innovations.

6.4.5.3. SOLAR

Key data

	2011	2010
(in millions of euros)		
Revenue*	19	1
Workforce at year end	150	92

* Contribution to consolidated revenue

Businesses

The Renewable Energies Business Group continues to advance the global deployment of concentrated solar power (CSP) energy solutions using compact linear Fresnel reflector technology (CLFR). AREVA's CSP solar steam generators are suited to a wide variety of power generation applications, from fifty to several hundred megawatts. They can also supply steam augmentation for natural thermal power plants, enabling customers to boost their power generation at peak periods while reducing plant emissions and fuel consumption.

Manufacturing and human resources

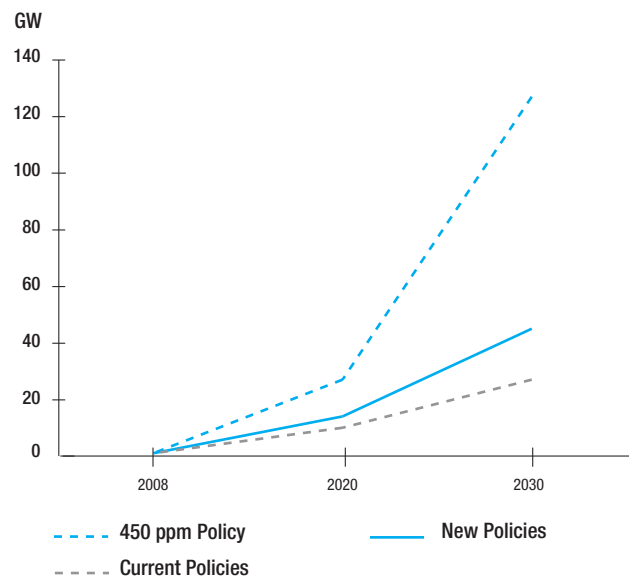
AREVA Solar is headquartered in Mountain View, California (US), and has a highly automated manufacturing plant for mirrors and tubes in Las Vegas, Nevada (US) and Queensland, Australia.

Market and competitive position

Market

Supported by government policies, the CSP market is set to experience strong growth over the coming decades. With average annual growth of 20%, CSP should reach an estimated installed capacity of more than 14 GWe by 2020.

→ GLOBAL INSTALLED GENERATING CAPACITY FROM CONCENTRATED SOLAR POWER



Source: IEA, World Energy Outlook 2011.

Key CSP markets encompass the Americas, Asia/Oceania, India, and EMEA countries with appropriate conditions such as DNI and regulations.

Position

Of all the renewable energy technologies, CSP has the most direct synergies with the nuclear field. Consequently, the nuclear and CSP fields use a common set of expertise, making AREVA a preferred contributor to the accelerated development of CSP technology.

Relations with customers and suppliers

Please refer to Section 6.4.5.1., *Renewable Energies Business Group*.

Operations and highlights

Please refer to Section 6.4.5.1., *Renewable Energies Business Group*.

Outlook and development goals

AREVA Solar brings a comprehensive and integrated solution to the market, combining the most reliable, cost-effective and land-efficient CSP technology with full engineering, procurement and construction support. The combination of energy storage solutions will further improve the technology's attractiveness as a low-cost baseload solution for CO₂-free energy generation.

6.4.5.4. HYDROGEN AND ENERGY STORAGE**Key data**

	2011	2010
<i>(in millions of euros)</i>		
Revenue*	0	0
Workforce at year end	53	59

* Contribution to consolidated revenue.

Businesses

The Hydrogen & Storage business unit (BU) is developing, industrializing and qualifying its fuel cell products to generate clean electricity.

The BU aims to reduce the cost of its technical solutions to offer its customers reliable CO₂-free systems. On a business level, it is focused on developing its traditional markets and exploring the outlets of its Greenergy Box in energy storage and smart grids.

Manufacturing and human resources

Located in France's main environmental technology center, Aix-en-Provence, the BU employs 53 people.

Market and competitive position**Market**

Fuel cells boast several advantages: start-up reliability, high energy performance, low carbon footprint and absence of noise. The fuel cell market has taken off in recent years, particularly for backup systems, and falls into two broad categories:

- onboard applications: air-packed with hydrogen as the primary fuel, with the cost of hydrogen offset by value-added system features that make these applications profitable;
- stationary applications: decentralized electricity production and backup systems.

Expected growth in the US, European and Asian markets makes them highly attractive. Hydrogen and fuel cells may be used in decentralized energy storage and energy management, two areas under evaluation. The hydrogen production market through water electrolysis, traditionally for industrial applications, is evolving to launch hydrogen fuel stations.

Position

The BU is developing its offer for highly reliable backup systems with a wide power range. Currently in the industrial scaleup phase, the BU plans to market comprehensive systems. Its technology works well with specialized onboard applications. In this field, the BU is seeking partnerships in which it acts as the designer and supplier of fuel cell cores.

The BU possesses assets and skills in the electrolysis market. It plans to explore:

- energy storage and decentralized energy management markets, developing a hydrogen/fuel cell offer;
- partnerships with major players in the electrolysis market.

Relations with customers and suppliers

Please refer to Section 6.4.5., *Renewable Energies Business Group*.

Operations and highlights

Please refer to Section 6.4.5., *Renewable Energies Business Group*.

Outlook and development goals

The BU is targeting high-potential markets with major players requiring emergency backup systems at a reduced cost.

6.4.6. OTHER

The **Consulting & Information Systems business unit** represents 2% of AREVA group's revenue. Reporting to the Group's Information Systems & Services Department, it provides consulting, services and information systems engineering to meet its customers' business challenges and support them sustainably for their transformation needs.

The Consulting & Information Systems business unit conducts its commercial operations under the brand names of Euriware and its two subsidiaries, PEA Consulting and Open Cascade. It leads integration projects (information systems, industrial data processing, and instrumentation & control) and IT outsourcing projects (critical systems, business applications). It also carries out consulting missions on information systems and industrial operations management.

The business unit has been granted a triple certification for Quality, Occupational Safety and Environmental certifications (ISO 9001, ISO 14001 and OHSAS 18001), CEFRI certification for radiation protection management, and SAP Hosting certification for applications hosting.

To meet industrialization and quality requirements, the business unit's 2,106 employees are spread through specialized competences centers, in France (90%), Russia and the United States. They regularly deliver projects internationally. Depending on the customer's requirements, they offer services based on offshore production capacities.

In 2011, the business unit contributed 136 million euros of revenue to the Group. Whether alone or with other AREVA group's business units, its major customers come essentially from energy, manufacturing, defense and engineering sectors: CEA (French atomic energy agency), Daher, DCNS (French naval shipyards), DOE (US Department of Energy), EDF, French Ministry of Defense, GDF-Suez, IFP Énergies Nouvelles, International Atomic Energy Agency (IAEA), Onera, Safran, Technip, Total and others.

About half of the business unit's operations address internal AREVA Group needs. It focuses on projects such as supporting the Group's industrial investments, and provides IT outsourcing for the Group's information system.

OPERATIONS AND HIGHLIGHTS

In 2011, the business unit registered more than 119 million euros of new orders, including:

- for the French Ministry of Defense: "SAER Convergé", a computer-aided intelligence solution for the French Army's theatres of operation;

- for EDF: the Nuclear Power Plant Radiation Protection Supervision Station to manage collective dosimetry and its long-term reduction; the Renouv'Eau project to upgrade maintenance and production for the Hydraulic Engineering & Production Department; support to the Nuclear Production Department for maintenance scheduling of operating units and unit outages; design for AREVA of a new "Important for Nuclear Safety – Unclassified" instrumentation & control system in the frame of the renovation of EDF 1300 MWe nuclear power plant instrumentation & control systems;
- for DCNS: as prime contractor to DCNS, participation in adaptations of a part of the technical information system to allow transfer of technology from DCNS to the Brazilian Navy;
- for GDF-Suez: the "Energy Management System" solution to help matching the demand with the supply of the production sites of four combined cycle gas turbine thermal power plants; the management solution for petrotechnical data (2D and 3D seismic data, test drilling profile, etc.) for all of its subsidiaries (Norway, Germany, Netherlands, Egypt, Qatar, etc.); deployment of the EAM SAP Plant Maintenance solution into 22 natural gas compressor stations of GRTgaz in France;
- in IT outsourcing: for new customer Onera, the French center for aeronautic and space research, IT outsourcing of scientific applications and infrastructure; for the Ile de France Center of DAM (defense applications department of the CEA), IT outsourcing of infrastructure of sensitive applications.

OUTLOOK AND DEVELOPMENT GOALS

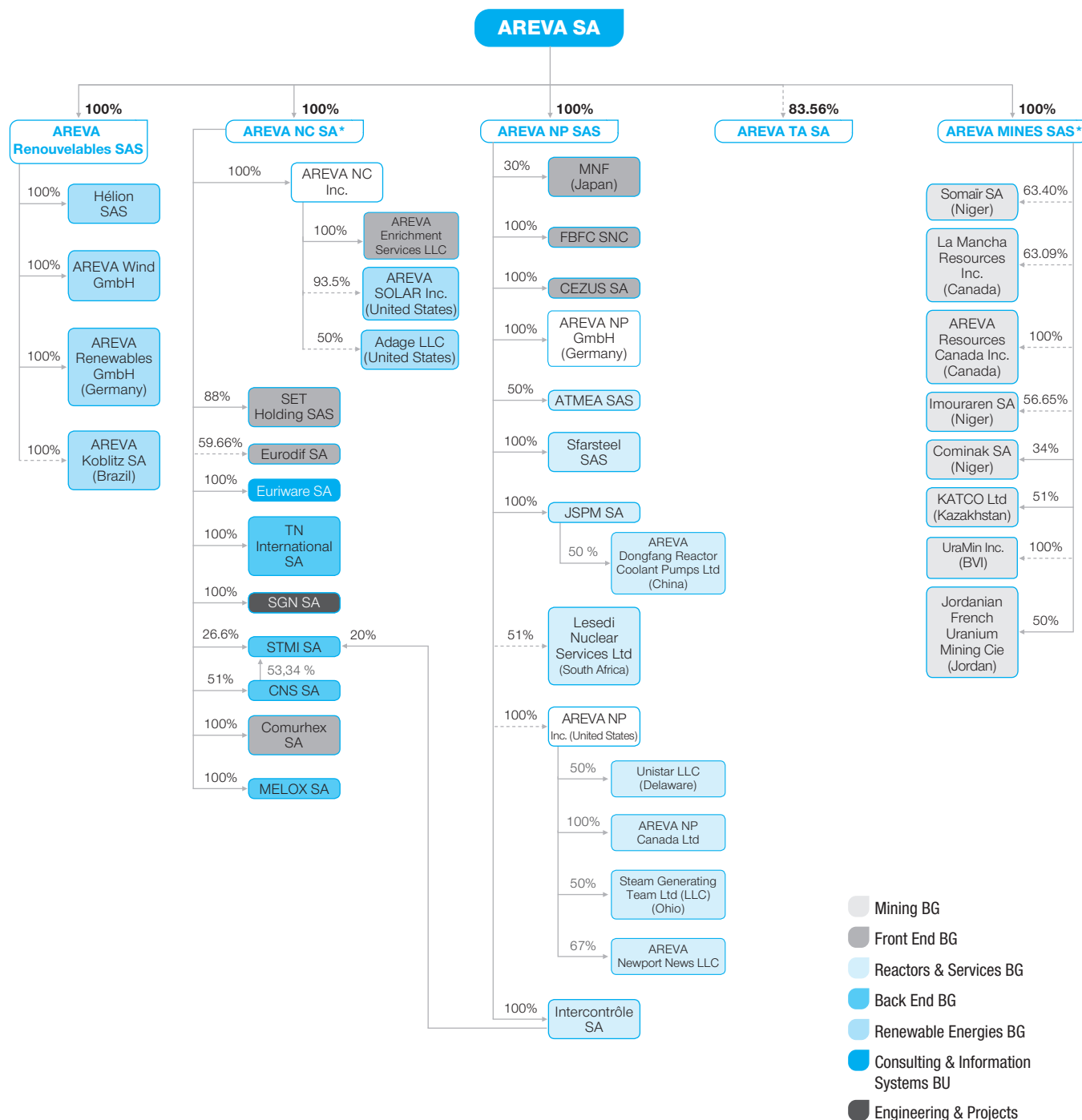
In 2012, the business unit will pursue its information systems engineering expansion to serve its customers' industrial performance. In the energy field, the BU will focus its efforts, in France and internationally, on two segments:

- in the nuclear field: on the ongoing major new investments as well as on the market for renovation of existing production plants and their information systems, in particular to support nuclear safety improvement and post-accident measurements;
- in all other growing energy fields: thermal, hydraulic and renewable.

The business unit will also continue to proactively meet emerging requirements in the sector that can be met by innovative technologies (mobility, wireless, interoperability, data mining, cybersecurity, etc.).

Organizational structure

SIMPLIFIED ORGANIZATION CHART OF THE AREVA GROUP AT DECEMBER 31, 2011



Source: AREVA.

*Under the terms of the French decree no.2011-1883 of December 15, 2011, the Commissariat à l'énergie atomique et aux énergies alternatives and AREVA are required to keep at least the majority of AREVA NC's share capital. Under the terms of this same decree, AREVA is required to keep more than half of the share capital of the AREVA MINES company.

Property, plant and equipment

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→ 8.1. Principal sites of the AREVA group

Pursuant to appendix I, point 8 of European Commission Regulation no. 809/2004 of April 29, 2004, 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 are listed below. The primary criterion for listing sites is the size of the operation conducted there.

The Group operates at some 51 principle plant sites. These sites are distributed geographically as follows:

- 28 in France;
- 9 in Europe (excluding France);
- 9 in North and South America;
- 1 in Asia; and
- 4 in Africa.

Several different operations are conducted 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, France	Offices	Lease	No	89,646 m ²
33, rue La Fayette – Paris, France	Offices (registered office)	Lease	No	27,419 m ²
1-5, rue du Débarcadère – Colombes, France	Offices	Lease	No	13,477 m ²

8.1.2. MINING BUSINESS GROUP

In all, 7 industrial sites have been identified as principal sites and are listed below.

Of the 7 sites listed, all are located abroad in 4 different countries.

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
Akoka 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	Under development
Trekkopje Namibia	Desalination plant (50/50 joint venture between ARSA and United Africa)	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	49.5 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

In all, 11 industrial sites have been identified as principal sites and are listed below.

Of the 11 sites listed, 8 are located in France and 3 are abroad in 3 different countries.

8.1.3.1. CHEMISTRY OPERATIONS

Location	Type of asset	Lease/ Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Pierrelatte - Saint-Paul-Trois-Châteaux - Bollène France (nuclear-regulated, security-regulated, environmentally- regulated facilities)	Plant and storage area	Full ownership	No	Land: 350.17 ha Building: 586,142 m ²	RepU denitration (TU ₆) Defluorination Denitration (TU ₂) and depleted UO ₂ UF ₆ Storage
Miramas France (environmentally regulated facility)	Mill	Full ownership	No	Land: 37.02 ha Building: 21,440 m ²	Lithium
Malvésy France (environmentally regulated facility)	Mill	Full ownership	No	Land: 144.68 ha Building: 31,192 m ²	UF ₄

8.1. Principal sites of the AREVA group

8.1.3. Front End Business Group

8.1.3.2. ENRICHMENT OPERATIONS

Location	Type of asset	Lease/ Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Pierrelatte - Saint-Paul-Trois-Châteaux - Bollène				Land: 259.81 ha	Enrichment services
France (regulated nuclear facility)	Mill	Full ownership	No	Building: 506,223 m ²	Effluent treatment Equipment maintenance

8.1.3.3. FUEL OPERATIONS

Location	Type of asset	Lease/ Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Romans-sur-Isère				Land: 30.82 ha	Fuel assemblies and various components for PWRs
France (regulated nuclear facility)	Mill	Full ownership	No	Building: 61,117 m ²	Research reactor fuel and nuclear instrumentation
Paimbœuf				Land: 64,366 m ²	
France (environmentally regulated facility)	Mill	Full ownership	No	Building: 17,872 m ²	Zirconium tubes for fuel assemblies
Jarrie				Land: 96,685 m ²	
France (environmentally regulated facility)	Mill	Full ownership/ Lease	No	Building: 41,813 m ²	Zirconium sponge
Rugles				Land: 73,491 m ²	
France (environmentally regulated facility)	Mill	Full ownership	No	Building: 12,630 m ²	Flat products in zirconium
Ugine				Land: 56,465 m ²	Intermediate products in zirconium and titanium;
France (environmentally regulated facility)	Mill	Full ownership	No	Building: 33,550 m ²	Plug rods
Dessel				Land: 10.39 ha	
Belgium (nuclear facility)	Mill	Full ownership	No	Building: 18,573 m ²	PWR fuel assemblies (UO ₂ and MOX)
Richland				Land: 134.42 ha	Powder and pellet production (UO ₂ , Gad & BLEU)
Washington, USA (nuclear facility)	Mill	Full ownership	No	Building: 36,900 m ²	Assemblies and various components
Lingen				Land: 44.13 ha	
Germany (nuclear facility)	Mill	Full ownership	No	Building: 14,260 m ²	Fuel assemblies for BWRs and PWRs

8.1.4. REACTORS & SERVICES BUSINESS GROUP

In all, 18 industrial sites have been identified as principal sites and are listed below.

Of the 18 sites listed, 9 are located in France and 9 are abroad in 6 different countries.

8.1.4.1. EQUIPMENT BUSINESS UNIT

Location	Type of asset	Lease/ Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Saint-Marcel France (environmentally regulated facility)	Mill	Full ownership	No	Land: 18,54 ha Building: 54,108 m ²	Heavy components (reactor vessel, vessel head, steam generator, pressurizer)
Jeumont France (environmentally regulated facility)	Mill	Full ownership	No	Land: 92,483 m ² Building: 44,075 m ²	Reactor coolant pump sets, control rod drive mechanisms
Maubeuge France (regulated nuclear facility)	Mill	Full ownership	No	Land: 96,390 m ² Building: 11,349 m ²	Services related to contaminated component maintenance: reactor coolant pumps
Le Creusot France (environmentally regulated facility)	Mill	Full ownership/Lease	No	Land: 79,571 m ² Building: 66,420 m ²	Large forgings for the nuclear and petrochemical industries. Machining of large parts
Montchanin France (environmentally regulated facility)	Mill	Full ownership/Lease	No	Land: 93,500 m ² Building: 37,539 m ²	Mechanized welding boilermaking Machining of mechanical parts
Deyang Sichuan, China	Mill	50/50 joint venture between JSPM and Dongfang Electric Machinery	No	Land: 36,729 m ² Building: 16,435 m ²	Reactor coolant pumps

8.1.4.2. INSTALLED BASE BUSINESS UNIT

Location	Type of asset	Lease/ Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Chalon-sur-Saône France (environmentally regulated facility)	Offices, CEDEM, CEMO, CETIC (50/50 JV with EDF)	Full ownership	Information not available	Land: 25.41 ha Building: 33,637 m ²	Robotics, tooling, decontamination, storage of tooling (contaminated/ decontaminated)
Lynchburg Virginia, USA (nuclear facility)	Offices, hot facilities, training center	Full ownership/Lease	No	Land: 99,636 m ² Building: 23,172 m ²	Decontamination, jot maintenance facility
Erlangen Germany	Offices, facilities	Lease	No	Building: 17,883 m ²	Robotics/tooling

PROPERTY, PLANT AND EQUIPMENT

8.1. Principal sites of the AREVA group

8.1.4. Reactors & Services Business Group

8.1.4.3. PROPULSION & RESEARCH REACTORS BUSINESS UNIT

Location	Type of asset	Lease/ Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Cadarache France (regulated nuclear facility)	Production plant, offices	CEA host site	No	Land: 14.5 ha Building: 52,889 m ²	Nuclear fuel

8.1.4.4. NUCLEAR MEASUREMENTS BUSINESS UNIT

Location	Type of asset	Lease/ Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Meriden Connecticut, USA	Production and services site	Full ownership	No	Building: 16,200 m ²	Standard products, systems
Albuquerque New Mexico, USA	Production and services site	Lease	No	Building: 773 m ²	Standard products
Canberra Oak Ridge Tennessee, USA	Production and services site	Full ownership	No	Land: 9,915 m ² Building: 3,160 m ²	Crystal growth
Concord Ontario, Canada	Production and services site	Lease	No	Building: 2,694 m ²	Standard products
Loches France (environmentally regulated facility)	Production and services site	Full ownership	No	Land: 16,844 m ² Building: 4,800 m ²	Standard products
Lingolsheim France (environmentally regulated facility)	Production and services site	Lease	No	Building: 2,053 m ²	Specialty detectors
Olen Belgium	Production and services site	Full ownership	No	Land: 9,400 m ² Building: 1,627 m ²	Standard detectors
Harwell United Kingdom	Production and services site	Lease	No	Land: 8,665 m ² Building: 2,262 m ²	Standard products, systems

8.1.4.5. PRODUCTS & TECHNOLOGY BUSINESS UNIT

Location	Type of asset	Lease/ Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Le Creusot France (environmentally regulated facility)	Offices, facility	Full ownership	No	Land: 45,174 m ² Building: 5,901 m ²	Technical center - testing
Erlangen Germany	Offices, facility	Lease	No	Building: 6,282 m ²	Technical center - testing

8.1.5. BACK END BUSINESS GROUP

In all, 8 industrial sites have been identified as principal sites and are listed below.

All of the 8 sites listed are located in France.

8.1.5.1. RECYCLING BUSINESS UNIT

Location	Type of asset	Lease/ Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
La Hague France (regulated nuclear facility)	Plant site	Full ownership	No	Land: 383.9 ha Building: 77.89 ha	Used fuel treatment MOX fuel fabrication, packaging of scrap and waste, mechanical facility (manufacture of parts for MELOX)
Marcoule France (regulated nuclear facility)	Plants, offices	Full ownership	No	Land: 10.86 ha Building: 55,895 m ²	Transportation logistics

8.1.5.2. NUCLEAR SITE VALUE DEVELOPMENT BUSINESS UNIT

Location	Type of asset	Lease/ Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Cadarache France (regulated nuclear facility)	Plants, offices	Full ownership	No	Building: 4,995 m ²	Site undergoing dismantling

8.1.5.3. LOGISTICS BUSINESS UNIT

Location	Type of asset	Lease/ Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Valognes France	Offices, Warehouse	Full ownership	No	Land: 39,023 m ² Building: 11,510 m ²	-
Tourlaville France	Warehouse	Full ownership	No	Land: 26,253 m ² Building: 9,800 m ²	-
Saint-Sauveur-le-Vicomte France	Office, workshop	Full ownership	No	Land: 19,705 m ² Building: 6,965 m ²	Machining and mechanical fabrication
Pont-Saint-Esprit France	Warehouse	Full ownership/ Lease	No	Land: 5,472 m ² Building: 3,380 m ²	-

8.1. Principal sites of the AREVA group

8.1.6. Renewables Business Group

8.1.5.4. CLEANUP BUSINESS UNIT

Location	Type of asset	Lease/ Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Bollène France (environmentally regulated facility)	Mill	Ownership	No	Land: 19,483 m ² Building: 9,644 m ²	Machine maintenance, waste processing, equipment recertification

8.1.6. RENEWABLES BUSINESS GROUP

In all, 5 industrial sites have been identified as principal sites and are listed below.

Of the 5 sites listed, 1 is located in France and 4 are abroad in 3 different countries.

Location	Type of asset	Lease/ Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Recife Brazil	Offices, Plant	Full ownership	No	Land: 9,410 m ² Building: 4,191 m ²	Turnkey power plant construction and manufacturing of electrical panels
Bremerhaven Germany	Offices, Plant	Lease	No	Land: 83,170 m ² Building: 10,713 m ²	5 MWe wind turbines
Stade Germany	Offices, Plant	Full ownership	No	Land: 11.8 ha Building: 10,200 m ²	Blade manufacturing for offshore wind turbines
Mountain View California, USA	Offices	Lease	No	Land: 20,234 m ² Building: 6,224 m ²	Construction of solar steam generators
Aix-en-Provence France	Offices, Plant	Lease	No	Land: 1,230 m ² Building: 1,870 m ²	Fuel cells

8.1.7. ENGINEERING & PROJECTS

In all, 2 industrial sites have been identified as principal sites and are listed below.

Location	Type of asset	Lease/ Full ownership	Existence of encumbrances on the real estate	Surface area	Products manufactured
Saint-Quentin-en-Yvelines France	Offices	Lease	No	Land: 27,472 m ² Building: 29,457 m ²	-
Erlangen Germany	Offices	Lease	No	Land: 27,500 m ² Building: 53,632 m ²	-

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.

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→ 9.1. Overview

The following comments are based on financial information for fiscal years 2010 and 2011 and must be read in conjunction with AREVA's consolidated financial statements for the years ended December 31, 2010 and December 31, 2011. 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, 2011.

AREVA's information by business segment is presented for each operating Business Group (BG), which is the level of information

examined by the Group's governance bodies, as per the requirements of IFRS 8. Subsequent to the establishment of a separate subsidiary consolidating all of the Group's mining operations, data for the Mining Business Group is now reported separately from those of the Front End Business Group. The 2010 data used for comparison purposes were restated to reflect this new organization.

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 carbon-free 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.

On December 13, 2011, AREVA has presented its "Action 2016" strategic action plan for the 2012-2016 period, for which Safety, Security and Transparency remain the basis. Outcoming from a collective work, the strategic action plan relies on a deep analysis and the realistic evaluation of the group's activities and the associated means. With the "Action 2016" put in place, AREVA affirms its strategy and confidence in its integrated model, and in the future of nuclear and renewable energies. The group has the ambition to strengthen its leadership in providing solutions for electricity production with less CO₂, relying on the experience of its employees, the confidence of its customers over the world and the support of its Shareholders.

GEOGRAPHIC POSITIONING

AREVA continued to bolster its presence in its principal markets in 2011.

AREVA's footprint grew in Asia with the signature of major contracts and the implementation of strategic partnerships.

Negotiations are progressing but still ongoing for an agreement to build a recycling platform in China. In 2011, AREVA delivered components for 1,600 fuel assemblies and related control rod drive mechanisms in China (for the equivalent of 30 reloads for 1,000 MWe Pressurized Water Reactors).

In Europe, AREVA was very active in both reactor sales and the fuel cycle. For instance, the Group was qualified to respond to a call for tender for

a reactor in the Czech Republic. In the United Kingdom, AREVA signed an agreement with EDF Energy to manufacture forgings for the first UK EPR™ reactor, to be built at Hinkley Point in southwestern England. This agreement is a key milestone for the construction of the first two EPR™ reactors in the United Kingdom. In addition, AREVA is actively marketing its reactors for new projects.

In the United States, the Group expanded its operations in every segment of the fuel cycle business. In August, Tennessee Valley Authority (TVA) chose AREVA as a leading partner for the completion of the Bellefonte 1 nuclear power plant in northern Alabama. Projects to build the Eagle Rock enrichment plant and the MOX fuel fabrication facility in Savannah River are ongoing.

AREVA's business in the rest of the world is growing as well.

The Fukushima accident, along with the financial crisis, has led the group to update its vision of the market, especially on the short-term. Fundamentals of the energy market remain unchanged, particularly regarding the growth of energy demand. Moreover, major nuclear programs have been confirmed over the world, even if the start of new builds has been differed on the short term. Thus, AREVA has updated its new build projections and forecasts a growth of the installed capacity of 2.2% on average until 2030. The group aims at capitalizing on its integrated model in order to offer full range services to its customers.

MARKET TRENDS

AREVA has a strong foothold in recurring business, mainly in reactor services and the fuel cycle, which represents above 80% of its revenue.

In the uranium market, the spot price remained slightly above 50 dollars per pound in the second half of the year after having plummeted following the Fukushima accident. Long-term price forecasts are still robust, as market fundamentals continue to be favorable. For example, AREVA signed multi-year contracts at prices above the latest price forecasts, despite the currently difficult market conditions.

9.1. Overview*9.1.2. Key features of AREVA's business model*

The remaining 20% relates to 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 annual growth of 2.5% expected over the 2009-2035 period, compared with 2.1% for nuclear energy (source: IEA ETP reference scenario 2010).

Growth is expected to accelerate in offshore wind, with an average of 3.6 GWe of capacity to be installed each year in Europe from 2011 to 2020, mostly in the United Kingdom, Germany and France. In concentrated solar power, the accessible global market could reach 30 GWe by 2020, contrasting with current installed capacity of 1 GWe.

Government programs, particularly in the United States, Germany (even more since the government has chosen to phase out nuclear power), the United Kingdom, India and China, provide considerable stimulus to the nuclear and renewable energies 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 details, please refer to Chapter 6 "Business overview".

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 BGs is organized into several Business Units.

The **Mining BG** operates under multi-year contracts equivalent to an average backlog of more than 5 years, and sometimes more than 15 years. These contracts contain standard price escalation clauses. Consequently, the rising natural uranium prices for long-term contracts observed over the past 5 years have positively impacted average contract sales prices. The businesses of the Mining BG require substantial capital due to the need for heavy investments, but these investments support operations over very long periods of time.

The **Front End BG** also operates under multi-year contracts equivalent to an average backlog of more than 5 years, and sometimes more than 15 years in the case of the Enrichment businesses. These contracts contain standard price escalation clauses. The favorable perspectives for long-term prices in conversion, enrichment as well as more specifically in natural uranium have a positive impact on average contract sales prices.

The **Reactors & Services BG** is characterized by recurring business (services and engineering) based on long-term or frequently renewed contracts, representing nearly 80% of the BG's total operations. The BG conducts a large share of these operations in North America and is consequently sensitive to fluctuations in the euro/US dollar exchange rate. The BG also has attractive prospects for non-recurring business,

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 BG.

Those 3 BGs are sensitive to fluctuations in the euro/US dollar exchange rate.

The **Back End BG** is characterized by multi-year contracts with a limited number of customers. The Back End BG had a negative working capital requirement (WCR), and thus a level of capital employed similar to that of a services business, due to customer advances to fund capital expenditures received under old contracts. The use of these customer advances impacts operating cash flows (in particular the change in working capital requirement) as and when the corresponding revenue is posted.

The **Renewable Energies BG** contributed 3.4% of the Group's consolidated revenue in 2011. 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. In the offshore wind segment, the Group supplies equipment along with long-term maintenance services. In the solar power segment, AREVA provides a turnkey solution for concentrated solar power plants.

9.1.3. HIGHLIGHTS OF THE PERIOD

Information provided in this section concerns the AREVA group as a whole. Highlights concerning commercial activities are presented in the business review in Section 6.4.

- On February 25, it was with great joy that the AREVA group welcomed the release of Françoise Larribe, spouse of our employee Daniel Larribe, along with Jean-Claude Rakotorilalao and Alex Awando, both

employees of the Vinci subsidiary Satom. They had been abducted on September 16, 2010 in northern Niger by Al Qaeda in the Islamic Maghreb (AQMI). The company's thoughts are with Daniel Larribe and the three Vinci group employees who remain in captivity and for whom everyone wishes the same positive outcome as soon as possible.

- The year 2011 was marked by the nuclear accident that occurred on March 11, 2011 at Fukushima and by the decision made in Germany to withdraw from nuclear power. Following the Fukushima accident, 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 were set upon the completion of these tests. During the year, several countries confirmed their intentions of maintaining their existing nuclear power programs or launching new programs, including China, the Czech Republic, Finland, India, Poland, South Africa and the United Kingdom. At December 31, 2011, a total of 464 million euros in orders had been canceled by AREVA customers since the Fukushima accident. In the nuclear businesses, Japanese and German orders represent 13.1% and 3.6% respectively of the total of 45.6 billion euros in backlog at December 31, 2011. The short-term market environment for nuclear power following the Fukushima accident was marked by a drop in spot prices in the Mining segment (natural uranium) and in the Front End segment (chemistry, enrichment, fuel). The long-term price trend, meanwhile, was moderate:

<i>UxC and TradeTech average</i>		Dec. 31, 2011	Dec. 31, 2010
Uranium LT	\$/lb	62	66
Enrichment LT	\$/SWU	148	155
Conversion LT	\$/kg	17	15

The Group performed an analysis in the second half of 2011 of the medium and long term market outlook. It found:

- a slower pace of growth in the global installed base for nuclear power plants until 2030 and consequently a shift in the timing of new reactor construction and a reduction in the growth of demand in the Mining and Front End sectors;
- the emergence of new market opportunities related to the strengthening of the safety of the installed base of nuclear reactors, used fuel management solutions, and the dismantling of certain facilities;
- confirmation of growth prospects for renewable energies.

For AREVA, the medium and long term consequences of these events, which concern all of the nuclear cycle businesses as well as renewable energies, were analyzed in depth and in an integrated manner in the strategic action plan adopted on December 12, 2011. In particular, AREVA took into account these consequences to:

- establish business forecasts;
- design its industrial and commercial organization;
- assess the recoverable amount of property, plant and equipment and intangible assets at December 31, 2011.

In the new post-Fukushima world, the Group adopted its "Action 2016" strategic action plan on December 12, 2011 to strengthen AREVA's leadership in supplying power generation solutions with less CO₂. The plan's objective is to improve the Group's performance by making 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,

modernization and extension of the life in service of existing reactors worldwide, and used fuel management solutions) and the construction of new reactors meeting the most demanding criteria for nuclear and industrial safety;

- selectivity in capital spending, which means focusing operating Capex through 2016 on nuclear safety, industrial safety and maintenance, and completing capital projects already launched; several capital projects, in particular extensions of production capacity, have been suspended because of market uncertainties;
- strengthening of our balance sheet based on an appropriate level of liquidity and implementing and program of asset sales program for more than 1.2 billion euros in 2012 and 2013.
- improving operational performance in five key fields, with the goal of reducing the annual basis of operating costs by 1 billion euros and improving the working capital requirement by 500 million euros by 2015.

The consequences of the new market outlook and the strategic choices following on from this in the second half of 2011 are reflected in the financial statements for the year ended December 31, 2011 as concerns the recoverable amount of certain assets, including:

- impairment of the three mining claims of the entity UraMin in the amount of 1.46 billion euros, taking into account, in addition to the negative revision of natural uranium price forecasts, new volume and production cost assumptions as well as decisions to postpone the production of the three deposits;
- impairment of certain assets of the Chemistry BU in the amount of 283 million euros;
- impairment of certain assets of the Equipment BU in the amount of 100 million euros.

Aside from the impairment recognized, the recoverable amount of certain property, plant and equipment and intangible assets remains sensitive to assumptions used in the impairment tests. In particular, they concern the intangible assets relating to the development of the Group's Enrichment and New Builds businesses in the United States as well as the property, plant and equipment of the Chemistry BU.

- The year ended December 31, 2011 was also marked by the following:

- In the Front End and Back End segments, a reassessment of liabilities for end-of-lifecycle operations and other related provisions in the amount of 111 million euros. New estimates and the culmination of studies that were previously in progress are the source of these revisions.
- In the Reactors & Services segment, a revision of losses to completion of certain projects in the New Builds BU (OL3) and Installed Base BU in light of recent developments in these projects. The impact of the revised estimate of income from the OL3 contract on operating income for the period was -220 million euros.
- Penalty received in the amount of 648 million euros connected with the dispute between AREVA and Siemens concerning the breach of the Shareholders' agreement concerning AREVA NP.

Revised forecasts of taxable income linked to the development of the new strategic action plan prompted the Group to reassess the recoverable amount of deferred tax assets. The Group did not recognize any additional deferred tax asset related to income for 2011.

9.1. Overview

9.1.3. Highlights of the period

BUSINESS STRATEGY AND CORPORATE TRANSACTIONS

- AREVA carried out a capital increase reserved for investment certificate (IC) holders in the amount of 35 million euros. The subscription began on January 3, 2011 and closed on January 14, 2011. This transaction follows a capital increase reserved for the Kuwait Investment Authority (KIA) and the French State, which occurred on December 28, 2010. With these two transactions, the Group raised a combined total of 935 million euros. Subsequently, AREVA and the CEA began the process of converting the investment certificates and non-voting preferred shares into common shares with the French stock market regulator AMF (Autorité des Marchés Financiers). All AREVA equity securities were converted into common shares through the public offer to exchange ICs against common shares. The shares are listed on the NYSE Euronext regulated market in Paris.
- Meeting on February 21, 2011 at the request of the President of the French Republic, the French Nuclear Policy Council (Conseil de politique nucléaire, CPN) made a series of decisions regarding the organization and coordination of the French nuclear industry. The CPN asked the various parties involved – AREVA, CEA, EDF and GDF-Suez – to lend their full support to the concerted implementation of these decisions.
- In connection with Siemens' withdrawal from the capital of AREVA NP, the report submitted by the independent expert commissioned by AREVA and Siemens puts the value of Siemens' 34% share in AREVA NP as of the first quarter of 2009 at 1.62 billion euros. AREVA paid Siemens in the days that followed. In addition, the arbitration court found that Siemens was in breach of its obligations and ordered it to pay 648 million euros in penalty to AREVA. This amount is the maximum penalty provided for breach of the Shareholders' agreement entered into by AREVA and Siemens in 2001, i.e. 40% of the value of Siemens' share in AREVA NP.
- AREVA and the South African Nuclear Energy Corporation (Necsa) signed an agreement to strengthen the cooperation initiated in 2008 to develop South Africa's nuclear power industry.
- AREVA closed the sale of its indirect 10.9% interest in STMicroelectronics, for a total of 696 million euros, to Fonds Stratégique d'Investissement (FSI).
- AREVA and Bulgarian Energy Holding signed a memorandum of understanding to develop clean energy projects based on the Group's technologies. As a longstanding partner of Bulgaria, AREVA plans to increase its contribution to the country's civilian nuclear power program and to support the development of local sources of renewable energy, including wind and biomass.
- AREVA adopted a series of Principles of Conduct alongside the world's leading nuclear reactor vendors. Crafted over the last three years and facilitated by the Carnegie Endowment for International Peace, this code reflects the best practices for the export of nuclear power plants to countries with existing nuclear programs as well as those interested in developing civilian nuclear power.
- AREVA held the first session of the Nuclear Learning Tour, the Group's brand-new training program. Employees of the Group's customers and partners are given an opportunity to learn the fundamentals of nuclear energy or to improve their knowledge. The program is designed for engineers and managers interested in broadening their skills, regardless of their experience with nuclear power.
- AREVA priced and launched a 500-million-euro bond issue with an annual coupon of 4.625% maturing in six years, on October 5, 2017.
- Following the request of the Conseil de Politique Nucléaire (French Nuclear Policy Council) on February 21, 2011, AREVA has proceeded to the creation of its AREVA Mines subsidiary, gathering the whole group mining activities. The subsidiary has first been established within AREVA NC on October 1, 2011, with a retroactive effect on January 1, 2011. Then the AREVA Mines shares have been transferred to AREVA SA, following the decree from December 15, 2011.
- AREVA rolled out FACES, the operational deployment plan for the European agreement on Professions and Competences Forecast and Management (GPEC) signed with the European Metalworkers' Federation (EMF) in April 2011. The plan was officially launched on October 6, 2011 during the annual European seminar organized by AREVA and the EMF.
- AREVA Med, which specializes in nuclear medicine, acquired the US firm Macrocylics.
- Luc Oursel, Chairman of AREVA's Executive Board, and Yu Peigen, Vice Chairman of China National Nuclear Corporation (CNNC), signed a memorandum of understanding to strengthen cooperation between AREVA and CNNC in the fields of nuclear safety and operating excellence.
- On December 6, 2011, AREVA announced the establishment of the Health Observatory for the Agadez Region (OSRA) in Niamey, Niger. One year after the deployment of the Health Observatory in Mounana, Gabon, this new organization is another step forward in the process initiated by AREVA and its partners in 2007.
- Following rumors in the press on Sunday, December 11, 2011, and Monday, December 12, 2011, and public statements on Sunday, December 11, 2011, and in light of the AREVA Supervisory Board meeting held on Monday, December 12, 2011, AREVA asked Euronext Paris SA to suspend the listing of AREVA's shares (ISIN code: FR0011027143) to ensure that comprehensive, accurate and precise information is communicated to the market and to ensure that all of its Shareholders are treated equally.
- A detailed overview of the "Action 2016" plan was presented on Tuesday, December 13, 2011. Financial outlook:
 - operating losses anticipated in 2011;
 - objective: self-financed cumulative Capex for the 2012-2016 period;
 - free operating cash flow at break-even beginning in 2013 and above 1 billion euros beginning in 2015.
- AREVA announced the closing of the sale of O1dB-Metravib, a subsidiary of AREVA TA, to the O1dB-Metravib management team and their partner EVOLEM, a leveraged buyout fund based in Lyon.

- On April 15, Standard & Poor's announced its decision to renew AREVA's BBB+ long-term credit rating with a stable outlook, thus lifting the negative credit watch announced by the rating agency on December 15, 2010. The negative credit watch was reinstated on August 5, 2011. On December 20, Standard & Poor's announced its decision to downgrade AREVA's rating to BBB- with a stable outlook, on the basis of new information disclosed in the "Action 2016" strategic action plan.
- The Eramet Shareholders' agreement between Sorame-CEIR and AREVA was renewed for an additional six months, starting January 1, 2012.
- AREVA and the Fonds Stratégique d'Investissement (the strategic investment fund, FSI) entered into exclusive negotiations for the sale of AREVA's interest in Eramet.
- ATMEA, a joint venture between AREVA and Mitsubishi Heavy Industries Ltd. (MHI) submitted a request for a preliminary design review of its ATMEA1 reactor to the Canadian Nuclear Safety Commission (CNSC). This initiative is part of the project for AREVA to develop a clean energy park near the Point Lepreau nuclear power plant in New Brunswick.
- AREVA and CNPRI 1 established Beijing-RIC (BRIC), a Beijing-based joint-venture for the construction and maintenance of the core instrumentation (RIC 2) of the Chinese CPR 1000 power reactors.
- AREVA signed an agreement with EDF Energy to manufacture forgings for the first UK EPR™ reactor, to be built near Hinkley Point in Southwestern England.
- On September 15, 2011, Tennessee Valley Authority (TVA) chose AREVA as main partner for the completion of the Bellefonte 1 nuclear power plant in northern Alabama, United States.
- On September 28, 2011, after responding to an international call for bids in 2010, AREVA was chosen by EDF to supply 32 of the 44 steam generators to be installed in its 1,300 MWe reactors in France. This order comes to approximately 1.1 billion euros.

GOVERNANCE

- AREVA's Supervisory Board, meeting under the chairmanship of Jean-Cyril Spinetta, appointed Luc Oursel President as Chief Executive Officer and Chairman of the Executive Board. The Supervisory Board also appointed Pierre Aubouin, Philippe Knoche, Sébastien de Montessus and Olivier Wantz to the Executive Board. *"The appointment of Mr Luc Oursel and of the Executive Board is a continuation of the efforts deployed since AREVA's establishment,"* stated Jean-Cyril Spinetta.
- Luc Oursel, President and CEO of AREVA, wished to involve the following persons in the work of the Executive Board: Pierre Charreton as General Counsel and Chief Administrative Officer, Benjamin Fremaux as Senior Executive Vice President of Strategy, Mergers and Acquisitions and Secretary to the Executive Board, Michel-Hubert Jamard as Senior Executive Vice President of Communications, Ruben Lazo as Chief Commercial Officer, Philippe Vivien as Senior Executive Vice President of Human Resources, and Arnaud de Bourayne as Senior Executive Vice President of Executives Career and Organization.
- Jacques Gérard was appointed Senior Executive Vice President of Public Affairs. He reports to Luc Oursel, President and Chief Executive Officer of AREVA. This appointment became effective on October 10, 2011.
- Louis-François Durret was named Senior Executive Vice President of the Renewable Energies Business Group. He reports to Luc Oursel, Chairman of AREVA's Executive Board. This appointment became effective on December 1, 2011.
- The Chinese utility Jiangsu Nuclear Power Corporation (JNPC), a subsidiary of China National Nuclear Corporation (CNNC), awarded a new contract to AREVA to supply its Teleperm XS® digital I&C system to the Tianwan 3 and 4 reactors.
- The United Kingdom's Office of Nuclear Regulation (ONR) issued an interim Design Acceptance Confirmation (iDAC) for the EPR™ reactor following a four-year Generic Design Assessment process.
- The decontamination system installation developed by AREVA and Veolia Eau for the Fukushima Daiichi nuclear power plant has allowed processing 80,000 metric tons of highly radioactive water.
- AREVA signed an agreement with its partners for the operation of the Cigar Lake deposit and for the McClean Lake mining site to process all of the uranium ore to be mined at Cigar Lake in the McClean Lake mill, which is 70% owned by AREVA.
- AREVA delivered a batch of fuel assembly components, including 700 assemblies and 800 control rod assemblies, to its partner CNNC Fuel Assembly Corporation. With this fuel delivery, the largest ever made by the Group in China, AREVA and its partner CNNC Fuel Assembly Corporation confirm their excellent performance in this area over the course of the year.
- AREVA signed a unique integrated fuel supply and related services contract with Xcel Energy in the United States for the Monticello nuclear power plant in Minnesota.

NUCLEAR

- On January 10, AREVA received the first uranium concentrates produced during the second mining phase of the Trekkopje deposit in Namibia.
- AREVA and Rhodia signed a cooperative agreement to develop deposits containing a mix of uranium and rare earths.

9.1. Overview

9.1.3. Highlights of the period

RENEWABLE ENERGIES

- In view of the depressed natural gas prices and the uncertainty surrounding the US policy of support for renewable energies, AREVA and Duke Energy announced their decision to suspend their investments in the ADAGE joint venture for the US biomass market.
- AREVA and Fresno Nuclear Energy Group (FNEG) signed a contract for the first phase in the development of a clean energy park near Fresno, California. This phase includes the construction of a concentrated solar power plant, which will supply electricity to a water treatment plant that is part of a larger used water treatment complex. The contract covers the project feasibility studies. It follows the signature of a letter of intent between AREVA and FNEG in April 2010, which calls for the launch of the project based on technologies developed by AREVA.
- GDF SUEZ, Vinci and AREVA signed a partnership agreement to build up a competitive, sustainable and job-creating offshore wind industry. The alliance has been formed to allow the groups to respond jointly to the call for tenders announced by the President of the French Republic in January 2011 for the development of five offshore wind projects along the French coast as part of a program to build 6,000 MWe of offshore wind capacity by 2020. The agreement creates an industrial platform around three major players with complementary expertise in renewable energies and construction. It applies exclusively to three wind projects at Dieppe-Le Tréport, Courseulles-sur-Mer and Fécamp.
- AREVA acquired the remaining 30% of AREVA Koblitz, making it a wholly-owned subsidiary of the Group.
- Iberdrola Renewables and AREVA have signed a memorandum of understanding to jointly develop offshore wind projects in France as part of a French government program which aims for 6 GWe of installed power by 2020. The partners will compete for two of the country's five offshore areas selected in the first phase of bidding.
- On July 11 2011, a call for tender was issued for 3,000 MWe of offshore wind capacity in five areas off the French coast.
- Eneco, one the leading power producers in the Netherlands, awarded a contract to AREVA partnered with the Dutch civil engineering company Ballast Nedam and the Finnish boiler maker Metso Power

Oy for the construction of a biomass power plant in Delfzijl, in the northern part of the Netherlands. The consortium received a contract in the amount of 155 million euros.

- AREVA and the industrial boiler supplier Leroux et Lotz Technologies (LLT) won a turnkey contract in the amount of 45 million euros from Coriance, a company that specializes in the operation of urban heating networks, to build a cogeneration power plant using biomass near the Tricastin nuclear site in Pierrelatte, France.

INDUSTRIAL

- At Tepco's request, AREVA offered a solution to process the highly radioactive water of the damaged Fukushima nuclear power plant in Japan. The process was deployed on site in six weeks. On the whole, 80,000 m³ of highly radioactive water have been treated.
- The construction by AREVA of the Olkiluoto 3 (OL3) EPR™ power plant in Finland met an important milestone with the successful installation of the four steam generators in the reactor building. It reached another major milestone in the fall of 2011 with the installation of fourth and final reactor coolant pump and its connection to the auxiliary piping and onsite power system.
- In preparation for the final phases of construction of the Olkiluoto 3 EPR™ reactor (OL3) and to ensure that it goes smoothly, the AREVA-Siemens consortium and its Finnish customer TVO agreed in August 2011 to establish a common process to consolidate the schedule for completion of the OL3 project. The consolidated schedule was submitted to TVO in December 2011. Subsequently, TVO indicated that the reactor would be connected to the grid in August 2014.
- The dome was successfully placed on the unit 1 reactor building of the Taishan EPR™ reactor in China. This operation was coordinated by the project authority, Taishan Nuclear Power Joint Venture Company (TNPJVC), a joint-venture between CGNPC (70%) and EDF (30%). It was completed a little more than two years after the concrete slab was poured for the reactor building.

→ 9.2. Financial position

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

<i>(in millions of euros)</i>	2011	2010	2011/2010 change
Income statement			
Reported revenue	8,872	9,104	-2.6%
Gross margin	854	1,326	-35.6%
<i>Percentage of reported revenue</i>	9.6%	14.6%	-5.0 pts.
Earnings before interest, tax, depreciation and amortization (EBITDA)	1,068	703	+51.9%
<i>Percentage of reported revenue</i>	12.0%	7.7%	+4.3 pts.
Operating income	(1,923)	(423)	-1,500
<i>Percentage of reported revenue</i>	-21.7%	-4.7%	-17.0 pts.
Net financial income	(548)	(314)	-234
Share in net income of associates	62	153	-91
Net income from discontinued operations	(2)	1,236	-1,238
Net income attributable to owners of the parent	(2,424)	883	-3,307
<i>Percentage of reported revenue</i>	-27.3%	9.7%	-37.0 pts.
Comprehensive income	(2,775)	1,408	-4,183
Cash flow			
Net cash from operating activities	904	588	+316
Net cash used in investing activities	(821)	(621)	+32.2%
Net cash from financing activities	(999)	(531)	-468
<i>Including dividends paid</i>	(51)	(313)	-83.7%
Net cash from discontinued operations	4	2,243	-2,239
Increase (decrease) in net cash	(891)	1,683	-2,574
Miscellaneous			
Backlog	45,558	44,204	+3.1%
Net cash (debt)	(3,548)	(3,672)	-3.4%
Equity attributable to owners of the parent	6,061	8,664	-30.0%
Capital employed ⁽¹⁾	8,855	10,388	-14.8%
Workforce at year end ⁽¹⁾	47,541	47,851	-0.6%
Dividend per share	-	-	-

(1) Excluding T&D.

9.2. Financial position

9.2.2. Summary data by segment

9.2.2. SUMMARY DATA BY SEGMENT

→ 2011

<i>(in millions of euros, except workforce)</i>	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Corporate and other operations	Total
Contribution to consolidated revenue	1,289	2,282	3,262	1,594	297	148	8,872
Operating income	(1,169)	(780)	(512)	191	(78)	425	(1,923)
<i>Percentage of contribution to consolidated revenue</i>	-90.7%	-34.2%	-15.7%	12.0%	-26.3%	-	-21.7%
Cash flow							
EBITDA	450	179	(378)	406	(85)	496	1,068
<i>Percentage of contribution to consolidated revenue</i>	34.9%	7.9%	-11.6%	25.5%	-28.4%	-	12.0%
Change in operating WCR	(34)	161	191	(56)	35	(113)	187
Net operating Capex	(595)	(926)	(228)	(139)	(52)	(1,713)	(3,653)
Free operating cash flow before tax	(178)	(584)	(423)	217	(102)	(1,330)	(2,397)
Miscellaneous							
Property, plant & equipment and intangible assets (including goodwill)	3,520	4,592	2,750	2,112	489	190	13,654
Capital employed	3,736	4,196	1,657	(1,026)	449	(156)	8,855
Workforce at year end	5,319	8,888	16,367	11,009	1,252	4,706	47,541

→ 2010

<i>(in millions of euros, except workforce)</i>	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Corporate and other operations	Total
Contribution to consolidated revenue	1,092	2,612	3,384	1,709	150	157	9,104
Operating income	(222)	85	(251)	280	(123)	(192)	(423)
<i>Percentage of contribution to consolidated revenue</i>	-20.4%	3.2%	-7.4%	16.3%	-81.7%	-	-4.7%
Cash flow							
EBITDA	342	432	(218)	446	(83)	(216)	703
<i>Percentage of contribution to consolidated revenue</i>	31.3%	16.5%	-6.4%	26.1%	-55.3%	-	7.7%
Change in operating WCR	252	78	(187)	112	18	(35)	239
Net operating Capex	(611)	(729)	(232)	(142)	(244)	(55)	(2,013)
Free operating cash flow before tax	(35)	(216)	(639)	414	(309)	(305)	(1,090)
Miscellaneous							
Property, plant & equipment and intangible assets (including goodwill)	4,493	4,135	2,962	2,246	474	216	14,525
Capital employed	4,705	4,247	1,956	(743)	445	(222)	10,388
Workforce at year end	5,221	8,808	16,985	10,931	1,176	4,730	47,851

SUMMARY OF REVENUE BY REGION AND BUSINESS GROUP

<i>(in millions of euros)</i>	2011	2010	2011/2010 change
France	3,197	3,571	- 10,5%
Mining BG	315	249	+26.5%
Front End BG	629	960	-34.5%
Reactors & Services BG	1,098	1,129	-2.7%
Back End BG	1,003	1,083	-7.4%
Renewable Energies BG	13	2	-
Corporate and other operations	139	147	ns
Europe (excluding France)	2,203	2,240	-1.7%
Mining BG	110	118	-6.8%
Front End BG	757	776	-2.4%
Reactors & Services BG	840	920	-8.7%
Back End BG	286	330	-13.3%
Renewable Energies BG	207	92	+125.0%
Corporate and other operations	2	3	ns
North and South America	1,476	1,539	-4.1%
Mining BG	234	227	+3.1%
Front End BG	398	405	-1.7%
Reactors & Services BG	647	718	-9.9%
Back End BG	133	128	+3.9%
Renewable Energies BG	57	55	+3.6%
Corporate and other operations	7	6	ns
Asia-Pacific	1,818	1,547	+17.5%
Mining BG	523	368	+42.1%
Front End BG	489	441	+10.9%
Reactors & Services BG	618	575	+7.5%
Back End BG	168	162	+3.7%
Renewable Energies BG	20	-	-
Corporate and other operations	-	1	ns
Africa and Middle East	177	207	-14.5%
Mining BG	107	129	-17.1%
Front End BG	8	30	-73.3%
Reactors & Services BG	59	43	+37.2%
Back End BG	3	5	-40.0%
Renewable Energies BG	-	-	-
Corporate and other operations	-	-	ns
Other countries	-	-	-
TOTAL	8,872	9,104	-2,6%

The breakdown of the group's workforce by geographical area is given in Section 17. Employees.

9.2. Financial position

9.2.3. Comparability of financial statements

Complementary information regarding Germany and Japan at Dec. 31, 2011:

<i>(millions of euros)</i>	Revenue by customers' localisation	% of total revenue
Germany	839	9.5%
Japan	732	8.3%

9.2.3. COMPARABILITY OF FINANCIAL STATEMENTS**9.2.3.1. 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 adjusted to reflect the consolidation scope, exchange rates and accounting methods and standards of the current year.

These include:

- to compare 2011 and 2010 revenue, the Group calculates what 2010 revenue of the different businesses would have been when average exchange rates for 2011 are applied;
- the resulting revenue is then adjusted for the consolidation effect, and the Group calculates what 2010 revenue of the different businesses would have been based on the applicable consolidation scope at fiscal year-end 2011.

Estimated impact of changes in consolidation scope, in foreign exchange rates and in accounting methods and standards on revenue for fiscal years 2011 and 2010

The table below presents the estimated impact of changes in exchange rate, the Group's consolidation scope, and valuation methods for 2011 compared with 2010.

<i>(in millions of euros)</i>	2010 reported revenue	Exchange rate impact	Consolidation scope impact	Changes in valuation method	Recalculated 2010 revenue	2011 reported revenue
Mining BG	1,092	(52)	-	-	1,040	1,289
Front End BG	2,612	(24)	-	-	2,588	2,282
Reactors & Services BG	3,384	(31)	(17)	-	3,337	3,262
Back End BG	1,709	(6)	-	-	1,702	1,594
Renewable Energies BG	150	-	-	-	150	297
Corporate and other operations	157	-	1	-	158	148
TOTAL CONTINUING OPERATIONS	9,104	(113)	(16)	-	8,975	8,872

9.2.3.2. FACTORS POTENTIALLY IMPACTING THE COMPARABILITY OF THE FINANCIAL STATEMENTS**Changes in consolidation scope**

The Group's consolidated financial statements for the years ended December 31, 2010 and December 31, 2011 were not materially impacted by acquisitions or divestments.

Changes in foreign exchange rates

The Group's foreign exchange policy is presented in Chapter 4.

The Group generated 48.8% of its revenue outside the euro zone in 2011. From 2010 to 2011, the value of the euro in relation to the US dollar increased by an average of 5%.

Changes in exchange rates (currency translation adjustment) had a negative impact of 113 million euros on the Group's revenue in 2011, compared with a positive impact of 141 million euros in 2010.

Exposure to other currencies is negligible.

Following the announcement of AREVA and the Fonds Stratégique d'Investissement entering into exclusive negotiations on December 27, 2011, the participating interest in Eramet, previously reported on the balance sheet under the heading "Investment in associates" was reclassified as "Non-current assets held for sale" at December 31, 2011 (see Notes 2, 7, 9 and 14 to the consolidated financial statements).

9.2.4. BACKLOG

<i>(in millions of euros)</i>	2011	2010	2011/2010 change
Backlog	45,558	44,204	+3.1%
Mining BG	10,230	10,445	-2.1%
Front End BG	18,071	18,457	-2.1%
Reactors & Services BG	9,103	7,290	+24.9%
Back End BG	6,282	6,056	+3.7%
Renewable Energies BG	1,778	1,843	-3.5%

The Group had 45.6 billion euros in backlog at December 31, 2011, led by the nuclear operations, an increase of 3.1% in relation to September 30, 2010 and of 6.7% in relation to September 30, 2011. Order cancellations

since the Fukushima accident remained limited, at a total of 464 million euros at December 31, 2011.

9.2.5. STATEMENT OF INCOME

9.2.5.1. REVENUE

In 2011, AREVA's consolidated revenue fell slightly, by 2.6%, to 8.872 billion euros (down 1.2% like for like) compared with 2010. The decrease in revenue in the nuclear operations was partially offset by

significant growth in the renewables business. Foreign exchange had a negative impact of 113 million euros over the period; changes in consolidation scope had a negative impact of 16 million euros.

<i>(in millions of euros)</i>	2011	2010	2011/2010 change
Revenue from continuing operations	8,872	9,104	-2.6%
Mining BG	1,289	1,092	+18.0%
Front End BG	2,282	2,612	-12.6%
Reactors & Services BG	3,262	3,384	-3.6%
Back End BG	1,594	1,709	-6.7%
Renewable Energies BG	297	150	+98.2%
Corporate and other operations	148	157	-

9.2.5.2. GROSS MARGIN

The Group's gross margin was 854 million euros in 2011, or 9.6% of revenue, compared with 1.326 billion euros in 2010, or 14.6% of revenue.

This change is attributable to a drop in gross margin in the nuclear operations.

<i>(in millions of euros)</i>	2011	2010	2011/2010 change
Gross margin	854	1,326	-35.6%
<i>% contribution to consolidated revenue</i>	9.6%	14.6%	-5.0 pts.

9.2. Financial position

9.2.5. Statement of income

9.2.5.3. RESEARCH AND DEVELOPMENT

Research and development expenses are capitalized if they meet criteria established by IAS 38 and expensed if they do not. Research and development expenses not eligible for capitalization are reported 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.

The Group's research and development expenses for the Nuclear and Renewable Energies businesses, excluding mining research and exploration expenses, came to 294 million euros in 2011, i.e. 3.3% of the revenue contributed for the period. This indicator was stable compared with 2010, when research and development expenses, excluding mining research and exploration expenses, totaled 301 million euros, or 3.3% of revenue.

<i>(in millions of euros)</i>	2011	In percentage of revenue	2010	In percentage of revenue
Research and development expenses recognized in gross margin after tax credit ⁽¹⁾	343	3.9%	354	3.9%
Including mining research and exploration expenses	49	-	53	-
Research and development expenses recognized in gross margin excluding mining research and exploration expenses after tax credit ⁽¹⁾	294	3.3%	301	3.3%
Tax credit ⁽¹⁾	47	-	46	-
Research and development expenses recognized in gross margin excluding mining research and exploration expenses before tax credit ⁽¹⁾	341	3.8%	347	3.8%
R&D costs capitalized on the balance sheet	140	1,6%	166	1,8%
TOTAL	481	5,4%	513	5,6%
Number of registered patents	104	-	91	-

(1) *Crédit Impôt Recherche.*

Taking into account capitalized costs for research and development, the Group's total R&D expenditure was 481 million euros in 2011, or 5.4% of revenue for the period, in little decrease compared to 2010 (5.6% of revenue).

This amount reflects the continued long-term projects, including:

- development and modernization of production capabilities in the front end of the cycle;
- EPR™ optimization;
- completion of ATMEA1 basic design;
- development of fast neutron reactors;
- I&C optimization;
- performance improvement in Equipment;
- preliminary design of future treatment and recycling plants;
- renewable energies: solar and wind;
- renewal of expertise;
- synthetic oils and hydrogen.

9.2.5.4. GENERAL AND ADMINISTRATIVE, MARKETING AND SALES EXPENSES

The Group's marketing, sales, general and administrative expenses totaled 659 million euros in 2011, compared with 784 million euros in 2010. Especially, the general and administrative expenses decreased significantly in 2011 (428 million euros compared to 530 million euros in 2010), with a noticeable reduction between the first (238 million euros) and the second half of the year (190 million euros), demonstrating the effects of the increasing efforts initiated in the second half to reduce overheads and support function costs. These efforts will continue as part of the "Action 2016" strategic action plan.

9.2.5.5. OTHER OPERATING INCOME AND EXPENSES

Other operating income and expenses represent a net expense of 1.775 billion euros in 2011, compared with a net expense of 612 million euros in 2010. The change primarily reflects asset impairment in the Mining BG, offset in part by the penalty paid by Siemens to AREVA in the amount of 648 million euros in connection with the dispute between AREVA and Siemens concerning Siemens' breach of the AREVA NP Shareholders' agreement. Impairment of intangible assets and property, plant and equipment in 2010 and 2011 are described in Notes 11 and 12 to the consolidated financial statements respectively.

9.2.5.6. OPERATING INCOME

The Group reported an operating income of -1.923 billion euros in 2011, compared with -423 million euros in 2010.

As a reminder, in April 2011, after Siemens' withdrawal as a Shareholder of AREVA NP, the arbitration court confirmed that Siemens' behavior was at fault, requiring to pay 648 million euros in penalties to AREVA. The payment was recognized in operating income. This decision is final in nature and ends the arbitration proceedings with Siemens.

The Group's operating income includes impairment of property, plant and equipment and intangible assets for the total amount of 2.056 billion euros in 2011, compared with impairment of 548 million euros in 2010. Impairment recognized in 2011 includes:

- 1.456 billion euros in the Mining BG associated with UraMin's mining projects;
- 474 million euros in the Front End BG for the Chemistry business (283 million euros) and the Enrichment business (191 million euros);
- 125 million euros in the Reactors & Services BG for equipment manufacturing facilities and capitalized development expenses.

9.2.5.7. NET FINANCIAL INCOME

Net financial income came to -548 million euros in 2011, compared with -314 million euros in 2010. In 2011, it was affected by a capital loss of 48 million euros on Eramet shares (with the prospect of the Eramet shares' disposal to the Fonds Stratégique d'Investissement (the strategic investment fund, FSI)) and by lasting impairment of available-for-sale securities in the amount of -113 million euros, -86 million euros of which relates to funds earmarked for end-of-lifecycle operations. In 2010, net financial income included a capital gain of 213 million euros on the disposal of Safran shares and a capital loss of 101 million euros on the disposal of STMicroelectronics shares.

Net borrowing costs totaled -72 million euros in 2011, compared with -158 million euros in 2010. This improvement is largely due to the increase in income from cash and cash equivalents.

<i>(in millions of euros)</i>	2011	2010
Net borrowing costs (expense/income)	(72)	(158)
Other financial income and expenses	(477)	(156)
Share related to end-of-lifecycle operations	(152)	(98)
Income from the financial portfolio earmarked for end-of-lifecycle operations	79	80
Income from non-portfolio assets (including receivables from dismantling)	60	81
Discount reversal expenses on end-of-lifecycle operations and impact of schedule revisions	(291)	(259)
Share not related to end-of-lifecycle operations	(325)	(58)
Income from disposals of securities and change in value of securities held for trading	1	214
Dividends received	8	20
Impairment of financial assets	(23)	(10)
Interest on prepayments	(37)	(45)
Pensions and other employee benefits	(82)	(73)
Losses on equity interest in STMicroelectronics	(48)	(101)
Other	(143)	(63)
Net financial income	(548)	(314)

9.2.5.8. INCOME TAX

The net tax expense was -156 million euros in 2011, compared with a net tax income of 334 million euros in 2010. The Group did not recognize deferred tax income in connection with the negative current income before tax for the year.

9.2.5.9. SHARE IN NET INCOME OF ASSOCIATES

The share in net income of associates was 62 million euros in 2011, compared with 153 million euros in 2010. This drop reflects the disposal of STMicroelectronics shares to the Fonds Stratégique d'Investissement in March 2011.

9.2. Financial position9.2.5. *Statement of income*

<i>(in millions of euros)</i>	2011	2010
STMicroelectronics	-	69
Eramet group	54	83
Other	8	1
TOTAL	62	153

9.2.5.10. NET INCOME FROM DISCONTINUED OPERATIONS

Net income from discontinued operations was -2 million euros in 2011, compared with 1.226 billion euros in 2010 mostly for the gain on the disposal of the Transmission & Distribution business during that period.

9.2.5.11. MINORITY INTERESTS

Minority interests in the Group's net income were -143 million euros in 2011, compared with 103 million euros in 2010, for the most coming from minority Shareholders in mining and enrichment activities.

9.2.5.12. NET INCOME ATTRIBUTABLE TO EQUITY OWNERS OF THE PARENT

Net income attributable to owners of the parent is -2.424 billion euros in 2011, compared with 883 million euros in 2010.

9.2.5.13. COMPREHENSIVE INCOME ATTRIBUTABLE TO EQUITY OWNERS OF THE PARENT

Comprehensive income attributable to owners of the parent is -2.637 billion euros in 2011, compared with 1.278 billion euros in 2010. In addition to the decrease in net income described above, this sharp decrease primarily reflects the change in the value of financial assets available for sale in the amount of -305 million euros in 2011, compared with +218 million euros in 2010.

→ 9.3. Cash flow

9.3.1. CHANGE IN NET DEBT

The following table analyzes the elements of the year that contributed to the variation of net debt.

<i>(in millions of euros)</i>	2011
Net debt at beginning of period (December 31, 2010)	(3,672)
EBITDA	1,068
<i>Percentage of revenue</i>	12.0%
Gains or losses on disposals of operating assets	1
Change in operating WCR	187
Net operating Capex (excluding acquisition of AREVA NP shares)	(1,974)
Free operating cash flow before tax (excluding acquisition of AREVA NP shares)	(718)
Cash flows for end-of-lifecycle operations	295
Dividends paid to minority Shareholders	(51)
Disposal of STMicroelectronics	696
Valuation difference on 34% of AREVA NP vs. December 31, 2010 (incl. interests)	434
Taxes	(149)
Other (net financial assets, non-operating WCR and net cash from discontinued operations)	(383)
December 31, 2011	
NET DEBT (-)/NET CASH (+) AT THE END OF THE PERIOD (INCLUDING PUT OPTIONS OF MINORITY INTERESTS)	(3,548)
CHANGE IN NET DEBT	124

9.3. Cash flow

9.3.2. Comparative table of operating cash flows and consolidated cash flows

9.3.2. 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 2011.

<i>(in millions of euros)</i>	Operating	Operating excl. Siemens effects	End-of- lifecycle operations ⁽¹⁾	Other ⁽²⁾	Total
EBITDA (i)	1,068	420			
Net gain on the sale of non-current operating assets and other non-cash items (ii)	1	1			
Cash flow from operations after interest and taxes (i+ii)	1,069	421	(137)	(249)	683
Change in working capital requirement (iii)	187	187	0	34	221
Net cash flow from operating activities (i+ii+iii)	1,256	608	(137)	(215)	904
Cash from (used in) investing activities, net of disposals (iv)	(1,972)	(1,972)	432	720	(821)
Net cash from (used in) financing activities (v)	(1,681)	(2)	0	682	(999)
Impact of changes in consolidation scope (vi)	0	0	0	21	21
Net cash from (used in) operations held for sale (vii)				4	4
Cash flow (i+ii+iii+iv+v+vi)	(2,397)	(1,366)	295	1,211	(891)

(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.

The impact of negative free operating cash flow over the year of 2.397 billion euros was partially offset by the cash generated by asset disposals and financial transactions.

9.3.3. OPERATING CASH FLOW

→ 2011 AND 2010

(in millions of euros)	EBITDA		Change in operating WCR		Net operating Capex		Free operating cash flow before tax	
	2011	2010	2011	2010	2011	2010	2011	2010
Mining	450	342	(34)	252	(595)	(611)	(178)	(35)
Front End	179	432	161	78	(926)	(729)	(584)	(216)
Reactors & Services	(378)	(218)	191	(187)	(228)	(232)	(423)	(639)
Back End	406	446	(56)	112	(139)	(142)	217	414
Renewable Energies	(85)	(83)	35	18	(52)	(244)	(102)	(309)
Corporate	496	(215)	(113)	(35)	(1,713)	(55)	(1,330)	(305)
TOTAL GROUP	1,068	703	187	239	(3,653)	(2,013)	(2,397)	(1,090)
Total group Excl. Siemens effects	420	703	187	239	(1,974)	(2,013)	(1,366)	(1,090)

EARNINGS BEFORE INCOME TAX, DEPRECIATION AND AMORTIZATION (EBITDA)

EBITDA went from 703 million euros in 2010 to 1.068 billion euros in 2011 (including 648 million euros for penalty paid by Siemens), up 365 million euros. Excluding Siemens penalty, EBITDA for 2011 came to 420 million euros.

CHANGE IN OPERATING WORKING CAPITAL REQUIREMENT (OPERATING WCR)

The change in operating working capital requirement (WCR) contributed 187 million euros in 2011, compared with 239 million euros in 2010.

NET OPERATING CAPEX

The operating Capex was 3.653 billion euros in 2011, compared with 2.013 billion euros in 2010, reflecting the purchase in 2011 of AREVA NP shares held by Siemens for the amount of 1.679 billion euros. Excluding acquisition of AREVA NP shares, net operating Capex came to 1.974 billion euros in 2011.

Disposals were 80 million euros in 2011, compared with 163 million euros in 2010.

Excluding acquisition of AREVA NP shares in 2011, gross operating Capex went from 2.176 billion euros in 2010 to 2.054 billion euros in 2011; the impact of acquisitions in the Renewable Energies BG in 2010 (for the amount of 210 million euros) was partly offset in 2011 by the ramp-up of construction of the Georges Besse II enrichment plant (Front End BG).

In 2011, almost 62% of the Group's capital spending (excluding acquisition of AREVA NP shares) was on sites located in France.

OPERATING CASH FLOW

It should be noted that in connection with Siemens' withdrawal from the capital of AREVA NP, the independent expert tasked with determining the value of Siemens' 34% minority interest in AREVA NP put that value at 1.62 billion euros, which was paid by AREVA in March 2011. The total purchase price for the AREVA NP shares came to 1.679 billion euros. This amount was recognized as a capital expenditure in 2011, bringing net operating Capex for the year to 3.653 billion euros. After recognition of damages awarded by the arbitration court to AREVA for the amount of 648 million euros, net impact of Siemens effects on free operating cash flow before tax was -1.031 billion euros.

Free operating cash flow before tax (including Siemens impacts) went from -1.090 billion euros in 2010 to -2.397 billion euros in 2011.

Excluding Siemens impacts, free operating cash flow before tax was -1.366 billion euros in 2011, with -447 million euros in the second half of the year, a significant improvement compared with -919 million euros in the first half of 2011.

Excluding Siemens impacts, the change in free operating cash flow before tax is attributable to:

- a decrease in EBITDA from 703 million euros in 2010 to 420 million euros in 2011;
- a slightly less favorable change in operating working capital requirement (WCR), (187 million euros in 2011 compared to 239 million euros in 2010);
- a decrease in net operating Capex, from 2.013 billion euros in 2010 to 1.974 billion euros in 2011, which partly offsets these effects.

9.3. Cash flow

9.3.4. Cash flows for end-of-lifecycle operations

9.3.4. CASH FLOWS FOR END-OF-LIFECYCLE OPERATIONS

Cash flows related to end-of-lifecycle operations totaled 295 million euros in 2011, compared with -103 million euros in 2010, after reclassification on the balance sheet of available-for-sale securities in the dedicated funds, leading to the disposal of securities on the market for a similar amount.

9.3.5. CONSOLIDATED STATEMENT OF CASH FLOWS

The simplified consolidated statement of cash flows is presented below.

<i>(in millions of euros)</i>	2011	2010	2011/2010 change
Cash flow from operations before interest and taxes	893	538	+355
Interest expense and taxes paid	(209)	(184)	-25
Cash flow from operations after interest and taxes	683	354	+329
Change in working capital requirement	221	234	-13
Cash from operating activities	904	588	+316
Cash used in investing activities	(821)	(621)	-200
Cash from (used in) financing activities	(999)	(531)	-468
Decrease (increase) in marketable securities maturing in more than 3 months	0	(8)	+8
Change in consolidated group, foreign exchange adjustments, etc.	21	12	+9
Cash from discontinued operations	4	2,243	-2,239
Increase (decrease) in net cash	(891)	1,683	-2,574
Cash at the beginning of the year	3,164	1,481	+1,683
Cash at the end of the year	2,273	3,164	-891

CASH FLOW FROM OPERATING ACTIVITIES

Cash flow from operating activities went from 588 million euros in 2010 to 904 million euros in 2011. This change reflects a strong improvement in cash provided by operations including, most notably, the payment of 648 million euros penalty by Siemens in connection with the dispute concerning the AREVA NP Shareholders' agreement, and a favorable change in the working capital requirement.

CASH PROVIDED BY FINANCING ACTIVITIES

Cash from financing activities came to -999 million euros in 2011, down from the 2010 level (-531 million euros), primarily due to the acquisition

of AREVA NP shares from Siemens, offset in part by cash generated by the increase in borrowings, in particular the September 2011 bond issue in the amount of 500 million euros.

CASH FROM DISCONTINUED OPERATIONS

Cash from discontinued operations totaled 4 million euros in 2011, compared with 2.243 billion euros in 2010. The 2010 amount included cash generated by the sale of T&D.

→ 9.4. Statement of financial position

SUMMARY CONSOLIDATED STATEMENT OF FINANCIAL POSITION

<i>(in millions of euros)</i>	December 31, 2011	December 31, 2010
Assets		
Net goodwill	4,239	4,625
Property, plant and equipment and intangible assets	9,415	9,901
End-of-lifecycle assets (third party share)	226	252
Assets earmarked for end-of-lifecycle operations	5,287	5,582
Investments in associates	205	988
Other non-current financial assets	217	477
Deferred taxes (assets – liabilities)	610	474
Working capital requirement (WCR)	(184)	(92)
Non-current assets and assets related to discontinued operations	776	832
Shareholders' equity and liabilities		
Equity attributable to owners of the parent	6,061	8,664
Minority interests	545	915
Provisions for end-of-lifecycle operations (third party share)	226	252
Provisions for end-of-lifecycle operations (AREVA share)	5,800	5,563
Other current and non-current provisions	3,580	3,064
Net borrowings	3,548	3,672
Liabilities of operations held for sale	-	-
Other assets and liabilities	1,032	909
TOTAL OF THE SUMMARY STATEMENT OF FINANCIAL POSITION	20,791	23,039

Note: Working capital assets and liabilities are reported on a net basis in the summary balance sheet. Net borrowings and deferred tax assets are also offset against deferred tax liabilities. Assets and liabilities are not offset in the detailed balance sheet.

9.4. Statement of financial position*9.4.1. Non-current assets***9.4.1. NON-CURRENT ASSETS****NET GOODWILL**

Net goodwill went from 4.625 billion euros at December 31, 2010 to 4.239 billion euros at December 31, 2011, for a net decrease of 386 million euros, due in particular to the decrease in the acquisition cost of AREVA NP shares held previously by Siemens in the amount of 421 million euros.

PROPERTY, PLANT AND EQUIPMENT AND INTANGIBLE ASSETS

PP&E and intangible assets went from 9.901 billion euros at December 31, 2010 to 9.415 billion euros as of December 31, 2011, for a net decrease of 486 million euros.

INVESTMENTS IN ASSOCIATES

Investments in associates totaled 205 million euros at December 31, 2011, compared with 988 million euros at December 31, 2010, representing a decrease of 783 million euros, primarily related to the reclassification of AREVA's interest in Eramet to "Non-current assets held for sale".

OTHER NON-CURRENT FINANCIAL ASSETS

Other non-current financial assets fell from 477 million euros in 2010 to 217 million euros in 2011, mostly due to the reclassification of Suez Environnement shares in the AREVA NC fund earmarked for end-of-lifecycle operations and the drop in value of non-earmarked available-for-sale securities.

9.4.2. WORKING CAPITAL REQUIREMENT (WCR)

The Group's operating working capital requirement (operating WCR) was negative (resource), at -184 million euros at December 31, 2011, compared with -92 million euros a year earlier.

9.4.3. NET CASH (DEBT)

The Group's net financial debt is 3.548 billion euros, compared with 3.672 billion euros at December 31, 2010. This decrease of 124 million euros, even though free operating cash flow before tax was negative for the year, is mainly due to the positive impact of:

- the outcome of procedures involving Siemens, for a total of 1.082 billion euros, including:
 - penalty collected for 648 million euros in connection with arbitration proceedings;
 - a 434 million euros reduction in net linked to the value assigned by the independent expert to Siemens' share, which was less than the amount recognized in the financial statements at December 31, 2010;
- the disposal of AREVA's stake in STMicroelectronics for 696 million euros.

The amount of net financial debt should be compared with equity of 6.606 billion euros at December 31, 2011, compared with 9.578 billion euros at year-end 2010.

Thus the Group's gearing went from 28% in 2010 to 35% in 2011.

In addition, in 2011, the Group's liquidity was reinforced by a fifth bond issue of 500 million euros. As a result, the Group recognized a cash position, net of current borrowings, of 1.203 billion euros at December 31, 2011. Moreover, the Group has no major debt reimbursement due before 2016.

RECONCILIATION BETWEEN NET CASH REPORTED IN THE STATEMENT OF CASH FLOWS AND NET CASH (DEBT) REPORTED IN THE STATEMENT OF FINANCIAL POSITION

<i>(in millions of euros)</i>	2011	2010	2011/2010 change
Net cash per statement of cash flows	2,273	3,164	-891
Short-term bank facilities and non-trade current accounts (credit balances)	74	194	-120
Securities held for trading maturing in more than 3 months	78	84	-6
Other current financial assets and derivatives on financing activities	121	126	-5
Net cash from (used in) operations held for sale	0	0	
Cash and other current financial assets	2,546	3,568	-1,022
Borrowings	(6,094)	(7,240)	+1,146
NET CASH (DEBT)	(3,548)	(3,672)	+124

SCHEDULE OF BORROWINGS

<i>(in millions of euros)</i>	2011	2010	2011/2010 change
Put options of minority Shareholders	18	60	-42
Debt to Siemens	-	2,117 ⁽¹⁾	
Interest-bearing advances	86	83	+3.6%
Loans from financial institutions	1,102	753	+46.4%
Bond issues	4,420	3,803	+16.2%
Short-term bank facilities and other credit balances	74	194	-61.9%
Financial instruments	134	139	-3.6%
Miscellaneous debt	260	91	+185.7%
TOTAL BORROWINGS	6,094	7,240	-15.8%

(1) Including capitalized interest on the Siemens put.

9.4.4. EQUITY

Equity attributable to owners of the parent was 6.061 billion euros at December 31, 2011, compared with 8.664 billion euros at December 31, 2010. This change primarily reflects the share of comprehensive income

attributable to owners of the parent in 2011 of 2.637 billion euros. As a reminder, no dividends were paid by the Group to its Shareholders in 2011 on 2010 income.

9.4. Statement of financial position

9.4.5. Assets and provisions for end-of-lifecycle operations

9.4.5. ASSETS AND PROVISIONS FOR END-OF-LIFECYCLE OPERATIONS

The change in the balance sheet from December 31, 2010 to December 31, 2011 with regard to assets and liabilities for end-of-lifecycle operations is summarized in the table below.

<i>(in millions of euros)</i>	December 31, 2011	December 31, 2010
Assets		
End-of-lifecycle assets	325	395
AREVA share (to be amortized in future years) ⁽¹⁾	99	143
Third-party share ⁽²⁾	226	252
Assets earmarked for end-of-lifecycle operations⁽³⁾	5,287	5,582
Shareholders' equity and liabilities		
Provisions for end-of-lifecycle operations	6,026	5,815
Provisions to be funded by AREVA	5,800	5,563
Provisions to be funded by third parties	226	252

(1) Amount of the 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.

The change in assets and provisions related to end-of-lifecycle operations is described in note 13 of the consolidated financial statements.

9.4.6. CAPITAL EMPLOYED

The following table shows the determination of average capital employed by year:

<i>(in millions of euros)</i>	December 31, 2011	December 31, 2010
Net intangible assets	2,929	3,652
Goodwill	4,239	4,625
Net property, plant and equipment	6,487	6,249
Prepayments and borrowings funding non-current assets	(1,077)	(1,005)
Operating working capital requirements, excluding advances to fund non-current assets	(184)	(92)
Provisions for contingencies and expenses	(3,538)	(3,040)
Total capital employed	8,855	10,388
AVERAGE CAPITAL EMPLOYED OVER THE PERIOD	9,621	9,702

Note: The method used takes into account a definition of capital employed after deduction of all provisions for contingencies and losses.

Taking into account the operating income, the return on capital employed is negative in 2010 and 2011.

9.4.7. BUSINESS GROUPS REVIEW

MINING BUSINESS GROUP

<i>(in millions of euros)</i>	2011	2010	Change 2011/2010	Change 2011/2010 like for like*
Backlog	10,230	10,445	-2.1%	-
Contribution to consolidated revenue	1,289	1,092	+18.0%	+24.0%
EBITDA	450	342	+108	-
<i>Percentage of contribution to consolidated revenue</i>	<i>34.9%</i>	<i>31.3%</i>	<i>-3.6 pts</i>	<i>-</i>
Operating income	(1,169)	(222)	-947	-
<i>Percentage of contribution to consolidated revenue</i>	<i>-90.7%</i>	<i>-20.4%</i>	<i>-70.3 pts</i>	<i>-</i>

* At constant exchange rate and consolidation scope.

2011 performance

The Mining BG had 10.23 billion euros in backlog at December 31, 2011, slightly lower, by 2.1%, than at the end of 2010. In 2011, the Mining BG's commercial operations took place in an uncertain uranium market. Several uranium supply contracts were signed with US and Asian utilities.

For the full year of 2011, the Mining BG reported revenue of 1.289 billion euros, an increase of 18.0% on a reported basis and of 24.0% like for like. Foreign exchange had a negative impact of 52 million euros. Revenue was boosted by an increase in the average uranium sales price under long-term contracts.

The Mining BG reported an operating income of -1.169 billion euros, versus -222 million euros in 2010. It includes impairment of property, plant and equipment and intangible assets associated with UraMin's mining projects, whether under development or not yet launched, in Namibia (Trekopje), in the Central African Republic (Bakouma) and in South Africa (Ryst Kuil) for the total amount of 1.456 billion euros (compared with 426 million euros in 2010). On the Group's consolidated balance sheet at December 31, 2011, the carrying value of property, plant and equipment and intangible assets for these projects was 404 million euros. Excluding impairment, operating income in the Mining BG totaled

287 million euros (22.3% of revenue), compared with 204 million euros in 2010 (18.7% of revenue). This increase is mainly due to the increase in the average uranium sales price from contracts and efficient control over production costs.

EBITDA in the Mining BG was 450 million euros in 2011, compared with 342 million euros in 2010. It benefited from the increase in the average uranium sales price from contracts and efficient control over production costs.

The change in operating WCR in the Mining BG was -34 million euros (compared with +252 million euros in 2010), due to an increase in inventory linked to an increase in activity.

Gross operating Capex in the Mining BG was 599 million euros in 2011, slightly down compared to 2010 (634 million euros), mainly due to the decision to revise downward and then suspend capital expenditures at the Trekopje site (Namibia).

9.4. Statement of financial position

9.4.7. Business Groups review

FRONT END BUSINESS GROUP

<i>(in millions of euros)</i>	2011	2010	Change 2011/2010	Change 2011/2010 like for like*
Backlog	18,071	18,457	-2.1%	-
Contribution to consolidated revenue	2,282	2,612	-12.6%	-11.8%
Chemistry	241	267	-9.9%	-9.3%
Enrichment	822	1,181	-30.4%	-29.7%
Fuel	1,219	1,164	+4.7%	+5.7%
EBITDA	179	432	-252	-
<i>Percentage of contribution to consolidated revenue</i>	<i>7.9%</i>	<i>16.5%</i>	<i>-8.6 pts</i>	<i>-</i>
Operating income	-780	85	-865	-
<i>Percentage of contribution to consolidated revenue</i>	<i>-34.2%</i>	<i>3.2%</i>	<i>-37.4 pts</i>	<i>-</i>

* At constant exchange rate and consolidation scope.

2011 performance

The Front End BG had 18.071 billion euros in backlog at December 31, 2011, slightly lower, by 2.1%, than at the end of 2010. Of particular note in 2011 are the following:

- several contracts with US utilities in the Fuel business;
- a significant volume of new orders in Enrichment, in particular in the United States and Japan, despite complex market conditions.

For the full year of 2011, the Front End BG reported revenue of 2.282 billion euros, a decrease of 12.6% on a reported basis and of 11.8% like for like. Foreign exchange had a negative impact of 24 million euros.

- Enrichment revenue suffered from the winding up at the end of 2010 of the legacy contract with EDF for the delivery of enrichment services produced by the Georges Besse I enrichment facility;
- Business was brisk in Fuel operations;
- The Chemistry business suffered from a decline in deliveries to Japanese utilities in the wake of events in Japan. Against this backdrop, AREVA deemed it prudent to limit Comurhex's conversion operations at the end of 2011 and decided to suspend production at the Comurhex sites for a period of two months. This decision had no impact on customer deliveries.

The Front End BG reported an operating income of -780 million euros, compared with 85 million euros in 2010. It includes impairment of property, plant and equipment and intangible assets:

- in the Chemistry business, 71 million euros for the Comurhex facility, mainly in connection with the revision of the estimated dismantling cost for this plant, and 212 million euros for the Comurhex II plant, the Group having decided, after review, to postpone capital expenditures designed to increase capacity to 21,000 metric tons per year at the Comurhex II plant beyond the "Action 2016" strategic action plan term;
- the Enrichment business, 191 million euros on decommissioning assets for the Georges Besse I plant following the revision of the estimated dismantling cost for this plant.

In 2010, operating income in the Front End BG included impairment of property, plant and equipment and intangible assets of 120 million euros representing the financial impact of the agreement reached on conditions for closing the Georges Besse I plant following mediation by the French State. Excluding impairment, operating income in the Front End BG was -306 million euros in 2011, compared with 205 million euros in 2010. This sharp drop is explained in particular by:

- a reduction in volumes in the Enrichment business linked to operating conditions at the Georges Besse I plant, where the beginning of the shutdown stage is scheduled by the end of the first half of 2012;
- additional provisions charges in 2011, mainly for:

- revised cost estimates for end-of-lifecycle operations at some nuclear facilities in the Chemistry business (for the total amount of 50 million euros) on one hand,
- the anticipated net cost of operations preparatory to the shutdown of industrial facilities in Chemistry and Enrichment businesses (for the total amount of 268 million euros), on the other hand;
- restructuring costs recognized in 2011 in relation to the decision for a phased shutdown of the fuel manufacturing plant in Dessel, Belgium, by 2015, for a total of 70 million euros.

EBITDA in the Front End BG was 179 million euros in 2011, compared with 432 million euros in 2010. It was heavily impacted by the end of

the SWUs sales to EDF in France. This was partly offset by the positive impact of performance improvement plans in the Chemistry, Enrichment and Fuel businesses.

The change in operating WCR in the Front End BG came to +161 million euros (compared with +78 million euros in 2010), reflecting cash flow optimization plans deployed mainly in the Fuel and Enrichment businesses.

Gross operating Capex in the Front End BG came to 952 million euros in 2011, up compared to 2010 (833 million euros), reflecting progress on the Georges Besse II plant construction program, which accounted for more than 75% of the Business Group's Capex in 2011.

REACTORS & SERVICES BUSINESS GROUP

<i>(in millions of euros)</i>	2011	2010	Change 2011/2010	Change 2011/2010 like for like*
Backlog	9,103	7,290	+24.9%	-
Contribution to consolidated revenue	3,262	3,384	-3.6%	-2.2%
New Builds	799	890	-10.3%	-9.7%
Installed Base	1,780	1,748	+1.8%	+3.5%
Equipment	254	313	-19.1%	-16.9%
Products and Technology	42	36	+16.0%	+16.0%
Propulsion and Research Reactors	388	397	-2.3%	-0.9%
EBITDA	(378)	(218)	-160	-
<i>Percentage of contribution to consolidated revenue</i>	<i>-11.6%</i>	<i>-6.4%</i>	<i>-4.8 pts</i>	<i>-</i>
Operating income	(512)	(251)	-261	-
<i>Percentage of contribution to consolidated revenue</i>	<i>(15.7)%</i>	<i>-7.4%</i>	<i>-8.3 pts</i>	<i>-</i>

* At constant exchange rate and consolidation scope.

2011 performance

The Reactors & Services BG had 9.103 billion euros in backlog at December 31, 2011, an increase of 24.9% compared with the end of 2010. The main new orders in 2011 were as follows:

- a contract with EDF valued at about 1.1 billion euros to supply 32 of the 44 steam generators needed for the 1,300 MWe nuclear power plants in France;
- a contract of more than 600 million euros with EDF to renovate the instrumentation and control systems (I&C) of its 1,300 MWe power plants;
- a contract with Tennessee Valley Authority related to the completion of the Bellefonte power plant in the United States (orders will continue to be reflected in the backlog until the end of the project, for a total of about 1 billion dollars);
- a contract with CNNC to supply digital instrumentation and control systems for Tianwan units 3 and 4 in China;
- contracts with EDF for preliminary engineering and manufacturing of certain forgings for new reactors that the French utility plans to build in

the United Kingdom, where the British nuclear safety authority granted preliminary certification of the EPR™ reactor in 2011.

The Reactors & Services BG reported revenue of 3.262 billion euros in 2011, a decrease of 3.6% (-2.2% like for like). Foreign exchange had a negative impact of 31 million euros.

- Revenue from the New Builds business declined, mainly due to a drop in engineering work in the United States. Business associated with EPR™ construction projects in Finland, France and China remained stable over the period.
- Installed Base Services were up due to an increase in engineering studies in France.
- Revenue from the Equipment business was down due to lower volumes in heavy component deliveries.

The Reactors & Services BG reported an operating income of -512 million euros, compared with a loss of 251 million euros in 2010. Operating income for 2011 includes 125 million euros for impairment of property, plant and equipment and intangible assets mainly attributable to the forecast reduction in workload at some equipment manufacturing sites following the Fukushima accident. Excluding impairment, the operating

9.4. Statement of financial position

9.4.7. Business Groups review

income in the Reactors & Services BG was -387 million euros in 2011, compared with -251 million euros in 2010. This change is primarily explained by:

- in the Installed Base business, by costs recognized in 2011 and additional provisions for losses at completion for several power plant construction and modernization projects, and by a drop in the services activity in connection with Germany's decision to phase out nuclear power;
- in the New Builds business, by a lower provision for losses at completion for the OL3 EPR™ project (220 million euros in 2011 compared with 367 million euros in 2010), which only partly offset the impacts described above.

EBITDA for the Reactors & Services BG was -378 million euros in 2011, compared with -218 million euros in 2010. It was impacted by the costs' unfavorable evolution of several power plant construction and modernization projects on one hand, and by a drop in Installed Base services activity in connection with Germany's decision to phase out nuclear power, on the other hand.

The change in operating WCR in the Reactors & Services BG came to +191 million euros (compared with -187 million euros in 2010), reflecting cash provided by customer advances.

The Reactors & Services BG reported gross operating Capex of 252 million euros in 2011, comparable to the 2010 level (251 million euros). Gross operating Capex mainly includes developments for the Group's range of reactors and industrial Capex in the Equipment business.

BACK END BUSINESS GROUP

<i>(in millions of euros)</i>	2011	2010	Change 2011/2010	Change 2011/2010 like for like*
Backlog	6,282	6,056	+3.7%	-
Contribution to consolidated revenue	1,594	1,709	-6.7%	-6.4%
Recycling	958	1,110	-13.7%	-13.5%
Site Value Development	258	225	+14.8%	+14.8%
Logistics	263	257	+2.6%	+4.3%
Cleanup	114	117	-2.8%	-2.8%
EBITDA	406	446	-40	-
<i>Percentage of contribution to consolidated revenue</i>	<i>25.5%</i>	<i>26.1%</i>	<i>-0.6 pt</i>	<i>-</i>
Operating income	191	280	+19.1%	-
<i>Percentage of contribution to consolidated revenue</i>	<i>12.0%</i>	<i>16.4%</i>	<i>-4.4 pts</i>	<i>-</i>

* At constant exchange rate and consolidation scope.

2011 performance

The Back End BG had 6.282 billion euros in backlog at December 31, 2011, an increase of 3.7% compared with the end of 2010. Contracts won in 2011 include:

- several contracts with the CEA to continue dismantling the UP1 plant at Marcoule;
- a contract with the CEA to remove, treat and ship Phenix reactor fuel;

The Back End BG reported revenue of 1.594 billion euros in 2011, down 6.7% compared with the same period in 2010 (-6.4% like for like).

- Revenue was down in the Recycling business due to a drop in volumes processed at the La Hague and MELOX plants following production stoppages at the end of the first half of the year. Production resumed at full capacity in the third quarter.
- In the Nuclear Site Value Development business, the reduction of AREVA's scope of work under the contract with the CEA to dismantle the UP1 plant at Marcoule in the first half of 2011 was offset by

the installation of contaminated water treatment solutions at the Fukushima-Daiichi site in Japan.

- Revenue in the Logistics business benefited from an increase in storage activity in the United States and in transportation.

The Back End BG reported operating income of 191 million euros in 2011 (12.0% of revenue), down compared to 2010 (280 million euros ie 16.4% of revenue). This change is particularly explained by:

- the drop of activity at the La Hague and Melox facilities due to production interruptions occurring in the first half of the year (resolved in the third quarter);
- a lower activity level in the Recycling business for Japanese customers in the aftermath of the Fukushima accident, partially offset by an increase in MOX fuel production for German customers;
- a higher level of provisions for end-of-lifecycle operations after completion of the three-year review of dismantling cost estimates for the La Hague facilities. Net provisions for end-of-lifecycle operations were 53 million euros in 2011

EBITDA for the Back End BG was 406 million euros in 2011, compared with 446 million euros in 2010. This downturn is attributable in part to lower volumes in the Recycling business due to production interruptions occurring at the end of the first half of the year and a lower level of activity for Japanese customers following the Fukushima accident

The change in operating WCR in the Back End BG came to -56 million euros in 2011 (compared with +112 million euros in 2010), reflecting in particular the collection of multiyear customer advances in 2010.

Gross operating Capex for the Back End BG totaled 145 million euros in 2011, identical to that of 2010. The increase in Capex in the Recycling business in connection with repairs at the La Hague facilities following incidents occurring at the end of the first half of the year was offset by a decrease in Capex in the Logistics business.

RENEWABLE ENERGIES BUSINESS GROUP

<i>(in millions of euros)</i>	2011	2010	Change 2011/2010	Change 2011/2010 like for like*
Backlog	1,778	1,843	-3.5%	-
Contribution to consolidated revenue	297	150	+98.2%	+98.3%
Bioenergies	76	61	+24.6%	+24.7%
Wind Power	202	88	+129.5%	+129.5%
Energy Storage and Transport	0	0	ns	ns
Concentrated Solar Power (CSP)	19	1	ns	ns
EBITDA	(85)	(83)	-2	-
<i>Percentage of contribution to consolidated revenue</i>	<i>-28.4%</i>	<i>-55.1%</i>	<i>+26.7 pts</i>	<i>-</i>
Operating income	(78)	(123)	+45	-
<i>Percentage of contribution to consolidated revenue</i>	<i>-26.2%</i>	<i>-81.7%</i>	<i>+55.5 pts</i>	<i>-</i>

* At constant exchange rate and consolidation scope.

2011 performance

The Renewable Energies BG had 1.778 billion euros in backlog at December 31, 2011, a decrease of 3.5% compared with the end of 2010. The most significant contract wins during the year were:

- a major contract to install a concentrated solar power plant coupled with the Kogan Creek coal-fired power plant operated by CS Energy in Australia;
- a 155-million-euro contract for the construction of a biomass power plant in the northern part of the Netherlands awarded by Eneco, one of the country's leading electric utilities, to an AREVA-led consortium.

Revenue for the Renewable Energies BG came to 297 million euros in 2011, a sharp increase from 2010 (+98.2% in reported data and +98.3% like for like), thanks to a significant increase in the offshore wind business as mass production of the M5000 turbine ramped up at the Bremerhaven plant in Germany.

Renewable Energies BG reported an operating income of -78 million euros in 2011, compared with -123 million euros in 2010. This improvement was mainly due to the ramp-up of production capacity in the offshore wind business.

EBITDA for the Renewable Energies BG was -85 million euros in 2011, stable compared with 2010 (-83 million euros). Ramp-up of the offshore wind business translated into increased operating costs, covered in part by provisions recognized in 2010 following the technical difficulties encountered on the Alpha Ventus offshore wind farm, which have since been resolved.

The change in operating WCR in the Renewable Energies BG was +35 million euros (compared with +18 million euros in 2010), reflecting in particular cash provided by customer advances.

Gross operating Capex in the Renewable Energies Business Group was 66 million euros in 2011, a sharp drop from 2010 (245 million euros), when the BG had invested 210 million euros to acquire 100% of Ausra and an additional 49% of Multibrid.

9.4. Statement of financial position

9.4.7. Business Groups review

CORPORATE AND OTHER OPERATIONS

<i>(in millions of euros)</i>	2011	2010	Change 2011/2010	Change 2011/2010 like for like*
Contribution to consolidated revenue	148	157	-5.8%	-6.3%
EBITDA	496	(215)	+711	-
Operating income	425	(192)	+617	-

* At constant exchange rate and consolidation scope.

Operating income for Corporate totaled 425 million euros in 2011, a sharp increase from -192 million euros in 2010, mainly due to the

payment by Siemens of 648 million euros in damages for breach of the AREVA NP Shareholders' agreement.

→ 9.5. Events subsequent to year-end closing for 2011

- Following the Fukushima disaster, AREVA submitted in September 2011 additional safety assessments of its nuclear facilities at the request of ASN and the European authorities. Following its analysis, ASN deemed through its report published in January 2012, that the facilities assessed present an adequate level of safety; it asked the operators to improve the robustness of certain functions to face extreme situations going beyond their existing safety margins.
- Stefan vom Scheidt has been appointed Managing Director of AREVA NP GmbH, the wholly-owned subsidiary of AREVA in Germany.
- Following recent press rumours, AREVA denied any intention to acquire a stake in URENCO for the time being.
- Following a press release which reported unsourced comments concerning UraMin acquisition, AREVA has wanted to remind that the audition by members of the Commission des Finances from the French National Assembly, to which this release referred to, was held behind closed door.
- AREVA announced the sale of its 20% stake in the company Sofradir.
- ATMEA received the final report and findings of the review of ATMEA1 reactor safety objectives and options by the French nuclear safety authority (ASN). The ASN gave a favourable opinion on the safety options of the ATMEA1 reactor.
- EDF and AREVA have reached an agreement on the principles of a long-term partnership to supply natural uranium over the 2014-2030 period, ensuring the security of supply and the competitiveness of the French nuclear fleet.
- During its meeting held on December 12, 2011, devoted in particular to the examination of the 2011 closing estimates, the AREVA Executive Board indicated that it expected to book a provision of 1.46 billion euros (2.025 billion US dollars) in the company's accounts for fiscal year 2011 for impairment of assets for the reporting entity UraMin, a mining company acquired by AREVA in 2007, which, given the provision booked in 2010 (426 million euros), brings the value of these assets on the AREVA balance sheet down to 410 million euros.

Given the size of these provisions, the Supervisory Board decided to make three of its members, meeting as an ad hoc committee, in charge of analyzing the terms of acquisition of this company, as well as the key decisions made in this reporting entity up to 2011 and, based on the outcome of these analyses, to recommend to it any appropriate measures in AREVA's interest.

This committee reported on its work during the Supervisory Board meeting held on February 14, 2012.

In light of this report, the Supervisory Board found that the fairness and reliability of the financial statements of previous years were not in question. Nevertheless, considering the malfunctionings raised, the Board considers it appropriate to thoroughly review AREVA's governance in order to ensure that decisions concerning large acquisitions or investments be reviewed and validated in the future under conditions ensuring better legal and financial security and enabling a more transparent dialogue between management and the Supervisory Board.

It thus asked the Executive Board to recommend, at the next General Meeting of Shareholders, that the by-laws of the company be modified to make the Supervisory Board's prior approval of investments, stake acquisitions and acquisitions mandatory above a threshold of 20 million euros.

It also decided to set up a Business Ethics Committee within the Supervisory Board responsible for ensuring that rules of conduct are properly applied.

Moreover, it asked the Executive Board to finalize in the shortest possible time frame the internal procedure applicable to the review and validation of the various projects and decisions creating a commitment, and the procedures for monitoring their execution.

In addition, it noted that the deliberations of the Executive Board, like those of the bodies or authorities having received delegation of authority from it, must be systematically documented in writing, and asked the Executive Board to ensure that this rule is thoroughly applied.

It asked the Executive Board to install a Resources and Reserves Committee under its direct authority, responsible for validating each year the resource and reserve estimates appearing in the Reference Document, based on the work of the Reserves Department. This Committee, which will involve one or more recognized external experts, shall specify the methods and schedule for updating resources and reserves. Its work shall be reported on an annual basis to the Audit Committee. Reference to the installation and operation of this Committee shall appear in the Reference Document published by AREVA.

Lastly, it asked the Executive Board to study the transformation of the legal form of the company into a limited liability company with a board of directors.

- AREVA has achieved major milestones for EPR™ construction projects in the UK signing new agreements at the Franco-British summit in Paris on February 17, 2012. AREVA signed an enhanced cooperation agreement with Rolls-Royce to extend global cooperation which covers the manufacture of components for new nuclear power plants and other nuclear projects in the United Kingdom and beyond. It follows a global agreement signed between the two companies in March 2011. Moreover, AREVA has signed with EDF a Memorandum of Understanding relating to the delivery of the nuclear steam supply system and all central instrumentation and control systems for the Hinkley Point C project and confirming the timeframe for completing the negotiation for the contract.
- AREVA has signed an agreement to sell its interest in the Millennium mining project in Canada to Cameco Corporation, already a 41.96% share-holder in the project. Under the terms of the agreement, AREVA is selling its 27.94% ownership in the Millennium project for CAD\$150 million (more than €112 million) and the payment of royalties in case new uranium resources are discovered for the mine. The third partner of the project, JCU (Canada) Exploration Co. Ltd (30.1% of the capital), has a right of first refusal to acquire under equal conditions up to 11.67% of the AREVA share.

9.5. Events subsequent to year-end closing for 2011*9.4.7. Business Groups review*

- AREVA launched and priced a 400-million-euro bond issue through an increase of its existing bond issue maturing on October 5, 2017, with an annual coupon of 4.625%.
- Olivier Wantz was named Senior Executive Vice President, Mining Business Group, replacing Sébastien de Montessus, who has decided to leave the Group. Olivier Wantz remains a member of the Executive Board and reports to Luc Oursel, Chief Executive Officer. Carolle Foissaud is appointed Senior Executive Vice President, Operations Support, replacing Mr. Wantz. She reports to Philippe Knoche, Chief Operating Officer. She is a member of the Executive Management Board of AREVA (EMB). These appointments take effect on March 31, 2012.
- On March 16, 2012, AREVA and the Fonds Stratégique d'Investissement (FSI) signed a share purchase agreement for the disposal of AREVA's stake in Eramet to FSI in the amount of 776 million euros. The conclusion of this agreement and the closing of the transaction remain subject to confirmation by the Autorité des Marchés Financiers that it is not necessary for the parties to file a takeover bid on Eramet shares, and to the necessary authorizations related to competition law.

Capital resources

For information on cash flow and equity, please refer to Section 9.3. *Cash flow* and Section 9.4. *Balance sheet data*.

Research & Development programs, patents and licenses

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→ 11.1. Research & Development

11.1.1. KEY FIGURES

Research & Development expenses are capitalized if they meet criteria established by IAS 38 and are recognized as expenses if they do not. Research & Development expenses not eligible for capitalization are reported under gross margin in the statement of income if solely funded by the Group. Charges 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. The combination of all amounts committed to Research & Development, whether capitalized or expensed during the period, constitute the Group's total Research & Development expenditure.

The Group's Research & Development expenses for the Nuclear and Renewable Energies businesses, excluding mineral exploration and mining studies, represented 294 million euros in 2011, i.e. 3.3% of the revenue contributed for the period. This indicator was stable compared with 2010, when Research & Development expenses, excluding expenses for mineral exploration and mining studies, totaled 301 million euros, or 3.3% of revenue.

<i>(millions of euros)</i>	2011	In percentage of revenue	2010	In percentage of revenue
Research & Development recognized as expenses under gross margin, after RTC⁽¹⁾	343	3.9%	354	3.9%
Of which expenses for mineral exploration and mining studies	49	-	53	-
Research & Development recognized as expenses under gross margin, excluding expenses for mineral exploration and mining studies, after RTC⁽¹⁾	294	3.3%	301	3.3%
RTC ⁽¹⁾	47	-	46	-
Research & Development recognized as expenses under gross margin, excluding expenses for mineral exploration and mining studies, before RTC⁽¹⁾	341	3.8%	347	3.8%
Capitalized Research & Development costs	140	1.6%	166	1.8%
TOTAL	481	5.4%	513	5.6%
Number of registered patents	104	-	91	-

(1) Research Tax Credit.

Taking into account capitalized development costs, total Research & Development expenditure was 481 million euros in 2011, or 5.4% of revenue for the period, slightly down from 2010 (5.6% of revenue). For more details, see Section 9.2.5.3.

This amount reflects ongoing long-term projects, including:

- development and modernization of production capabilities in the front end of the cycle;
- optimization of the EPR™ reactor;
- termination of the basic design of ATMEA1 reactor;
- development of fast neutron reactors;
- optimization of the instrumentation and control system;
- performance improvement in Equipment;
- preliminary design of future treatment and recycling plants;
- renewable energies: solar and wind;
- renewal of expertise; and
- synthetic oils and hydrogen.

11.1.2. OVERALL ORGANIZATION OF RESEARCH & 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 & 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 effectiveness in areas as wide-ranging as technology management, knowledge and expertise management, intellectual asset protection, innovation, and leadership for a portfolio of Research & 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.

The program to stimulate innovation launched in 2005 and fully deployed in 2006 translated into some 20 new key projects, most led by the business units, although some – usually cross-business or longer term – were launched by the Research & Development function itself.

Management and the Research & Development function jointly review these projects at regular intervals. This policy was supplemented in 2009 by the creation of a pre-project process for potential key projects designed to promote more systematic exploration of themes likely to result in innovations. Tools and methods were acquired in 2010 to apply this process and launch the first preliminary innovation projects.

In 2011, the Research & Development Department reorganized to further boost key areas of development, described below.

STRATEGIC AND PROSPECTIVE ANALYSIS

In the energy business, long-term development cycles are a prerequisite for industrialization. Defining and planning the Group's Research & Development strategy requires thorough analysis of the best way to conduct technological development over the medium and long term.

The Strategic and Prospective Analysis Department is engaged in both technological intelligence and strategic and technological analysis leading to definition of the Group's choices, priorities and strategic roadmaps for

11.1. Research & Development*11.1.3. Partnerships*

technology development. In doing so, the department explores strategic topics and potential projects, such as Research & Development studies on safety, health and the environment, non-proliferation and international safeguards, fusion energy, standardization and other topics of strategic importance.

INNOVATION AND TRANSFER OF KNOWLEDGE AND TECHNICAL EXPERTISE

The Research & Development Department is also in charge of setting up a system for pooling knowledge focused on technology development to secure the company competitiveness over the long term. To fulfill its mission, the Research & Development Department acts as a central agency, drawing up Group policy to foster innovation, knowledge retention and the development of expertise, and also provides support to the Business Groups and operational units that implement these policies.

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.

AREVA already has a broad network of partnerships with the world's leading research laboratories, in particular:

- in France: the CEA at Saclay, Cadarache, Grenoble and Marcoule; EDF's Research and Design Laboratories; the French National Scientific Research Center (CNRS); and major engineering schools and universities such as the École de Chimie of Paris and Montpellier University;
- in Germany: the University of Zittau and the Karlsruhe, Rossendorf and Jülich research centers;
- in the United States: the Massachusetts Institute of Technology (MIT), the California Institute of Technology (CalTech), the Universities of Florida, Idaho, Texas and Virginia, and the Sandia and Idaho National Laboratories;

11.1.4. FUTURE DIRECTIONS IN TECHNOLOGY

The AREVA group's Research & Development programs focus on developing technologies with low CO₂ 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.

EXTERNAL PARTNERSHIPS

The External Partnerships Department works closely with the regional Research & 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 and the French National Scientific Research Center (CNRS), finding the best external partners for the Group's Research & Development projects, and drawing up cooperative programs;
- providing support for the Group's internal Research & Development initiatives by identifying appropriate external partners;
- reviewing external Research & Development capabilities and the possibilities for participating in externally funded cooperative projects (public authorities, European Commission, 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.

AREVA is a participant, via 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 & 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.

As regards agreements and partnerships with the CEA, of particular note in 2011 was the inauguration of the joint vitrification laboratory at Marcoule.

These programs, which have been in place for decades, helped find solutions for Fukushima-Daiichi. Within a very short time, a treatment facility called Actiflo-Rad was designed, built, delivered and started up, solving the major problem of contaminated water. The high-capacity facility uses the coprecipitation process and allows the decontaminated water to be recycled back into the reactor cooling system. In addition, the Nuclear Measurements business unit was able to rapidly deliver radiological measurement equipment to monitor members of the public and the environment to protect public health. None of these

emergency actions would have been possible without ongoing Research & Development efforts serving all stages of the nuclear cycle, reinforcing AREVA's technological leadership.

A summary of 2011 Research & Development projects and results is presented below. It confirms the value of an integrated approach to Research & Development requirements centered on sustainable energies with low CO₂ emissions, together with the related products and services.

DEVELOPMENT AND MODERNIZATION OF PRODUCTION TOOLS IN THE FRONT END OF THE FUEL CYCLE

For international conversion facilities that have been in operation for a number of decades, maintenance costs will undoubtedly rise and availability will become a problem in the near term. To ensure maximum control over the conversion services it provides to its existing and future customers, AREVA is the only converter to invest in a new facility – the Comurhex II plant. To provide a better return on conversion activities, Research & Development focuses on improving the performance of existing processes through modeling and industrial testing. Breakthrough processes are also being studied with three main concerns in mind: reliability, cost and the environmental footprint. The aim of the studies is to produce low-cost processes that can subsequently be implemented in future conversion plants.

Through ETC, the AREVA-URENCO joint venture, new centrifuge enrichment technologies were developed to reduce enrichment costs. For the dismantling of Eurodif, a process to decontaminate the gaseous diffusion cascades was developed that will help reduce the radioactivity of the equipment and recover the precipitated uranium. Technology solutions were also found to reduce dismantling costs. Additionally, the Research & Development projects addressed the issue of converting the separated uranium so that it may be recycled in nuclear reactors, with a focus on optimizing applicable processes.

OPTIMIZING THE ECONOMIC PERFORMANCE OF REACTORS AND THE FUEL CYCLE

Improving nuclear fuel performance

AREVA leads ongoing, ambitious Research & Development programs to boost the thermohydraulic and mechanical performance, burnup and reliability of fuel. This Research & Development involves:

- adapting to changes in operating conditions, both in terms of cladding materials (new alloys for higher corrosion resistance and improved mechanical properties) and the fuel itself (advanced microstructures to reduce the release of fission gases at high burnup);

- developing new fuels, spacer grids and assembly concepts, all of which are the subject of very substantial ongoing development programs to prepare for future generations of PWR and BWR fuel assemblies.

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. The priority for this research is the development of advanced physical models that take advantage of growing computer modeling capabilities, aiming in particular to broaden architectures with modular applications and to extend the validity domain and the ergonomic graphic interfaces used. Such evolutions help to improve the accuracy of code-based predictions, reduce 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.

Understanding and forestalling aging

AREVA carries out large-scale Research & 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 lifecycle of reactors and reactor components that meet the needs of power generation companies.

Supplying modern digital instrumentation and control systems

The reactors delivered by AREVA come with instrumentation and control system products and programs offering a high level of safety, with the EPR™ reactor foremost among them. These systems can help improve the performance of existing reactors, replacing older systems. There has been considerable progress in their development: today's instrumentation and control systems enhance reactor operations and availability, reduce their maintenance costs and, in some cases, increase output.

DEVELOPING ENHANCED SOLUTIONS FOR THE BACK END OF THE FUEL CYCLE

The La Hague industrial platform is the culmination of more than 30 years of industrial Research & Development, achieving the best performance in the world for a treatment facility. Studies on the design and day-to-day operation of this plant are helping to identify key areas for research and to continuously improve the plant's performance and flexibility.

11.1. Research & Development11.1.4. *Future directions in technology***Production plant support**

This involves optimizing equipment for the long term and adapting to market trends so as to be able to treat new types of fuel, such as high burn-up UOX fuel, MOX fuel or research reactor fuel. In parallel, programs to minimize the environmental impacts are ongoing.

Optimizing fuel treatment and reducing final waste volumes

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 facility hosting this technology was inaugurated in 2010. Research & Development is also looking at optimization of the fuel treatment process and development of new processes such as the COEX™ process. It is with this type of technology development that AREVA is able to expand its commercial offer by broadening the range of fuels that may be treated.

Improving used fuel shipping and storage

Work on the development of a new generation of treatment and recycling plants continues. AREVA collaborated with the CEA to develop the COEX™ process for the co-extraction of uranium and plutonium, with the key steps in the process having already been demonstrated. AREVA is also participating in research stipulated by the French law of June 28, 2006 on radioactive waste, as it did under the previous law. 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.

In 2011, Research & Development activities turned to increasing recycling yields and optimizing overall fuel management. The full MOX core option was validated, and the potential for recycling reprocessed uranium into light water reactors and other types of reactors was examined more closely.

The Back End Business Group is developing new materials and resin-based products – impact limiters and radiological protection solutions – for innovative maritime shipping cask designs and even more efficient integrated storage solutions for an expanding and ever more demanding range of fuels.

WIDENING THE LINE OF LIGHT WATER REACTORS AND SUPPORTING THEIR DEPLOYMENT**EPR™ reactor**

The EPR™ reactor project team formed in the United States in 2005 submitted a design certification application to the US Nuclear Regulatory Commission (NRC) at the end of 2007. The certification review led by the NRC is in progress. The NRC plans to issue the final assessment report in June 2012. The Generic Design Assessment (GDA) of the EPR™ reactor launched in the United Kingdom in 2007 in partnership with the EDF group is ongoing and is in the last stage of the process. The Design Acceptance Confirmation (DAC) was slated for June 2011.

Research & Development teams are also actively supporting the Olkiluoto 3 project under construction by AREVA for the TVO company in Finland, and the Flamanville 3 project, for which AREVA is supplying the reactor to EDF in France, most notably for experimental validation of certain components.

ATMEA1 reactor

The ATMEA1 reactor is being developed by ATMEA, a joint venture established in 2007 by AREVA and Mitsubishi Heavy Industries (MHI). This 1,100 MWe pressurized water reactor combines the know-how of both partner companies. ATMEA1 is designed for medium capacity power grids.

SMR

AREVA launched the pre-conceptual design of a small capacity (100 MWe), modular and integrated power reactor. 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.

Research reactor

With support from CEA operators, AREVA revisited the design bases of a research reactor in the 2-10 MW range to meet the needs of budding nuclear power programs.

PLANNING FOR NEXT-GENERATION REACTORS AND RELATED FUEL CYCLE PLANTS

This involves long-term research – the key to maintaining technology leadership – that looks at the total reactor/fuel cycle system to optimize sustainable development criteria, in other words, an economic system that conserves natural resources and minimizes environmental impacts while addressing societal concerns.

A discussion of some of the key areas for research follows.

Relaunching the development of sodium-cooled fast neutron reactors

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 will focus initially on core safety issues and in-service inspection and repairs. In the fall of 2010, AREVA and the CEA signed a cooperation agreement for part of the design studies of the ASTRID generation IV prototype (Advanced Sodium Technological Reactor for Industrial Demonstration), a sodium-cooled fast reactor (SFR) that will be used for technology and industrial demonstrations.

The goal of AREVA's "Innovation SFR" Research & Development program is to significantly improve the SFR's safety, acceptance, competitiveness and operability, in particular for in-service maintenance and inspection. The research is being carried out in close collaboration with the CEA and EDF within the framework of the French law of June 28, 2006 on the long-term management of radioactive waste and substances, with the objective of assessing the industrial potential of the technology by the end of 2012.

Solutions for the future of naval propulsion

AREVA launched two initiatives in 2008, one to increase reactor compactness and performance by developing a new type of steam generator, the other focusing on design concepts for an onboard nuclear steam supply system for merchant vessels.

EMERGING TECHNOLOGIES AND RENEWABLE ENERGIES

For the Renewables market, Research & Development are key to bringing both a technical and a competitive advantage. Two goals are served by Research & Development activities: short-term support for the industrialization of existing products, and reliability improvement. Another, longer-term goal is new technology development.

Wind energy

AREVA's M5000 5-megawatt offshore wind turbine is being tested in the new full-scale Bremerhaven installation in Germany to guarantee a top-quality product for the next offshore sites. At the installation, wind turbine capacity in normal operating conditions is being tested, and the test bench can be used to qualify all of its components. The only one of its kind in the world, the test bench is setting new standards for wind turbine industrialization, allowing full-scale testing of all of the assembled nacelles. Going beyond the existing technology, Research & Development also aims to improve maintenance services and full-scale production of wind turbines to meet demand.

Solar power

In 2010, AREVA Solar made significant progress in demonstrating its technology by producing higher-temperature steam, enhancing thermal performance. The technology achieves cogeneration of steam and electricity, giving AREVA a definite edge over its competitors. The performance achieved in 2011 is a clear sign that this is the most competitive technology in terms of levelized energy costs (LEC) and technical performance.

Another strategic Research & Development thrust is energy storage capacity and the potential for reducing power generation costs even further.

Bioenergy

In 2011, AREVA Bioenergy completed the construction of its new plant in Chennai, India, which makes use of new combustion technologies to burn biomass more efficiently, allowing a greater variety of raw materials to be processed. Research & Development continues, focusing on reducing capital expenditure (CAPEX), developing modeling and simulation tools, and continuing efforts to extend the range of usable types of biomass.

Hydrogen and energy storage

The Hydrogen and Energy Storage business unit continued to develop its integrated "Green Box" system, which uses hydrogen to store energy, making strides towards near-term industrialization and marketing. A pilot facility was set up in Corsica as part of the MYRTE project (electrolyzer, hydrogen and oxygen storage, energy recovery and storage, 100 kWe fuel cell), demonstrating proof of concept of the facility, coupled with the production of intermittent photovoltaic solar power, since mid-2011.

11.2. Intellectual property*11.2.1. Patents and know-how***→ 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 & Development efforts.



Today, the AREVA group has a portfolio of some 8,000 patents derived from more than 1,900 inventions pertaining to the nuclear fuel cycle, nuclear reactors, renewable energies and related services. The AREVA group registered 104 new patents in 2011 (vs 91 in 2010 and 85 in 2009).

In 2010, as part of its key strategic directions for Research & Development, the Group's patents were expanded in number and strengthened in the fields of cold crucible vitrification and the COEX™ process for the Back End Business Group, in the design of new generations of PWR and BWR

fuel assemblies and of advanced design tools and related services for the Mining Business Group, in equipment manufacture and services for the Reactors & Services Business Group, and in offshore wind power, concentrated solar power and compact, modular, hydrogen-based solutions for electric energy production and storage for the Renewable Energies Business Group. These efforts will continue in the years to come.

In addition to the patent portfolios, the AREVA group has elected to maintain the confidentiality of some of its technology innovations. Accordingly, the Group owns and uses valuable know-how recognized for its technical excellence that 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,



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 2011, the AREVA group entered into several Research & 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 2012

The AREVA group intends to pursue, strengthen and organize its intellectual property initiative to support the growth of its Research & 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.

Trend information

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→ 12.1. Current situation

The current situation is developed in Section 6.1. *The markets for nuclear power and renewable energies*, which deals with the current economic situation and how it affects the Group's operations.

→ 12.2. Financial objectives

As indicated during the presentation of its "Action 2016" strategic action plan on December 13, 2011, AREVA has set the following objectives:

Over the 2012-2013 period:

- organic revenue growth of around 3-6% per year over the 2012-2013 period in the nuclear operations and revenue of more than 750 million euros in renewable energies in 2013 (compared with 297 million euros in 2011);
- EBITDA of more than 750 million euros in 2012, and more than 1.25 billion euros in 2013;
- gross Capex of an average of 1.9 billion euros per year;
- free operating cash flow before tax in a negative amount of less than 1.5 billion euros in 2012 and balanced in 2013.

The Group's objectives also include a minimum of 1.2 billion euros in proceeds from asset sales over the 2012-2013 period.

Over the 2015-2016 period:

- organic revenue growth of around 5-8% per year in the nuclear operations and revenue of more than 1.25 billion euros in renewable energies by 2015;
- gross Capex reduced to an average of 1.3 billion euros per year over the 2014-2016 period;
- positive free operating cash flow before tax of more than 1 billion euros per year beginning in 2015.

Profit forecasts or estimates

Not applicable.

Administrative, management and supervisory bodies and senior management

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→ 14.1. Composition of the Executive Board

The Executive Board consists of at least two members and at most 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. Any Supervisory Board member designated as an Executive Board member shall cease to be a member of the Supervisory Board upon assuming his or her new position.

The Executive Board is appointed for a term of five years expiring at the first meeting of the Supervisory Board held after the fifth anniversary of that appointment. The Supervisory Board may appoint a new member to the Executive Board during its term.

The decision to increase the number of Executive Board members above the number set at its appointment is subject to the approval of the Executive Board chairman.

Executive Board member terms are renewable.

The term of Mrs. Anne Lauvergeon and the terms of Messrs. Gérald Arbola, Didier Benedetti and Luc Oursel as members of the Executive Board expired on June 30, 2011. New members of the Executive Board were appointed as of that date.

The company's Executive Board as of December 31, 2011 is as follows:

LUC OURSEL (AGE 52)

On the recommendation of the Compensation and Nominating Committee, the Supervisory Board renewed the term of Mr Luc Oursel as a member of the Executive Board on June 21, 2011, effective June 30, 2011 and, on June 30, 2011, the Supervisory Board appointed Luc Oursel Chief Executive Officer. He succeeds Mrs. Anne Lauvergeon, whose term expired on June 30, 2011. Mr Oursel's 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 a Chief Engineer 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 President of Geodis.

A member of the AREVA Executive Board since his appointment by the Supervisory Board on 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 AREVA NC SA;
- Chairman of AREVA Mines SAS;
- Chairman of the Board of AREVA NP Inc.;
- Director of AREVA NP GmbH.

Other offices held during the past five years:

- Member of the Supervisory Board of Souriau and Souriau Technologies Holding SAS until October 2011;
- Member of the Board of Directors of ATMEA until September 2011;
- Chairman of the Board of AREVA NP USA Inc. until July 2011;
- Chairman of AREVA NP SAS until July 2011;
- Member of the Board of Directors of AREVA NP SAS until April 2011;
- Permanent representative of AREVA to the Supervisory Board of Safran until April 2011.

PHILIPPE KNOCHE (AGE 42)

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 a case handler for the European Commission's anti-dumping department. In 2000, he joined Cogema as Director of Industrial Holdings. He became AREVA Senior Vice President of Corporate Strategy in 2001. In 2004, he was named Director of the Treatment business unit. In 2006, he took over as Project Director for the Olkiluoto 3 EPR™ project in Finland. Mr Knoche was appointed Senior Executive Vice President of the Reactors & Services Business Group in 2010.

Other offices held:

- Chief Executive Officer and Director of AREVA NC SA;
- Chief Executive Officer of AREVA NP SAS;
- Member of the Supervisory Board of AREVA NP GmbH;
- Chairman of the Board of Directors of Canberra Industries Inc.;

Other offices held during the past five years:

- Member of the Board of Directors of AREVA NC Rokkasho Co Ltd (a Japanese company) until January 2007;
- Permanent representative of AREVA NC to the Board of Directors of SICN until June 2007;
- Permanent representative of AREVA NC to the Board of Directors of Socodei until December 2006;
- Member of the Board of Directors of AREVA NP SAS until December 2006;
- Director on the Board of Directors of TN International until December 2006;
- Director on the Board of Directors of SGN until February 2006.

PIERRE AUBOUIN (AGE 41)

Upon a finding of compatibility, without restrictions, of the Public Service Ethics Committee* on July 12, 2011, the Supervisory Board appointed Mr Pierre Aubouin to the Executive Board and named him Chief Financial and Executive 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 with an advanced degree in accounting and finance. 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 successively consultant, project manager and associate principal at McKinsey & Company in the latter's Corporate Finance and Strategy, High Tech and Media practices. 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. In that regard, he was recently a member of the boards of directors of Safran, Sogepa and Sogeadé Gérance (EADS holding companies), DCNS, Imprimerie Nationale and SNPE.

Other offices held:

None.

Other offices held during the past five years:

- Member of the Board of Directors of GIAT Industries, TSA, Civi.pol Conseil SA and Monnaie de Paris (a government-owned enterprise) until 2008 ;
- Member of the Board of Directors of Safran SA, DCNS, Sogepa SA, Sogeadé Gérance SAS, SNPE SA, Imprimerie Nationale SA and EPFR (a public institution) until July 2011.

SEBASTIEN DE MONTESSUS (AGE 37)

The Supervisory Board appointed Mr Sébastien de Montessus to the Executive Board and named him Senior Executive Vice President in charge of the Mining Business Group on June 30, 2011. His term will expire at the first meeting of the Supervisory Board held after June 30, 2016. Mr. Sébastien de Montessus tendered his resignation on March 9, 2012.

Sébastien de Montessus is a graduate of École Supérieure de Commerce de Paris (ESCP). He began his career as an investment banker in Mergers and Acquisitions at Morgan Stanley London. He went on to establish and sell a company in the telecommunications sector, and then joined the Strategy department of the AREVA group in 2002. In 2004, he became a member of the Management Committee for AREVA's Transmission & Distribution division, where he was in charge of strategy and marketing. He was appointed Executive Vice President of the Mining business unit in 2007 and became Executive Vice President of the Mining Business Group in January 2010.

Other offices held:

- CEO of AREVA Mines SAS;
- Chairman and CEO of CFM SA et de CFMM SA;
- Member of the Board of Directors of Eramet.

Other offices held during the past five years:

None.

* The role of the Public Service Ethics Committee (Commission de Déontologie de la Fonction Publique), an independent French government agency, 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.

OLIVIER WANTZ (AGE 51)

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' term will expire at the first meeting of the Supervisory Board held after June 30, 2016. Pursuant to Mr. Sébastien de Montessus' resignation on March 9, 2012, Mr. Olivier Wantz remains a member of the Executive Board and is appointed Senior Executive Vice President, Mining Business Group, replacing Mr. de Montessus. Mrs. Carolle Foissaud is appointed Senior Executive Vice President, Operations Support, replacing Mr. Wantz. She reports to Mr. Philippe Knoche, Chief Operating Officer, and is henceforth a member of AREVA's Executive Management Board (EMB). These appointments take effect on March 31, 2012.

Mr Wantz holds an advanced graduate diploma from the Institut d'administration des entreprises of Paris and is a graduate of the chamber of commerce and industry of Nuremberg, Germany. He joined the Siemens group in 1983, where he held various positions, initially in the medical engineering segment and, starting in 1995, in the telecommunications segment with the Australian subsidiary. 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 the subsidiary AREVA NP. In 2010, he was appointed Senior Executive Vice President of Engineering & Projects.

Other offices held:

- Chairman of the Board of SGN SA;
- Chairman of the Supervisory Board of AREVA NP GmbH;
- Chairman of the Board of AREVA Federal Services LLC;;
- Member of the Board of AREVA NP Inc.;
- Vice Chairman of the Board of WECAN.

Other offices held during the past five years:

None.

The members of AREVA's Executive Board may be contacted at the company's corporate office at 33, rue La Fayette, 75009 Paris, France.

→ 14.2. Composition of the Supervisory Board

The information concerning the composition of the Supervisory Board appears in Section 3.2. *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

As of the date of this Reference Document and to the best of AREVA's knowledge:

- the members of the Supervisory Board and the members of the Executive Board are not subject to potential conflicts of interest between their duties as members and their private interests;
- there are no family relationships between members of the Supervisory Board and members of the Executive Board of AREVA;
- no member of the Supervisory Board or the Executive Board has been convicted 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.

Compensation and benefits

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→ 15.1. Compensation of directors and officers

In accordance with the provisions of the French Commercial Code, the compensation for AREVA's directors and officers (the Chief Executive Officer and members of the Executive Board, the Chairman of the Supervisory Board, and the members of the Supervisory Board who receive directors' fees) is based on a proposal from the Supervisory Board's Compensation and Nominating Committee and approved by the Supervisory Board. The components of compensation are, moreover, submitted to the approval of the ministers concerned in accordance with the decree no. 53-707 of August 9, 1953, amended.

The compensation of the members of the Executive Board includes a fixed component and a variable component (see table in section 15.1.1 below). For 2011, the fixed component remained unchanged and was identical for the members of the Executive Board whose terms expired on June 30, 2011. The maximum rate for variable compensation, expressed as a percentage of fixed compensation, is defined for each member of the Executive Board in accordance with the terms of the previous paragraph and may evolve from year to year based on their functions and/or market conditions. The maximum rate for 2011 is 100% for Anne Lauvergeon, 80% for Gérald Arbola, 60% for Didier Benedetti, and 70% for Luc Oursel.

The fixed and variable components of compensation for the members of the Executive Board appointed on June 30 and July 27, 2011 were approved by the Supervisory Board on June 30 and July 27, 2011 and confirmed by the supervising minister. The compensation is effective as of the date of appointment. The maximum rate of variable compensation for 2011 is 100% for Luc Oursel, 80% for Philippe Knoche, and 50% for Olivier Wantz, Sébastien de Montessus and Pierre Aubouin.

Variable compensation is subject to quantitative and qualitative objectives that remain unchanged from 2010, at 60% and 40% respectively.

The objectives of each member of the Executive Board are defined each year and proposed to the Supervisory Board by the Compensation and Nominating Committee. For 2011, the quantitative objectives to be achieved are a function of the backlog (15%), revenue (15%), operating income (15%) and cash flow before capital expenditure (15%). Meeting on July 27, 2011, the Supervisory Board confirmed the objectives for the members of the Executive Board for the second half of 2011, as they were set at the beginning of the year.

The Supervisory Board validates these objectives for the following year and sets a percentage of the variable compensation to be paid to the members of the Executive Board, which is then submitted to the approval of the ministers concerned pursuant to decree no. 53-707 of August 9, 1953.

On December 12, 2011, all the members of the Executive Board waived their variable compensation for 2011 for the period since their appointment.

The members of the Executive Board do not receive directors' fees.

During their terms, the members of the Supervisory Board receive directors' fees, subject to certain exceptions (see tables in section 15.1.2 below).

15.1. Compensation of directors and officers*15.1.1. Compensation paid to the members of the Executive Board*

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.

In addition, as indicated in the report of the Chairman of the Supervisory Board on internal controls in Appendix 1, the AREVA group subscribed to the recommendations made on October 6, 2008 by the Afep-Medef on the compensation of executive officers of publicly traded companies. More generally, the AREVA group defers to the Afep-Medef Code of Corporate Governance for publicly traded companies of April 2010, with

certain adjustments explained in the abovementioned report from the Chairman of the Supervisory Board.

In accordance with applicable regulations, the tables below set forth the compensation and benefits of any kind paid to each officer (members of the Executive Board and members of the Supervisory Board) in 2009, 2010 and 2011 by AREVA, the companies controlled by AREVA, namely AREVA NP and AREVA NC, or the company by which it is controlled, namely the CEA.

15.1.1. COMPENSATION PAID TO THE MEMBERS OF THE EXECUTIVE BOARD**15.1.1.1. SUMMARY OF COMPENSATION OF EXECUTIVE BOARD MEMBERS**

(in euros)

AREVA directors and officers	Compensation paid during the fiscal year		
	2009	2010	2011
Anne Lauvergeon	925,666	1,070,036	920,021
Gérald Arbola	660,227	782,413	570,908
Didier Benedetti	615,686	606,077	544,453
Luc Oursel	573,218	603,132	679,048
Philippe Knoche	NA	NA	212,731
Olivier Wantz	NA	NA	170,431
Pierre Aubouin	NA	NA	138,024
Sébastien de Montessus	NA	NA	152,031

The Afep-Medef recommends indicating compensation and the value of options and shares allocated to each corporate officer on this summary table. In this respect, it should be noted that the members of the Executive Board do not receive any options or shares, as the Group has not set up a stock option plan.

15.1.1.2. SUMMARY OF COMPENSATION PAID TO EACH MEMBER OF THE EXECUTIVE BOARD DURING THE YEAR (FIXED COMPENSATION, VARIABLE COMPENSATION [BASED ON THE PREVIOUS YEAR] AND NON-CASH BENEFITS)

For the members of the Executive Board whose term expired on June 30, 2011, and in application of the decision of the Supervisory Board of February 25, 2009, the total variable compensation for members of the Executive Board is based on a percentage of fixed compensation, i.e. 100% for Mrs. Lauvergeon, 80% for Mr Arbola, 60% for Mr Benedetti and 70% for Mr Oursel. The variable component is subject to quantitative and qualitative objectives, set at 60% and 40% respectively.

In application of these principles, the Supervisory Board, meeting on July 27, 2011, and on the recommendations of the Compensation and Nominating Committee, meeting on February 8, February 18 and March 25, 2011, set the rate for the variable component to be paid in 2011 for 2010 at:

- 56% for Mrs. Lauvergeon and Mr Arbola;
- 61% for Mr Oursel and Mr Benedetti.

The format of the following tables was revised to provide a better illustration of the difference existing between the variable component due for year N and paid in year N+1.

This format shows that variable compensation due for 2011 has not yet been entered insofar as it will not be known and paid until 2012. However, the amounts paid in 2011 include the variable share of compensation for 2010 paid in 2011 and the sum total of payments foreseen during the year.

15.1. Compensation of directors and officers

15.1.1. Compensation paid to the members of the Executive Board

→ MEMBERS OF THE EXECUTIVE BOARD WHOSE TERM ENDED IN 2011

(in euros)

Summary of compensation for Anne Lauvergeon

AREVA directors and officers	2009		2010		2011	
	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾
Fixed compensation	558,250	558,250	564,960	564,960	282,480	282,480
Variable compensation calculated on the previous year	Capped	Real rate	Capped	Real rate	Capped	Real rate
%	at 100%	66%	at 100%	56%	at 100%	56%
Amount	312,620	363,000	316,378	312,620	167,511 *	316,378
Exceptional bonus			188,316	188,316		
Benefits in kind:						
	4,416	4,416	4,140	4,140	2,118	2,118
					319,045	319,045
TOTAL	875,286	925,666	1,073,794	1,070,036	771,154	920,021

(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 one or more previous years.

* This amount is due subject to ministerial approval.

(in euros)

Summary of compensation for Gérald Arbola

AREVA directors and officers	2009		2010		2011	
	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾
Fixed compensation	431,375	431,375	436,560	436,560	218,280	218,280
Variable compensation	Capped	Real rate	Capped	Real rate	Capped	Real rate
%	at 80%	53%	at 80%	44,8%	at 80%	44,8%
Amount	193,256	224,400	195,579	193,256	103,552 *	195,579
Exceptional bonus			145,517	145,517		
Non-cash benefits (company car)	4,452	4,452	7,080	7,080	3,523	3,523
TOTAL	629,083	660,227	784,736	782,413	325,355	417,382
For the employment contract as of July 1, 2011						
Fixed compensation					150,000	150,000
Non-cash benefits (company car)					3,526	3,526
TOTAL					153,526	153,526

(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 one or more previous years.

* This amount is due subject to ministerial approval.

15.1. Compensation of directors and officers

15.1.1. Compensation paid to the members of the Executive Board

(in euros)

Summary of compensation for Didier Benedetti

AREVA directors and officers	2009		2010		2011	
	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾
Fixed compensation	416,150	416,150	421,152	421,152	210,576	210,576
Variable compensation	Capped	Real rate	Capped	Real rate	Capped	Real rate
%	at 60%	47%	at 60%	43.2%	at 60%	36.6%
Amount	179,777	194,340	154,142	179,777	0*	154,142
Non-cash benefits (company car)	5,196	5,196	5,148	5,148	2,665	2,665
TOTAL	601,123	615,686	580,442	606,077	213,241	367,383
For the employment contract as of July 1, 2011						
Fixed compensation					177,070	174,618
Non-cash benefits (company car)					2,453	2,453
TOTAL					182,453	177,070

(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 one or more previous years.

* Mr Benedetti waived his right to variable compensation for 2011 (set at 70.4%, i.e. 88,947 euros).

→ MEMBER OF THE EXECUTIVE BOARD WHOSE TERM WAS RENEWED IN 2011

(in euros)

Summary of compensation for Luc Oursel

AREVA directors and officers	2009		2010		2011	
	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾
Fixed compensation	416,150	416,150	421,152	421,152	495,576	495,576
Variable compensation	Capped	Real rate	Capped	Real rate	Capped	Real rate
%	at 60%	37%	at 70%	42.7%	at 70%	42.7%
Amount	177,696	152,520	179,832	177,696	0*	179,832
Variable compensation for the 2nd half of 2011					Maximum	
%					100%	
Amount	NA	NA	NA	NA	0*	NA
Non-cash benefits (company car)	4,548	4,548	4,284	4,284	3,640	3,640
TOTAL	598,394	573,218	605,268	603,132	499,216	679,048

(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 one or more previous years.

* Mr Oursel waived his right to variable compensation for 2011.

15.1. Compensation of directors and officers

15.1.1. Compensation paid to the members of the Executive Board

→ NEW MEMBERS OF THE EXECUTIVE BOARD APPOINTED IN 2011

(in euros)

Summary of compensation for Philippe Knoche

AREVA directors and officers	2009		2010		2011	
	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾
Fixed compensation	NA	NA	NA	NA	210,000	210,000
Variable compensation					Capped	
%					at 80%	
Amount	NA	NA	NA	NA	0*	NA
Non-cash benefits (company car)	NA	NA	NA	NA	2,731	2,731
TOTAL	NA	NA	NA	NA	212,731	212,731

(1) Compensation paid for the reporting year, irrespective of the date of payment.

(2) Sum total of compensation paid during the fiscal year.

* Mr Knoche waived his right to variable compensation for the second half of 2011.

(in euros)

Summary of compensation for Olivier Wantz

AREVA directors and officers	2009		2010		2011	
	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾
Fixed compensation	NA	NA	NA	NA	165,000	165,000
Variable compensation					Capped	
%					at 50%	
Amount	NA	NA	NA	NA	0*	NA
Non-cash benefits (company car)	NA	NA	NA	NA	5,431	5,431
TOTAL	NA	NA	NA	NA	170,431	170,431

(1) Compensation paid for the reporting year, irrespective of the date of payment.

(2) Sum total of compensation paid during the fiscal year.

* Mr Wantz waived his right to variable compensation for the second half of 2011.

(in euros)

Summary of compensation for Pierre Aubouin

AREVA directors and officers	2009		2010		2011	
	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾
Fixed compensation	NA	NA	NA	NA	136,651	136,651
Variable compensation					Capped	
%					at 50%	
Amount	NA	NA	NA	NA	0*	NA
Non-cash benefits (company car)	NA	NA	NA	NA	1,373	1,373
TOTAL	NA	NA	NA	NA	138,024	138,024

(1) Compensation paid for the reporting year, irrespective of the date of payment.

(2) Sum total of compensation paid during the fiscal year.

* Mr Aubouin waived his right to variable compensation for the second half of 2011.

15.1. Compensation of directors and officers

15.1.1. Compensation paid to the members of the Executive Board

(in euros)

Summary of compensation for Sébastien de Montessus

AREVA directors and officers	2009		2010		2011	
	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾	Amount due ⁽¹⁾	Amount paid ⁽²⁾
Fixed compensation	NA	NA	NA	NA	150,000	150,000
Variable compensation					Capped	
%					at 50%	
Amount	NA	NA	NA	NA	0*	NA
Non-cash benefits (company car)	NA	NA	NA	NA	2,031	2,031
TOTAL	NA	NA	NA	NA	152,031	152,031

(1) Compensation paid for the reporting year, irrespective of the date of payment.

(2) Sum total of compensation paid during the fiscal year.

* Mr de Montessus waived his right to variable compensation for the second half of 2011.

15.1.1.3. SEVERANCE PAY

On the proposal of the Compensation and Nominating Committee, the Supervisory Board of AREVA, meeting on October 16, 2008, had defined the plan for payment of severance to members of the Executive Board whose terms expired on June 30, 2011.

In application of this plan, the Supervisory Board, meeting on July 27, 2011, approved the following payments subject to their approval by the ministers concerned in application of the decree no. 53-707 of August 9, 1953:

- for Mr Didier Benedetti: severance equal to two years of the total amount of his annual compensation, the variable component having exceeded 60% over the past three years;
- for Mr Gerald Arbola: severance for a flat amount of 760,000 euros;
- for Mrs. Anne Lauvergeon: severance for a flat amount of 1,060,000 euros, in addition to 440,000 euros in respect of a non-compete clause.

It is noted that Mr Didier Benedetti waived his severance payment as well as his variable compensation for the first half of 2011.

No payment was made to Mr Arbola and Mrs. Lauvergeon in this respect in 2011, pending ministerial approval.

For the members of the Executive Board appointed on June 30 and July 27, 2011, the Supervisory Board, meeting on October 21 and December 12, 2011, adopted the following rules, which are consistent with the recommendations of the Afep-Medef code of corporate governance for publicly traded companies, as revised in April 2010:

- the members of AREVA's Executive Board – Messrs. Luc Oursel, Philippe Knoche, Pierre Aubouin, Sébastien de Montessus and Olivier Wantz – may have the benefit of severance pay in the maximum amount of twice the combined total of the latest fixed amount of their

annual compensation on the date of termination of their duties and the average annual amount of their variable compensation of the past three years;

- only members of the Executive Board having elected to waive their employment contracts, if any, before the beginning of their terms may claim entitlement to this severance payment;
- members of the Executive Board may not claim entitlement to this severance payment if (i) they elect to retire, or are required to do so, for any reason shortly after the end of their term, or (ii) their term expires prematurely because of the transformation of the Company into a Limited Liability Company with a Board of Directors, or (iii) they are appointed to another position in 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:
 - the severance payment shall be paid automatically if more than 70% of the maximum variable component of compensation was paid in two of the three previous years, that variable component being based both on quantitative and qualitative objectives,
 - the severance payment shall not be paid if less than 60% of the maximum amount of the variable component of compensation was paid in two of the three previous years,
 - the Supervisory Board shall decide whether or not to grant all or part of the severance payment if 70% or less of the maximum amount of the variable component of compensation was paid in two of the three previous years, but was from 60% to 70% for at least one year;
- if the dismissal or forced departure of the member of the Executive Board occurs before the completion of three years of service, the

15.1. Compensation of directors and officers*15.1.1. Compensation paid to the members of the Executive Board*

severance payment shall be subject to performance conditions as follows:

- the severance payment shall be paid if the average variable component paid to the officer during his or her term (prorated for partial years) is greater than 70% of the maximum amount of the variable component of fixed compensation,
- the severance payment shall not be paid if the average variable component paid to the officer during his or her term (prorated for partial years) is less than 60% of the maximum variable component of compensation,
- the Supervisory Board shall decide whether or not to grant all or part of the severance payment, without such severance payment being automatic, if the officer's average variable component during his or her mandate (prorated for partial years) is from 60% to 70% of the maximum variable component of compensation;
- the Supervisory Board may decide to grant a severance payment to a member of the Executive Board in consideration of a non-compete clause. The amount of that severance payment shall be deducted from the amount of the severance payment made, if any, paid to a member of the Executive Board under the above conditions. When no severance payment is made, the amount of the severance payment due in consideration of a non-compete clause shall be set by the Supervisory Board in accordance with common practices.

All severance and/or non-compete 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 ministers concerned in application of the decree no. 53-707 of August 9, 1953."

It is noted that Messrs. Luc Oursel and Pierre Aubouin have no employment contract. Mr Philippe Knoche waived his employment contract. Employment contracts for Messrs. Olivier Wantz and Sébastien de Montessus are suspended during their terms as members of the Executive Board, and they may therefore not claim severance pay.

15.1.1.4. PENSIONS AND RETIREMENT BENEFITS

There is no pension or similar commitment for Anne Lauvergeon, Didier Benedetti, Luc Oursel, Philippe Knoche, Olivier Wantz, Sébastien de Montessus and Pierre Aubouin.

A provision for pension in the amount of 91,712 euros for Gérald Arbola was recorded in 2011.

For Gérald Arbola, this commitment is for a defined benefit retirement commitment meeting the criteria of the retirement plans mentioned in Article L. 137-11 of the French Social Security Code. This retirement benefit is not subject to the TEPA law (Article L. 225-90-1 of the French Commercial Code) and is therefore not subject to a performance condition.

This commitment had been made when Mr Arbola was a Cogema employee and was maintained when he became an AREVA officer.

Defined benefit retirement plan shall be understood to be a supplemental retirement benefit limited to 60% of base compensation, after deduction of all retirement benefits acquired from pension plans during the period of employment with the Group.

The supplemental retirement benefit thus defined shall under no circumstances exceed 14% of base compensation (average gross compensation for the 36 months preceding retirement), capped at twice the ceiling provided in the French national collective bargaining agreement for executives of March 14, 1947.

The following conditions must be met as of the date of retirement:

- the retiree must have reached the age of 60;
- employment with the company must have ended;
- all retirement benefits, both mandatory and optional, must have been simultaneously liquidated; and
- the retiree must have at least 10 years of seniority in the Group.

15.1.1.5. EMPLOYMENT INSURANCE

Employment insurance set up by the MEDEF (union of employers) was taken out from GSC (executive employment insurance company) for officers without an employment contract, effective December 1, 2011. 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. Compensation of directors and officers

15.1.2. Compensation of members of the Supervisory Board

15.1.2. COMPENSATION OF MEMBERS OF THE SUPERVISORY BOARD**15.1.2.1. SUMMARY OF DIRECTORS' FEES PAID DURING THE YEAR**

Members of the Supervisory Board	2009	2010*	2011**
Christophe Béhar	-	30,000	11,500
François David	45,500	40,000	67,000
Sophie Boissard	-	-	45,500
Thierry Desmarest	37,500	10,000	-
Oscar Fanjul	47,500	46,000	24,000
Christophe Gégout	37,500	52,500	9,000
Agnès Lemarchand	-	-	44,000
Olivier Pagezy	15,333	-	-
Philippe Pradel	48,500	10,000	-
Guylaine Saucier	88,000	92,500	119,500
Jean-Claude Bertrand	54,500	55,000	67,000
Gérard Melet	47,000	39,000	63,500
Alain Vivier-Merle	42,500	40,000	60,500
TOTAL	463,833	415,000	511,500

* Directors' fees paid from January 1 to November 30, 2010; the balance corresponding to the month of December was paid in 2011.

** Directors' fees paid in 2011, including the balance for December 2010.

Determination and payment of directors' fees

It is noted that Messrs. Spinetta and Bigot, respectively Chairman and Vice Chairman of the Supervisory Board, Messrs. Chevet, Comolli, Rousseau and Sellal, Supervisory Board members representing the French State appointed by ministerial order, and Mr Ricol do not receive directors' fees. Messrs. Béhar and Gégout have not received directors' fees since January 1, 2011. It is noted that Mr Chevet serves as Government Commissioner to the company in application of Article 1 of the decree no. 2011-1883 of December 15, 2011 and as such does not receive directors' fees. As a consequence of his new functions with the company, Mr Chevet is no longer a member of the Supervisory Board.

The total amount of directors' fee for the year in progress is set each year by the General Meeting of Shareholders convened to approve the financial statements for year ended. This total amount is first reviewed each year by the Compensation and Nominating Committee, which submits its recommendations to the Supervisory Board based on estimated requirements and the projected number of meetings of the Supervisory Board and its four specialized committees. These recommendations are then submitted to the Supervisory Board for approval and to the ministers concerned for consent.

The Supervisory Board, meeting on December 12, 2011, proposed to reduce by 20% the total amount of directors' fees allocated to the Supervisory Board for fiscal year 2012, for a total amount reduced to 400,000 euros (see Appendix 4, Draft resolutions).

The Supervisory Board sets the distribution of directors' fees for each of its members on the recommendations of the Compensation and Nominating Committee. The distribution of directors' fees for 2011 was done according to the following rules:

- a fixed annual sum of 20,000 euros is paid to each member of the Supervisory Board eligible for payment of directors' fees. This sum may not be paid to a director who is systematically absent;
- a sum of 2,500 euros is paid for each meeting of the Supervisory Board. This payment is subject to effective presence;
- a sum of 2,000 euros is paid to Committee Chairmen for each Committee meeting. This payment is subject to effective presence;
- a sum of 1,500 euros is paid 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: 5,000 euros for a meeting of the Supervisory Board, 4,000 euros for chairing a Committee meeting, and 3,000 euros for attending a Committee meeting.

15.1. Compensation of directors and officers

15.1.2. Compensation of members of the Supervisory Board

15.1.2.2. SUMMARY OF COMPENSATION PAID TO MEMBERS OF THE SUPERVISORY BOARD DURING THE YEAR (GROSS COMPENSATION AND DIRECTORS' FEES)

Supervisory Board	2009			2010			2011		
	Gross compensation	Directors' fees	Total gross compensation	Gross compensation	Directors' fees*	Total gross compensation	Gross compensation	Directors' fees**	Total gross compensation
	(a)	(b)	(c = a+b)	(a)	(b)	(c = a+b)	(a)	(b)	(c = a+b)
Jean-Cyril Spinetta	115,819	-	115,819	225,000	-	225,000	225,000	-	225,000
Bernard Bigot	185,499	-	185,499	215,232	-	215,232	214,232	-	214,232
Alain Bugat	49,968	-	49,968	-	-	-	-	-	-
Christophe Béhar	-	-	-	84,936	30,000	114,936	149,809	11,500	161,309
Sophie Boissard	-	-	-	-	-	-	-	45,500	45,500
François David	-	45,500	45,500	-	40,000	40,000	-	67,000	67,000
Thierry Desmarest	-	37,500	37,500	-	10,000	10,000	-	-	-
Oscar Fanjul	-	47,500	47,500	-	46,000	46,000	-	24,000	24,000
Christophe Gégout	94,500	37,500	132,000	143,778	52,500	196,278	150,768	9,000	159,768
Agnès Lemarchand	-	-	-	-	-	-	-	44,000	44,000
Olivier Pagezy	102,334	15,333	117,667	-	-	-	-	-	-
Philippe Pradel	203,479	48,500	251,979	54,515	10,000	64,515	-	-	-
Guylaine Saucier	-	88,000	88,000	-	92,500	92,500	-	119,500	119,500
Jean-Claude Bertrand	74,687	54,500	129,187	78,440	55,000	133,440	79,439	67,000	146,439
Gérard Melet	62,428	47,000	109,428	71,840	39,000	110,840	73,916	63,500	137,416
Alain Vivier-Merle	95,695	42,500	138,195	102,260	40,000	142,260	106,833	60,500	167,333
Frédéric Lemoine	48,892	-	48,892	-	-	-	-	-	-

* Directors' fees paid from January 1 to November 30, 2010; the balance corresponding to the month of December was paid in 2011.

** Directors' fees paid in 2011, including the balance for December 2010.

Pursuant to applicable regulations, the following information is provided:

- The total gross compensation paid to Jean-Cyril Spinetta by AREVA corresponds to his flat rate compensation as Chairman of the Supervisory Board, prorated for the year. He does not receive directors' fees.
- The total gross compensation paid to Bernard Bigot, Christophe Béhar and Christophe Gégout (CEA) corresponds to their compensation (including bonus and exceptional items) paid by the CEA on a prorated basis for their duties with the CEA, which controls AREVA, and to the directors' fees paid by AREVA for their terms as members of the Supervisory Board. However, AREVA pays no compensation to Bernard Bigot for his term as Vice Chairman of the Supervisory Board; in particular, he does not receive directors' fees.
- The total gross compensation paid to Jean-Claude Bertrand and Gérard Melet of AREVA NC and to Alain Vivier-Merle of AREVA NP, members of the Supervisory Board elected by company personnel, corresponds to the compensation paid by the AREVA subsidiary that employs them (including profit-sharing) and to the directors' fees paid for their terms as members of the Supervisory Board. At their option, their directors' fees may be paid by AREVA to the labor organization to which they belong.

→ 15.2. Directors' and officers' shares of share capital

Members of the AREVA Supervisory Board appointed by the Annual General Meeting of Shareholders each own 10 shares of stock, except for the CEA, which holds 73.03% of the share capital.

Members of the Executive Board do not have shares in the company.

→ 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.

	2011 Fees				2010 Fees				2009 Fees			
	Deloitte	Mazars	Other	Total 2011	Deloitte	Mazars	Other	Total 2010	Deloitte	Mazars	Other	Total 2009
Audit												
Issuer	566	414	0	980	414	408	-	822	514	509	-	1,023
Subsidiaries	2,946	2,046	1,149	6,141	2,916	1,998	1,123	6,037	6,152	4,833	1,721	12,706
Other reviews and services directly linked to the Statutory Auditors' mission												
Issuer	66	52	0	118	251	243	-	494	159	139	-	298
Subsidiaries	43	34	29	106	-	19	10	29	2,097	2,111	191	4,399
Sub-total	3,621	2,546	1,178	7,345	3,581	2,668	1,133	7,382	8,922	7,592	1,912	18,426
Other services rendered by the networks to fully consolidated subsidiaries												
Legal, tax, labor	157	9	80	246	313	104	1,634	2,051	1,292	101	348	1,741
Other			300	300				-	72	-	3,500	3,572
Sub-total	157	9	380	546	313	104	1,634	2,051	1,364	101	3,848	5,313
TOTAL	3,778	2,555	1,558	7,891	3,894	2,772	2,767	9,433	10,286	7,693	5,760	23,739
<i>Including fees related to T&D</i>	/	/	/	/				0	5,478	4,809	3,525	13,812

Functioning of corporate 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 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 2011, the Executive Board met 21 times with an attendance rate of 94%.

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.

On June 30, 2011, the Supervisory Board appointed new members to the AREVA Executive Board for a term of five years. It also confirmed and strengthened the Group's organization established in January 2010, with five Business Groups, the Engineering & Projects Organization, and the functional departments. At the same meeting, the Supervisory Board assigned management responsibilities to the new members of the Executive Board.

Luc Oursel, President and 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 and the functional departments of Marketing and Sales, Communications, Executive Careers and Organizational Development, Human Resources, General Counsel, and Strategy, Mergers and Acquisitions report to him.

Philippe Knoche is Chief Operating Officer. The Front End, Reactors & Services and Back End Business Groups, the Engineering & Projects Organization, and Research & Innovation report to him.

Sébastien de Montessus is Senior Executive Vice President of the Mining Business Group.

Pierre Aubouin is Chief Financial Executive Officer.

Olivier Wantz is Senior Executive Vice President of Operations Support. The Departments of Purchasing, Sustainable Development and Continuous improvement, Process Optimization and Cost Reduction, Information Services and Systems, and Safety Health Security Environment report to him.

It should be noted that, pursuant to Mr. Sébastien de Montessus' resignation on March 9, 2012, Mr. Olivier Wantz is appointed Senior Executive Vice President, Mining Business Group, replacing Mr. de Montessus, and remains a member of the Executive Board. Operations Support and its departments now report to the Chief Operating Officer, Philippe Knoche. These appointments take effect on March 31, 2012.

→ 16.2. Functioning of the Supervisory Board

Information concerning the functioning and activities of the Supervisory Board in 2011 appears in Sections 3.1. 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 four Committees established by the Supervisory Board

Information on the functioning and work in 2011 of the four Committees instituted by the Supervisory Board – the Strategy Committee, the Audit Committee, the Compensation and Nominating Committee, and the End-of-Lifecycle Obligations Monitoring 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 2011 financial statements

This report is prepared within the framework of the provisions of Article L. 225-68 of the French Commercial Code.

After verifying and auditing the corporate and consolidated financial statements for fiscal year 2011 approved by the Executive Board, as presented to it during its meeting of March 1, 2012 after review by the Audit Committee of February 29, 2012, the Supervisory Board informs the Annual General Meeting of Shareholders that it has no observation to make on these accounts.

The Supervisory Board also has no observation to make on the management report of the Executive Board pertaining to fiscal year 2011, of which it examined the draft during its meeting of March 1, 2012.

For the Supervisory Board,

The Chairman,
Jean-Cyril Spinetta

- 16.6. Statutory Auditors' report, prepared in accordance with Article L. 225-235 of the French Commercial Code, on the report prepared by the Chairman of the Supervisory Board of AREVA with respect to internal control procedures related to the preparation and treatment of financial and accounting information

→ 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. Statutory Auditors' report, prepared in accordance with Article L. 225-235 of the French Commercial Code, on the report prepared by the Chairman of the Supervisory Board of AREVA with respect to internal control procedures related to the preparation and treatment of financial and accounting information

Article L. 225-235 of the French Commercial Code provides, among other things, that the Statutory Auditors shall present their observations on the Chairman of the Supervisory Board's report on internal control procedures.

These observations may be found in Appendix 2., *Reports of the Statutory Auditors.*

Employees

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→ Adapting the Human Resources organizations to the Group's new organization

A YEAR OF MOBILIZATION AND COHESION

STRONG MOBILIZATION IN THE AFTERMATH OF FUKUSHIMA

In March 2011, catastrophic events at the Fukushima site led to a nuclear accident ranked at level 7 on the INES scale. Several AREVA teams intervened to provide assistance to the operator in Japan to install a treatment system for highly contaminated radioactive liquid effluents.

Mobilization for the ACTIFLO-RAD project went well beyond the employees who volunteered for this mission. Human Resources teams, acting in close coordination with AREVA managers responsible for the project in Japan, intervened rapidly to facilitate the organization and mobilization of a hundred employee volunteers who went to Japan to back up the teams already there. Because of the unusual nature of the situation, Human Resources teams were mobilized in Germany, the United States and France to provide legal support, create special compensation packages and meet with employee representation bodies.

These actions echoed loudly inside the Group as employees demonstrated strong solidarity and immense pride in being able to contribute, each to the extent of his or her ability, to the solution to this nuclear accident of dramatic proportions.

Before allowing 47 volunteers to work in a highly contaminated and irradiating area, AREVA set up a procedure to oversee worker radiation protection and to ensure the best possible level of protection from the radiological hazards associated with this exceptional situation. Radiation

protection specialists and occupational physicians deployed with the teams on location and were involved full-time in all operations. For example, an operating approach to preventing radiological contamination was implemented to limit doses received by the Group's employees to as low as reasonably achievable and to thoroughly monitor the doses received in a manner consistent with AREVA's objectives. This approach was designed in cooperation with the French Ministry of Labor to ensure that all French employees receive the protection mandated by French regulations. It helped minimize the radiological impact of these activities on employee health in a manner consistent with approaches habitually used at all of the Group's sites.

For the duration of the mission, the average individual dose to AREVA employees was 0.71 mSv, with a maximum individual dose of 1.72 mSv (these figures are for external doses – internal doses were nil).

INITIATING TRANSFORMATION IN THE AREVA GROUP

The Group's first transformation was the creation of a subsidiary to consolidate its mining operations. For the Human Resources teams, the first three quarters of the year were largely devoted to supporting this project. An agreement organizing social dialogue at AREVA Mines was signed with the labor organizations on September 6, 2011. Employment contracts were transferred from AREVA NC to the new AREVA Mines subsidiary effective October 1, 2011.

Faced with production overcapacity, the Fuel BU launched a performance improvement plan called the "Fuel Excellence Plan" in 2009 for all of its manufacturing sites in France and abroad. In the United States, the plan led to a phased transfer of fuel fabrication operations to the Richland site in Washington and the announcement that the Erwin site in Tennessee would be closed. In Europe, very significant overcapacity in nuclear fuel fabrication led to a decision to phase out fabrication activities at the Dessel site in Belgium. Of the 150 jobs involved, 30 will be maintained through 2015 for fuel rod assembly and building dismantling.

To assist employees affected by these changes, AREVA offers active measures to promote the employment of FBFC International employees. These measures include the establishment of an AREVA Employment Office, support measures for mobility within the Group, outplacement assistance, and training for new careers.

AREVA launched an internal mobility initiative in the Saône-et-Loire region. The Saint-Marcel site had organized to meet the demand associated with the construction of new reactors. The Fukushima disaster and the financial crisis have caused a market reversal, causing some projects to be postponed. At the same time, there is significant demand for the replacement of heavy components in the French nuclear power program. This means new job opportunities at the Chalon Services site near Saint-Marcel. Accordingly, the Group deployed a regional initiative to promote the voluntary mobility of employees in the region, with support from the AREVA Métiers ("AREVA professionals") skills management initiative and the regional training centers. The initiative was launched in October 2011 and is expected to continue throughout 2012. Ultimately, more than 160 employees will be involved.

A COHERENT HR POLICY

The AREVA group had 47,541 employees at year-end 2011, versus 47,851 employees at year-end 2010. The five most important countries for the Group represent 90% of the global workforce: France, Germany, the United States, Niger and Great Britain.

Engineers and managers represent one third of the workforce (32.4%), while technical and administrative personnel account for nearly half (49.7%). Blue-collar workers currently represent nearly 18% of the workforce. The percentage of women in management positions worldwide remained stable, at 20.55%.

Of the 2,782 employees hired by the Group for full-time positions in 2011, 404 were women, representing 14.6% of the total. Women hired for management positions in 2011 represented 33.1% of the total, technicians and supervisors 60% and blue-collar workers 7%.

In general, the majority of new employees were hired to replace departing workers. The Group's employee turnover rate rose from 5% to 6.38%.

AREVA continued its efforts to promote work/study programs. The number of young people in the Group's training and professionalization programs rose by more than 17%, bringing the total to 1,300.

PROVIDING SUPPORT TO EMPLOYEES THROUGHOUT THEIR CAREERS

One of the major objectives of AREVA's HR policy is to maintain a strong level of expertise through proactive management of the skills mix, employee training and employee mobility for optimum distribution of skills throughout the Group. AREVA's HR policy is to provide employees with individualized support throughout their careers. The year 2011 was a year for stabilization in terms of HR tools and development processes.

Managing skills at the local level

The HR Department continued to streamline the management of engineering and management skills by harmonizing the annual performance interview and People Review processes using the AGORA tool (human resources management information system for HR development). AGORA is now used by 14,300 people (mostly managers), i.e. more than 82 % of the workforce targeted (17,600 employees). The Nuclear Measurement BU and AREVA entities in some countries, including Kazakhstan, Niger and Canada, used the tool for the first time in 2011. In China, the training program associated with the annual performance interview was expanded.

People Reviews in the entities, business units and Business Groups were used to assess and promote some 15,000 managers and engineers and to identify 4,000 talented individuals, including 2,000 with high potential. The percentage of female talent (24%) was greater than the percentage of women in management positions (20.36%), thus improving women's access to positions of responsibility, in management Committees for instance.

In France, the Group wanted to develop and recognize the potential of technicians and supervisors by giving them access to management positions in a more uniform manner.

To optimize mobility among Business Groups, uniform job descriptions were developed for skills specific to each profession.

The Engineering & Projects Organization (E&P) mapped technical skills and expertise in the field of engineering and projects. This map of 6,500 employees identifies 48 disciplines and 230 technical skills. The goal is to have a complete picture of the skills available for projects. The skills map was drawn up for France, Germany, Slovakia and the United

States. It will enable the Group to better meet customer needs as well as the Group's industrial and marketing goals.

The Business Groups, Engineering & Projects Organization and Human Resources departments of the different countries developed a succession plan for AREVA's top 500 managers. This initiative is part of a program to assist the Group's high-potential employees and experts in managing their careers.

Assistance for mobility

Mobility is a way to meet requirements specific to AREVA's operations. It is an integral part of the Group's employee retention and development plans. It is also a good way to maintain and spread a Group culture that fosters exchanges and transversality.

For all these reasons, the Group outlined its mobility policy in a guide distributed to all employees worldwide.

In Germany, special initiatives were designed and implemented to support mobility between the teams impacted by a drop in activity and the teams in need of additional staff. These plans may include features such as training, compensation guarantees, priority for mobility or the reimbursement of moving expenses.

The AREVA Métiers ("AREVA professionals") skills management plan instituted in France at the end of 2010 was deployed throughout the year in 2011. The plan offers employees in the support functions new

career opportunities: once a mobility plan has been approved, a training program leading to certification or even a degree is set up. Almost 200 employees benefitted from the program and half of them have already moved into new careers. In light of the importance of mobility to the Group, the plan has now been extended to employees in the technical professions.

In the same spirit, but at a regional level, entities in the Burgundy region of France created a regional steering committee for employment and mobility. Skills development plans focused on raising the employability of employees in the fields of industrial safety, operating performance and professional expertise are essential tools for organizing and supporting employee mobility in their region. This experience is destined to be expanded to other regions.

AN INTEGRATED APPROACH TO HEALTH AND SAFETY

The deployment of a health and occupational safety management system since 2004 has produced significant improvements. To continue in this direction, a new policy, effective January 1, 2011, establishes an integrated approach to health and safety that harvests even more synergies among the skills of everyone involved in prevention.

The Group's goal is for its operations to have zero impact on the health and safety of employees, subcontractors and communities near its industrial sites.

Occupational safety and radiation protection data	2011	2010
Average employee dose from radiation exposure (mSv)	1.02	1.08
Total individual external dose to AREVA group employees over 12 consecutive months (man-millisievert)	16,779	18,176
Total individual internal dose to AREVA group employees over 12 consecutive months (man-millisievert)	5,771	5,840
Average subcontractor dose from radiation exposure (mSv)	0.72	0.46
Accident frequency rate with lost time (excluding commuting accidents)	1.37	2.03
Accident severity rate (excluding commuting accidents)	0.05	0.08
Number of fatal accidents	3	2

The priority goals continue to be to develop an exemplary culture of health and safety, to improve the quality of working conditions even more, and to monitor the impacts of operations on the health of neighboring populations.

Action taken in 2011 focused on preventing same-level falls, the use of personal protection equipment (gloves, helmets, work clothes, etc.), road accident prevention, the protection of work areas in a contaminated environment, the harvesting of lessons learned, and the prevention of chemical hazards (98.41% of the sites comply with the objectives for identifying and eradicating asbestos and carcinogenic, mutagenic and reprotoxic agents [CMR]).

Historical health data

The risks associated with radiation and AREVA's proactive radiation protection policy are outlined in Section 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 1.04 mSv in 2009, 1.08 mSv in 2010 and 1.02 mSv in 2011.

The average dose from radiation exposure to subcontractor personnel working at AREVA sites is much lower and is now essentially stable, going from 0.50 mSv in 2008, to 0.39 mSv in 2009, to 0.46 mSv in 2010, to 0.72 in 2011.

Consistent with the Group's objective, no AREVA employee received an individual dose of more than 20 mSv. The highest dose received was 17.57 mSv. In 2011, 83.7% of AREVA's employees and 81.6% of its subcontractors' personnel received a dose of 0 to 2 mSv. Similarly, 29% of AREVA's employees and 33% of its subcontractors' personnel received a dose lower than the regulatory reporting requirement. It should be noted that, in France, annual exposure to naturally occurring radiation is approximately 2.4 mSv (source : IRSN).

A GROUP THAT REMAINS HIGHLY ATTRACTIVE

The events of 2011 had no significant impact on the attractiveness of the Group. To remain an employer of choice in an increasingly competitive employment market, the Group builds strong relations with partner colleges and universities in its three main regions of operation: Asia, North America and Europe.

More than 150 activities conducted throughout the year all over the world include specific partnerships (such as that with the Université d'Orsay and its master's degree program in Nuclear Energy), ongoing partnerships such as annual job fairs or classes (Georgia Tech in the United States and Université Pierre et Marie Curie in France), occasional coaching for interviews and résumés (Politechnico di Torino in Italy and Phelma Grenoble INP in France), and speeches and lectures by Group employees (Manchester University in Great Britain, École des Mines of Nancy and École des Mines of Alès in France). In addition, the Group hosts PhD students as a way to develop technology-oriented partnerships, including students from MIT in the United States, Oxford University in Great Britain, and École spéciale des travaux publics (ESTP) in France.

In China, AREVA strengthened its cooperation with Academia. AREVA is an industrial sponsor of the Franco-Chinese Institute of Nuclear Energy in Zhunai, near Macao, a partnership inaugurated in September 2011.

In the United States, its university relations policy strengthened the links with target institutions and developed new partnerships, particularly with organizations that promote diversity, such as the Society of Asian Scientists & Engineers (SASE) and the National Society of Black Engineers (NSBE).

To expand the internationalization of the Group's profiles, it attended certain key international job fairs. In the United States, the French recruitment department partnered with the US team to participate in job fairs organized by MIT and Georgia Tech. The French Campus Management teams joined forces with their German counterparts for the Energy Excellence forum in Brussels and with their British counterparts for the Imperial College forum.

AREVA also offers interesting internships and work/study opportunities as a way to develop close relations with colleges and universities. In Germany, for example, 300 students from 17 universities were in an intern program as of the end of 2011, in addition to 177 participants in work/study programs covering 23 areas of expertise.

In France, work/study programs have been important training and recruitment tools for AREVA since 2005. As part of ongoing programs to replenish the workforce, participants in work/study programs prepare their future while contributing to the intergenerational transfer of knowledge and the preservation of know-how in the nuclear industry. Work/study programs also play an important role in social integration, diversity and community involvement. For all these reasons, AREVA launched an important work/study event in France in 2011. The purpose of the event was to bring together all of the activities conducted by the Group in this area, with the goal of hosting more than 1,000 work/study participants. This goal was reached or even exceeded at some sites.

The Recruitment and Campus Management department gathered its network of 80 ambassadors and 30 recruiters for a day of work. It was an opportunity to reiterate the Group's commitment to maintaining a high level of awareness of the AREVA employer brand with young graduates from targeted schools. Although the pace of recruitment is slowing, the need to hire candidates with unique expertise profiles for specific positions was nonetheless reaffirmed.

In France and the United States, the Group decided to use Facebook and Twitter to spread its job, internship and work/study offers. These social networks are also a good way to send messages to young people or to groups with specialized expertise.

A GROUP THAT CAPITALIZES ON SUSTAINABLE HR TOOLS AND PROCESSES

TRAINING AND DEVELOPING ALIGNED WITH THE GROUP'S NEEDS

The Training Department continued to build programs that revolve around in-house training, technical training to meet local requirements, and business training to meet specific needs in certain Business Groups. This comprehensive approach is helping to develop personnel while optimizing training expenses. AREVA offers more than 900 training programs.

Looking outside the Group, AREVA kicked off the first session of the Nuclear Learning Tour. This eight-day program designed for the Group's

external customers offers site tours and conferences by field experts. Sessions are offered in French and English. The program covers the key challenges of nuclear energy. Forty AREVA customers and partners representing 15 different countries participated in the program in 2011.

Maintaining and expanding the skills of employees is a priority for the Group. Skills management is coordinated in the AREVA group through programs such as Gap Expert ("expertise gap"), a cross-business initiative involving the creation of a pool of some 50 scientific and technical experts, 40% of whom are women. Under the leadership of the Research and Development Department, the program hires some 15 recent PhDs each year. They are hosted by the Research and Development Department

Adapting the Human Resources organizations to the Group's new organization

A group that capitalizes on sustainable HR tools and processes

and fully integrated into the operating units. These international profiles help to maintain a high level of technical expertise in the Group.

In the United States, a regional coaching and training program for managers called the Executive Development Assessment Program was instituted. The goal is to strengthen their management skills and to design a personal development plan. Twenty hours of coaching were provided to some 40 managers. The ultimate goal is to train the top 100 managers. Another objective is to establish a culture of coaching so that managers share the training they received with their teams.

In Germany, a program to assist managers in their communications with employees was put in place. The RACE program (Retention and Attraction in a Changing Environment) provided 22 half days of training to 104 managers at 3 sites from April to December 2011.

The Orientation Center program launched in Germany in 2011 allows interested employees to review their skills and expertise and to assess their career objectives. Forty-two employees participated in a two and a half-day training program in 2011 in preparation for their transition to a career in project management, management, expertise or consulting.

At the Saint-Marcel site in France, the shared Services Center for training in the Lyon-Burgundy region provides support for career development and skills transfer in the region. It advises all 3,500 employees in the region concerning their career development plans.

The Engineering & Projects Organization launched the "Project Focus" initiative to develop a project-oriented culture at AREVA. Skills were mapped and assessed as part of this program. As a result of this work, the Group's training programs are evolving to fit requirements.

COMPREHENSIVE COMPENSATION AND EQUITABLE BENEFITS

Individual compensation includes fixed components and variable components based on general principles: the responsibilities associated with the position and overall performance, transparency and fairness, local market practices, variable components (bonuses and incentives related to the position), benefits and employee savings plans.

In line with its objective of equitable personnel management, one of the AREVA group's key projects is to harmonize plans in France. Negotiations were held throughout the year concerning a common health, disability and retirement benefits plan in France. The Group wants to institute a more fair plan in France offering each employee the same benefits via common systems. These discussions led to the signature of a Group plan that will be deployed in the entities as of January 1, 2012.

Shares of stock and stock options

The company's officers do not own shares in the Group. Concerning the members of AREVA's Supervisory Board, please refer to Section 15.2. of the 2011 Reference Document, *Directors' and Officers' shares of stock*. In addition, no member of the company's executive or supervisory bodies holds any option on the Group's shares.

Employee savings plans and compensation based on collective performance

Whenever possible, AREVA seeks to ensure that its employees benefit from the Group's financial performance.

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 France, a total for the entire Group of more than 107 million euros was distributed in 2011 for 2010 performance. Employees elected to invest 71% of the performance-related remuneration and 84% of the profit-sharing paid in 2011 in the Group Savings Plan.

Employee profit-sharing and incentive compensation

In the United States, all employees (except for those of Canberra and the Renewable Energies BG) participate in the Group's financial performance under the All Employee Incentive Program (AEIP). Profits generated by the Group at the regional level are shared with 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 France, since passage of the French law of December 3, 2008, the amounts allocated under the profit-sharing plan may, at the employee's discretion, be paid directly or invested for five years in the Group Savings Plan. The AREVA group does not presently have a stock option plan. No bonus issue of shares was undertaken or authorized.

Amounts allocated under the incentive payment plan may, at the beneficiary's discretion, be paid directly or invested in the Group Savings Plan in France.

Corporate savings plans and investment vehicles

In the United States, a 401(k) retirement plan is offered to employees who wish to save for their retirement. The plan allows both the employee and the employer to contribute. The company contributes by paying a lump sum based on financial performance. It also matches up to 100% of the employee's contributions. Nearly 90% of AREVA's employees elected to contribute in 2011. This percentage is higher than the average for employees in the United States (80%).

In 2005, AREVA created a Group Savings Plan (GSP) common to all of the Group's French entities. The AREVA GSP consists of a complete portfolio 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 30, 2011, the funds managed in the AREVA GSP represent more than 658 million euros, compared with more than 735 million euros at the end of 2010. The decrease was mainly due to the change in consolidation scope in France, in particular with the sale of the Transmission & Distribution business. Employees who have left the Group withdraw their funds from the GSP gradually. Since the creation of the GSP in April 2005, five of the seven GSP funds, representing 94% of the funds' assets, have turned in positive performance.

INTENSIFYING SOCIAL DIALOGUE IN 2011

INTENSIVE SOCIAL DIALOGUE ON A VARIETY OF TOPICS

The AREVA group leads an ambitious social policy to promote dialogue in its European operations. On average, nearly two agreements are signed each week with its labor partners. For AREVA, good social dialogue makes change possible. Accordingly, negotiations at the Group level are given precedence over negotiations at the subsidiary level.

In Germany, management and labor organizations meet regularly to talk about the Group's operations and outlook.

In France, 185 issues were negotiated in 2011, resulting in the signature of 172 agreements during the year.

The Group began renegotiating the AREVA NC company-wide agreement. The negotiations occupied more than 50 days in 2001. The goal is to sign and implement a new agreement in March 2012.

The Tricastin 2012 project replaced the "Grenelle du Tricastin" project kicked off in 2010. The stakeholders met to prepare new mutualized organizations enabling improved economic competitiveness and social dialogue.

To simplify the organization, a Group Work Council for France was created to replace the three Group Work Councils of the subsidiaries.

A GROUP CONCERNED ABOUT QUALITY OF WORKLIFE FOR ITS EMPLOYEES

Since 2007, improving the quality of working conditions has shaped the Group's labor policy.

In France, negotiations on this topic were initiated in 2010 with the Group's social partners and continued throughout 2011. The negotiators reviewed the work of six local multidisciplinary working groups with equal representation of employees and employer. The working groups gathered local information on best practices and lessons learned in a search for relevant indicators that could be implemented throughout the Group. This initiative focuses on four topics essential to the quality of worklife: work organization, personal development and achievement, relations with supervisors and colleagues, and changes at the workplace.

The program is led jointly by the Safety, Health, Security and Environment Department and the Human Resources Department. The goal is to ensure that each site buys into a culture of prevention, guided locally by a multidisciplinary team including the occupational health department, HR management, and the health, occupational safety and working conditions committees (CHSCT). The program revolves around three parallel approaches: listening and providing support to employees, assessing working conditions, and training all managers and members of the management committees.

As of the end of 2011, close to 75% of the Group's workforce in France benefits from counseling and support. Almost 60% of all employees in France contributed to the assessment of working conditions.

Training for managers and members of Steering Committees started in 2011, marking a new milestone in the preventive approach put forward by the Group. The training is designed to give them knowledge and tools to improve the quality of worklife every day, and to view this initiative as a project that contributes to the Group's performance.

In the United States, several programs were set up to see 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 compensated time off.

In that same vein, a special quality of worklife policy (Employee Concerns Program) encourages employees to communicate with their HR representatives, supervisors or ECP advisor in the spirit of open and transparent dialogue to fight discrimination.

Germany launched "AREVA Kollegium", which combines worklife quality and training in their free time. Employees offer to share their knowledge, both professional and otherwise, with others. More than 1,500 employees enriched their knowledge in 2011 with this program, on topics ranging from intercultural communications on project management to engineering calculations.

At the same time, local initiatives were launched for flexible work hours (telecommuting, part-time work), to integrate and support employees with disabilities, and activities to promote gender equality.

DIVERSITY, VITAL TO THE GROUP'S PERFORMANCE

The Diversity and Equal Opportunity Department created in 2010 continued its activities: ten new French sites were audited to verify that measures are implemented properly as part of a follow-up audit by AFNOR for the Diversity Label. AREVA documented all of its 2010 diversity activities in a single Diversity Report.

AREVA promoted continued consensus building with a panel of external stakeholders. AREVA has led a consensus building process with a panel of external stakeholders since 2004 under the aegis of an independent facilitator recognized for his sustainable development expertise (Comité 21 in France, Business for Social Responsibility in the United States). At the request of the stakeholders met in 2010, a special workshop on the topic of diversity was held in November 2011. A half-day of work was devoted to the challenges of gender equality, job opportunities for people with disabilities, social, ethnic and cultural diversity, age diversity and employment for seniors, and the fight against discrimination. The discussions drew some 15 participants with a variety

of backgrounds and experience (associations, labor union, institution of higher learning, independent expert, government representative), company representatives from the Diversity and Equal Opportunities Department, the Sustainable Development and Continuous Improvement Department, and the Group's Senior Executive Vice President of Human Resources.

Continued deployment of activities in favor of diversity

In line with its commitments in favor of diversity, the Group continued its activities in connection with the ODEO initiative. The third European Gender Equality and Integration of People with Disabilities Days were held on June 9 and November 17, 2011. Many employees (HR and Staff representatives) turned out for these days at all of the European sites.

In Germany, AREVA subscribed to the Germany Diversity Charter in April, in alignment with the Group's diversity policy.

In an effort to strengthen its European social policy, the Group signed a European agreement on April 1, 2011 on skills management in Europe, intergenerational knowledge transfer, and work-life balance. For the second time, AREVA received funding from the European Commission

to deploy this second European agreement across some 50 task forces that will meet in 2012.

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 in several ways: for example, membership in Direct Employers (a recruitment agency dedicated to minorities), and participation in training and employment initiatives.

In France, two training modules specific to diversity were developed and set up over the course of the year. Some 150 employees have already taken both modules with AREVA University.

AREVA believes that the values of cultural diversity among its employees, non-discrimination and worklife quality are assets for understanding its markets and for its economic performance. The Group is therefore continuing its efforts to raise awareness and to train its managers and employees on these topics. Since 2009, more than 2,700 employees at every level of the organization have taken training on these topics. The programs continue and should receive nearly 3,000 new employees over the next three years.

2011 WORKFORCE – KEY FIGURES

	2011	2010
1. WORKFORCE AT YEAR-END AS PER CONSOLIDATION SCOPE		
Mining	5,319	5,221
Front End	8,888	8,808
Reactors & Services	16,367	16,985
Back End	11,009	10,931
Corporate & Support	4,706	4,730
Renewable Energies	1,252	1,176
TOTAL	47,541	47,851
By geographical area*		
France	29,289	29,679
Europe (excluding France)	9,097	8,665
North and South America	5,572	6,061
Africa and Middle East	3,016	2,980
Asia-Pacific	567	466
TOTAL	47,541	47,851
By category**		
Engineers and management staff	36.56%	37.23%
Technical and administrative personnel	45.68%	45.10%
Skilled workers	17.76%	17.67%
2. LABOR DATA		
Women in executive positions	14%	13%
Women in management positions	20.55%	20.27%
Women in non-management positions	19.57%	20.01%
Number of hours of training per employee per year in France	NA	34 hrs
People with disabilities in France	NA	3.77%
Number of hours worked	84,475,154.32	81,684,577
Number of overtime hours paid	2,082,064.02	2,305,414

* An error was made in the geographic distribution of the 2010 workforce and has been corrected in this document.

** The calculation of socio-professional category ratios has changed since 2010. The 2010 figures for these categories were adjusted in this Reference Document to enable comparisons with the figures for 2011.

Principal Shareholders

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→ 18.1. Distribution of capital and voting rights

As of the filing of this annual report, 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, 2011		December 31, 2010		December 31, 2009	
	% capital	% voting rights	% capital	% voting rights	% capital	% voting rights
CEA	73.03	73.03	73.03	77.15****	78.96	83.16****
French State	10.17	10.17	10.20	10.23	8.39	8.41
Kuwait Investment Authority (KIA)	4.82	4.82	4.83	4.84	-	-
Caisse des Dépôts et Consignations (CDC)	3.32	3.32	3.33	3.33	3.59	3.59
EDF Group	2.24	2.24	2.24	2.25	2.42	2.42
Framépargne (employees)	0.26*	0.26*	0.35*	0.36*	0.42*	0.43*
CA CIB	0.89*	0.89*	0.89*	0.89*	0.96*	0.96*
Total Group	0.95	0.95	0.95	0.95	1.02	1.02
Public	4.01	4.01	3.74	-	4.03	-
Members of the Supervisory Board	ns**	ns**	ns**	ns**	ns**	ns**
AREVA	0.31	0.31***	0.22	-***	0.20	-***

* 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 2007, until the shares were traded on the NYSE Euronext Paris regulated market on May 30, 2011.

** Each member of the Supervisory Board appointed by the AGM (other than CEA) holds 10 shares.

*** Treasury shares held by AREVA are non-voting, as provided in Article L. 225-210 of the French Commercial Code (Code de commerce).

**** The reason for the difference in the percentage of share capital and percentage of voting rights held by the CEA in AREVA is that the CEA owns all of the voting right certificates, which were recombined into common shares with the investment certificates in connection with the public exchange offer that closed on May 11, 2011.

18.4. Agreement known to the issuer that could, if implemented, result in a change in control of the issuer**→ 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

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 21.2.2, *Establishing Decree*.

→ 18.4. Agreement 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 master netting 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 would be implemented based on financial conditions established within the framework of triennial agreements.

The decree no. 83-1116 of December 21, 1983 provides that the CEA shall keep more than half of AREVA's share capital.

Transactions with related parties

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In this section, significant transactions with related parties are described. This information is also the subject of Note 29, *Related party transactions*, of Chapter 20.

→ 19.1. Relations with the French State

As of December 31, 2011, the French State and the CEA jointly hold 83.2% of the shares issued by AREVA and of the voting rights.

As majority Shareholder, the French State makes the decisions submitted to the Annual General Meeting of Shareholders, including the appointment of members of the Supervisory Board, where the French State and the CEA are largely represented.

In fact, four of the Supervisory Board's fifteen members represent the French State, including the Commissioner for State shareholdings, and are appointed by ministerial order in application of French decree no. 96-1054 of December 5, 1996, amended, while three of the members are from the CEA, including the Chairman of the CEA and the CEA as a body corporate.

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 Chapter 4, *Risk*, Chapter 5, *Information about the issuer*, and Chapter 14, *Administrative, management and supervisory bodies and senior management*.)

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

The CEA held 73.03% of AREVA's share capital and voting rights as of December 31, 2011. The transactions between the AREVA group and the CEA are described in Section 20.2, *Notes to the consolidated financial statements*, Note 29, *Related party transactions* (including compensation of executive officers). The CEA and AREVA also have a

partnership relationship concerning research and development in the Nuclear operations. For more information, please refer to Chapter 11, *Research and development programs, patents and licenses*.

For more information, see Chapter 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 Chapter 4, in the *Notes to the consolidated financial*

statements, Note 29, *Related party transactions* of Chapter 20, in Chapter 6, *Business overview*, and in Chapter 22, *Major contracts*. Those with the Fonds stratégique d'investissement (FSI, the French strategic investment fund) appear in Chapter 20, Note 29, *Transactions with related parties*.

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→ 20.1. Consolidated financial statements 2011

20.1.1. STATUTORY AUDITORS' REPORT ON THE CONSOLIDATED FINANCIAL STATEMENTS

This is a free translation into English of the Statutory Auditors' report issued in French and is provided solely for the convenience of English speaking users. The Statutory Auditors' report includes information specifically required by French law in such reports, whether qualified or not. This information is presented below the opinion on the consolidated 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 consolidated financial statements taken as a whole and not to provide separate assurance on individual account captions or on information taken outside of the consolidated financial statements. This report should be read in conjunction and construed in accordance with French law and professional auditing standards applicable in France.

To the Shareholders,

In accordance with our appointment as Statutory Auditors at your Annual General Meeting, we hereby report to you for the year ended December 31, 2011 on:

- the audit of the accompanying consolidated financial statements of AREVA;
- the justification of our assessments;
- the specific verification required by law.

The 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. These standards require that we plan and perform the audit to obtain reasonable assurance as to whether the consolidated financial statements are free of material misstatement. An audit includes verifying, using sample testing techniques or other selection methods, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made, as well as evaluating the overall financial statement presentation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements give a true and fair view of the financial position and the assets and liabilities of the Group as of December 31, 2011 and of the results of its operations for the period then ended in accordance with the IFRSs as adopted in the European Union.

Without qualifying the above opinion, we draw your attention to the following matters disclosed in the Notes to the consolidated financial statements:

- Note 1.1.1.1 which describes the consequences of the Fukushima disaster and certain decisions of the new strategic action plan on the estimates made for the impairment of intangible and tangible assets and Notes 10, 11 and 12, which show the sensitivity of the recoverable amounts of goodwill and certain assets to the assumptions used;
- Notes 11 and 12 which complement Note 1.1.1.1. concerning the impairment method used for mining rights and tangible assets related to the UraMin mining projects resulting from the new market environment, the decisions of the new strategic action plan and the technical parameter update, including resources and costs, and the sensitivity factors of the recoverable amount calculations;
- Notes 1.1, 1.13.1, 1.18 and 13 that describe the procedures for measuring end-of-life-cycle assets and liabilities. This assessment, which is based on Management's best estimate, is sensitive to assumptions adopted with regard to cost estimates, timing of cash outflows and discount rates;
- Notes 1.1, 1.8 and 24 which describe the performance conditions of the OL3 contract and the sensitivity of profit and loss at completion to contractual risks, the end-of-construction operational terms and the ramp-up of trials until the reactor core loading;
- Note 1 which describes the changes in accounting policies.

II. JUSTIFICATION OF OUR ASSESSMENTS

In accordance with 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 provisions for end-of-cycle were measured in accordance with the method described in Note 1.18 to the consolidated financial statements. We have reviewed how the method has been applied, the assumptions used and the estimates obtained;

20.1. Consolidated financial statements 201120.1.1. *Statutory Auditors' report on the consolidated financial statements*

Against these provisions, the Group recognizes financial assets earmarked for end-of-cycle operations, including a dedicated portfolio comprising shares held directly and units of equity and bond mutual funds. The portfolio management objectives and measurement principles are described in Notes 13, 1.13.1 and 1.13.3 to the consolidated financial statements. We assessed the appropriateness of the methods adopted and the measurement of permanent impairment;

- goodwill, intangible and tangible assets were 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 adopted to perform such tests and assessed, the consistency of the assumptions used with the forecast data from the Group's new strategic plan including the consequences of the Fukushima disaster, and in particular for the mining rights, the assumptions used as regards planning, production costs, capital expenditures and selling prices, together with the resource quantities of certain mining projects. We also verified that Notes 1.10, 10, 11 and 12 to the consolidated financial statements provide appropriate disclosures;
- the Group recognizes the profit and loss of long-term contracts in accordance with the accounting methods described in Notes 1.8 and 24 to the consolidated financial statements. Generally and specifically concerning the OL3 contract, we assessed the data and assumptions made by Management to estimate profit and loss at completion on contracts, and changes therein. We examined Management's procedures implemented to approve such estimates and reviewed the calculations made;
- the deferred tax asset recognition principles are described in Notes 1.22 and 8 to the consolidated financial statements. We examined the methods used to make such estimates and verified the consistency of the forecast profit and loss for tax purposes with the new strategic action plan. We also assessed the timeframes taken into consideration against the tax loss carryforward time limitations and the specific position of each tax perimeter;
- accounting principles relating to employee benefits are described in Notes 1.1, 1.16 and 23 to the consolidated financial statements. We assessed the appropriateness of the methods adopted and reviewed the measurement of hedging assets at market value;
- we examined the prevailing procedures to list, evaluate and reflect the Group's risks, litigation and potential liabilities in the accounts. We also satisfied ourselves that the main litigation identified during the procedure implementation process are described appropriately in the financial statements and in Notes 24 and 34 to the consolidated financial statements in particular.

These assessments were performed as part of our audit approach for the consolidated financial statements taken as a whole and contributed to the expression of our opinion in the first part of this report.

III. SPECIFIC VERIFICATION

In accordance with professional standards applicable in France, we have also performed the specific verifications provided by law regarding the information given in the Group's management report.

We have no comment to make as for the fair presentation of this information or its consistency with the consolidated financial statements.

Paris-La Défense and Neuilly-sur-Seine, March 1, 2012

The Statutory Auditors

MAZARS

DELOITTE & ASSOCIES

Juliette DECOUX

Jean-Luc BARLET

Patrice CHOQUET

Pascal COLIN

20.1.2. CONSOLIDATED STATEMENT OF INCOME

<i>(millions of euros)</i>	Note	2011	2010
REVENUE	3	8,872	9,104
Other income from operations		40	45
Cost of sales		(8,058)	(7,824)
Gross margin		854	1,326
Research and development expenses		(343)	(354)
Marketing and sales expenses		(231)	(253)
General and administrative expenses		(428)	(530)
Other operating expenses	6	(2,449)	(714)
Other operating income	6	674	102
OPERATING INCOME		(1,923)	(423)
Income from cash and cash equivalents		121	37
Gross borrowing costs		(193)	(195)
Net borrowing costs		(72)	(158)
Other financial expenses		(724)	(348)
Other financial income		248	192
Other financial income and expenses		(477)	(156)
NET FINANCIAL INCOME	7	(548)	(314)
Income tax	8	(156)	334
NET INCOME OF CONSOLIDATED BUSINESSES		(2,627)	(403)
Share in net income of associates	14	62	153
NET INCOME FROM CONTINUING OPERATIONS		(2,565)	(250)
Net income from discontinued operations	9	(2)	1,236
NET INCOME FOR THE PERIOD		(2,567)	986
Including			
Group:			
Net income from continuing operations		(2,422)	(343)
Net income from discontinued operations		(2)	1,226
NET INCOME ATTRIBUTABLE TO EQUITY OWNERS OF THE PARENT		(2,424)	883
Minority interests:			
Net income from continuing operations		(143)	92
Net income from discontinued operations		-	10
NET INCOME ATTRIBUTABLE TO MINORITY INTERESTS		(143)	103
Number of AREVA shares and investment certificates outstanding		383,204,852	382,119,317
Average number of AREVA shares and investment certificates outstanding		383,133,278	354,655,243
Average number of treasury shares		1,121,271	764,713
Average number of AREVA shares and investment certificates outstanding, excluding treasury shares		382,012,007	353,890,531
Earnings per share from continuing operations		-6.34	-0.97
Basic earnings per share		-6.35	2.49
Diluted earnings per share ⁽¹⁾		-6.35	2.49

(1) AREVA has not issued any instruments with a dilutive impact on share capital.

20.1. Consolidated financial statements 2011

20.1.2. Consolidated statement of income

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

<i>(millions of euros)</i>	Note	2011	2010
Net income		(2,567)	986
Other comprehensive income items	21		
Currency translation adjustments on consolidated companies and other		(19)	100
Change in value of available-for-sale financial assets		(305)	218
Change in value of cash flow hedges		(32)	73
Income tax related to these items		106	(52)
Other comprehensive income items from discontinued operations			1
Share in other net comprehensive income items from associates		12	75
Non-current assets held for sale		30	8
Total other comprehensive income items (net of income tax)		(207)	423
COMPREHENSIVE INCOME		(2,775)	1,408
<ul style="list-style-type: none"> • Comprehensive income attributable to equity owners of the parent • Minority interests 		(2,637)	1,278
		(137)	130

20.1. Consolidated financial statements 2011

20.1.3. Consolidated statement of financial position

20.1.3. CONSOLIDATED STATEMENT OF FINANCIAL POSITION

ASSETS

<i>(millions of euros)</i>	Note	December 31, 2011	December 31, 2010
Non-current assets		20,334	22,870
Goodwill on consolidated companies	10	4,239	4,625
Intangible assets	11	2,929	3,652
Property, plant and equipment	12	6,487	6,249
End-of-lifecycle assets (third party share)	13	226	252
Assets earmarked for end-of-lifecycle operations	13	5,287	5,582
Investments in associates	14	205	988
Other non-current financial assets	15	217	477
Pension fund assets		2	2
Deferred tax assets	8	742	1,044
Current assets		10,781	11,667
Inventories and work-in-process	16	2,579	2,599
Trade accounts receivable and related accounts	17	2,544	2,267
Other operating receivables	18	2,136	2,165
Current tax assets	8	66	64
Other non-operating receivables		133	172
Cash and cash equivalents	19	2,347	3,358
Other current financial assets	20	199	210
Non-current assets held for sale and assets from discontinued operations	9	776	832
TOTAL ASSETS		31,115	34,538

20.1. Consolidated financial statements 2011

20.1.3. Consolidated statement of financial position

LIABILITIES AND EQUITY

<i>(millions of euros)</i>	Note	December 31, 2011	December 31, 2010
Equity and minority interests		6,606	9,578
Share capital	21	1,456	1,452
Consolidated premiums and reserves		6,852	5,937
Deferred unrealized gains and losses on financial instruments		71	346
Currency translation reserves		106	45
Net income attributable to equity owners of the parent		(2,424)	883
Minority interests	22	545	915
Non-current liabilities		12,501	14,210
Employee benefits	23	1,267	1,171
Provisions for end-of-lifecycle operations	13	6,026	5,815
Other non-current provisions	24	126	116
Long-term borrowings	25	4,949	6,537
Deferred tax liabilities	8	131	570
Current liabilities		12,008	10,749
Current provisions	24	2,187	1,777
Short-term borrowings	25	1,144	703
Advances and prepayments received	26	4,148	3,923
Trade accounts payable and related accounts		1,763	1,641
Other operating liabilities	27	2,623	2,581
Current tax liabilities	8	58	52
Other non-operating liabilities	27	85	73
Liabilities of operations held for sale	9	-	-
TOTAL LIABILITIES AND EQUITY		31,115	34,538

20.1.4. CONSOLIDATED STATEMENT OF CASH FLOWS

<i>(millions of euros)</i>	Note	2011	2010
Net income for the period		(2,567)	986
Less: income from discontinued operations		2	(1,236)
Net income from continuing operations		(2,565)	(250)
Share in net income of associates		(62)	(153)
Net amortization, depreciation and impairment of PP&E and intangible assets and marketable securities maturing in more than 3 months		2,753	1,085
Goodwill impairment losses		-	-
Net increase in (reversal of) provisions		155	(155)
Net effect of reverse discounting of assets and provisions		390	340
Income tax expense (current and deferred)		156	(334)
Net interest included in borrowing costs		85	170
Loss (gain) on disposals of fixed assets and marketable securities maturing in more than 3 months; change in fair value		(53)	(135)
Other non-cash items		34	(30)
Cash flow from operations before interest and taxes		893	538
Net interest received (paid)		(60)	(121)
Income tax paid		(149)	(63)
Cash flow from operations after interest and tax		683	354
Change in working capital requirement	28	221	234
NET CASH FROM OPERATING ACTIVITIES		904	588
Investment in PP&E and intangible assets		(2,038)	(1,966)
Loans granted and acquisitions of non-current financial assets		(2,920)	(524)
Acquisitions of shares of consolidated companies, net of acquired cash		(5)	(195)
Disposals of PP&E and intangible assets		53	32
Loan repayments and disposals of non-current financial assets		3,345	1,961
Disposals of shares of consolidated companies, net of disposed cash		714	39
Dividends from equity associates		31	33
NET CASH USED IN INVESTING ACTIVITIES		(821)	(621)
Share issues in the parent company and share issues subscribed by minority shareholders in consolidated subsidiaries		21	895
Transactions with minority interests		(1,681)	75
Dividends paid to shareholders of the parent company		-	(250)
Dividends paid to minority shareholders of consolidated companies		(51)	(63)
Increase in borrowings		712	(1,188)
NET CASH USED IN FINANCING ACTIVITIES		(999)	(531)
Increase (decrease) in securities recognized at fair value through profit and loss		0	(8)
Impact of foreign exchange movements		21	12
NET CASH FLOW FROM DISCONTINUED OPERATIONS	9	4	2,243
INCREASE (DECREASE) IN NET CASH		(891)	1,683
NET CASH AT THE BEGINNING OF THE YEAR		3,164	1,481
Cash at the end of the year	19	2,347	3,358
Less: short-term bank facilities and non-trade current accounts (credit balances)	25	(74)	(194)
Net cash from discontinued operations		-	-
NET CASH AT THE END OF THE YEAR		2,273	3,164

20.1. Consolidated financial statements 2011

20.1.5. Consolidated statement of changes in equity

Net cash taken into account in establishing the cash flow statement 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

<i>(millions of euros)</i>	Number of shares and investment certificates**	Share capital	Premiums and consolidated reserves	Currency translation reserves	Deferred unrealized gains and losses on financial instruments	Equity attributable to equity owners of the parent	Minority interests	Total equity
DECEMBER 31, 2009	353,725,310	1,347	5,301	(155)	155	6,648	926	7,574
Net income for 2010			883			883	103	986
Other comprehensive income items			3	201	191	395	28	423
Comprehensive income			886	201	191	1,278	130	1,408
Dividends paid*			(250)			(250)	(101)	(351)
Treasury shares acquired	(152,190)		(7)			(7)		(7)
Capital increase	27,692,307	105	792			897		897
Other transactions with shareholders			98			98	(40)	57
DECEMBER 31, 2010	381,265,427	1,452	6,820	46	346	8,664	915	9,578
Net income for 2011			(2,424)			(2,424)	(143)	(2,567)
Other comprehensive income items				60	(273)	(213)	6	(207)
Comprehensive income			(2,424)	60	(273)	(2,637)	(137)	(2,775)
Dividends paid*							(51)	(51)
Treasury shares acquired	(351,360)		(16)			(16)		(16)
Capital increase	1,085,535	4	28			32		32
Other transactions with shareholders			20			20	(181)	(161)
DECEMBER 31, 2011	381,999,602	1,456	4,428	106	71	6,061	545	6,606

* Dividend paid per share (in euros):

- in 2010 from 2009 net income 7.06
- in 2011 from 2010 net income -

** The number of shares and the earnings per share for 2009 were restated for purposes of comparison in order to show the ten-for-one split of the par value of the AREVA share that occurred at the end of 2010.

20.1.6 OPERATING SEGMENTS

Following the establishment of a separate AREVA SA subsidiary in December 2011 which combines all of the Group's mining operations, the Mining Business Group's performance is now assessed separately from that of the Front End Business Group. The business segment information is therefore based on five operational Business Groups (excluding operations sold or in the process of sale): Mining, Front End, Reactors & Services, Back End, and Renewable Energies.

Accordingly, comparative business segment information for 2010 was restated.

For all reporting periods, income data from discontinued operations are reported on a separate line of the income statement, "Net income from discontinued operations". Accordingly, data from discontinued operations do not appear in the business segment information below.

BY BUSINESS SEGMENT

2011

Income

<i>(millions of euros)</i>	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Other and eliminations	Total Group
GROSS REVENUE	1,304	2,342	3,306	1,909	299	(289)	8,872
Inter-segment sales*	(15)	(60)	(45)	(316)	(2)	437	0
Contribution to consolidated revenue	1,289	2,282	3,262	1,594	297	148	8,872
OPERATING INCOME	(1,169)	(788)	(512)	189	(78)	436	(1,923)
Percentage of gross revenue	-89.6%	-33.7%	-15.5%	9.9%	-26.1%	n.a.	-21.7%
Depreciation and amortization of PP&E and intangible assets	(143)	(161)	(114)	(94)	(18)	(59)	(588)
Impairment of property, plant and equipment and intangible assets	(1,456)	(474)	(125)	-	-	-	(2,056)
Reversal (increase) in provisions	(18)	(316)	104	61	24	(12)	(158)
Gain (loss) on asset disposals recognized in operating income (see Note 6)	(1)	(1)	8	(6)	(0)	(1)	(0)

* Transfer prices used in inter-segment transactions are recorded at arm's length.

Balance sheet

<i>(millions of euros, except workforce data)</i>	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Other and eliminations*	Total Group
PP&E and intangible assets (including goodwill)	3,520	4,592	2,750	2,112	489	190	13,654
Assets earmarked for end-of-lifecycle operations	-	935	41	4,537	-	0	5,513
Other non-current assets						1,166	1,166
Subtotal: Non-current assets	3,520	5,527	2,792	6,650	489	1,356	20,334
Inventories and receivables (excluding tax receivables)	1,160	2,172	2,326	1,035	419	280	7,392
Other current assets						3,389	3,389
Subtotal: Current assets	1,160	2,172	2,326	1,035	419	3,668	10,781
TOTAL ASSETS	4,681	7,699	5,117	7,685	908	5,025	31,115
Workforce	5,319	8,888	16,367	11,009	1,252	4,706	47,541

* At December 31, 2011, assets held for sale in the amount of 776 million euros are reported in "Other current assets" in the "Other and eliminations" column.

The "Other and eliminations" column includes Corporate and Consulting & Information Systems operations.

Nearly one fourth of the Group's total revenue is received from EDF.

20.1. Consolidated financial statements 2011

20.1.6 Operating segments

2010

Assets held for sale are presented on separate lines of the Group's balance sheet at December 31, 2010.

Income

<i>(millions of euros)</i>	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Other and eliminations	Total Group
GROSS REVENUE	1,130	2,671	3,433	1,943	152	(153)	9,104
Inter-segment sales*	(38)	(59)	(49)	(234)	(2)	310	0
Contribution to consolidated revenue	1,092	2,612	3,384	1,709	150	157	9,104
OPERATING INCOME	(222)	79	(251)	278	(122)	(191)	(423)
Percentage of gross revenue	-19.7%	2.9%	-7.3%	14.3%	-80.0%	n.a.	-4.6%
Depreciation and amortization of PP&E and intangible assets	(125)	(159)	(96)	(98)	(11)	(45)	(534)
Impairment of property, plant and equipment and intangible assets	(426)	(120)	-	-	-	(1)	(548)
Reversal (increase) in provisions	(13)	(58)	58	127	(29)	71	156
Gain (loss) on asset disposals recognized in operating income (see Note 6)	18	(3)	2	0	1	(1)	17

* Transfer prices used in inter-segment transactions are recorded at arm's length.

Balance sheet

<i>(millions of euros, except workforce data)</i>	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Other and eliminations*	Total Group
PP&E and intangible assets (including goodwill)	4,493	4,135	2,962	2,246	474	216	14,525
Assets earmarked for end-of-lifecycle operations	-	950	45	4,839	-	-	5,833
Other non-current assets	-	-	-	-	-	2,512	2,512
Subtotal: Non-current assets	4,493	5,086	3,006	7,084	474	2,727	22,870
Inventories and receivables (excluding tax receivables)	979	2,253	2,247	1,045	290	389	7,203
Other current assets	-	-	-	-	-	4,465	4,465
Subtotal: Current assets	979	2,253	2,247	1,045	290	4,853	11,667
TOTAL ASSETS	5,472	7,338	5,253	8,129	764	7,581	34,538
Workforce	5,221	8,808	16,985	10,931	1,176	4,730	47,851

* At December 31, 2010, assets held for sale in the amount of 832 million euros are reported in "Other current assets" in the "Other and eliminations" column.

The "Other and eliminations" column includes Corporate and Consulting & Information Systems operations.

Nearly one fourth of the Group's total revenue is received from EDF.

BY GEOGRAPHICAL AREA

2011

Contribution to consolidated revenue by business segment and customer location

<i>(millions of euros)</i>	Mining	Front End	Plants & services	Back End	Renewable Energies	Other	Total Group
France	315	629	1,098	1,003	13	139	3,197
Europe (excluding France)	110	757	840	286	207	2	2,203
North & South America	234	398	647	133	57	7	1,476
Asia-Pacific	523	489	618	168	20	-	1,818
Africa and Middle East	107	8	59	3	-	-	177
TOTAL	1,289	2,282	3,262	1,594	297	148	8,872

Closing balances of net property, plant and equipment and intangible assets (excluding goodwill) at December 31, 2011 by geographical area and by business segment

<i>(millions of euros)</i>	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Other	Total Group
France	26	2,984	752	2,004	6	41	5,813
Europe (excluding France)	273	171	104	-	126	31	705
North & South America	1,215	232	307	24	51	21	1,851
Asia-Pacific	41	4	11	0	20	1	76
Africa and Middle East	970		1				971
TOTAL	2,524	3,392	1,175	2,027	204	93	9,415

Acquisitions of property, plant and equipment and intangible assets (excluding goodwill) at December 31, 2011 by geographical area and by business segment

<i>(millions of euros)</i>	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Other	Total Group
France	11	958	172	134	0	34	1,309
Europe (excluding France)	93	12	40	0	48	1	194
North & South America	165	66	45	2	5	3	286
Asia-Pacific	13		5		3		21
Africa and Middle East	318						318
TOTAL	599	1,036	263	136	56	38	2,128

Additional information on Germany and Japan at December 31, 2011

<i>(millions of euros)</i>	Revenue by area of customer location	Closing balance of net property, plant and equipment and intangible assets (excluding goodwill)
Germany	839	312
Japan	732	0

20.1. Consolidated financial statements 2011

20.1.6 Operating segments

2010

Contribution to consolidated revenue by business segment and customer location

<i>(millions of euros)</i>	Mining	Front End	Plants & services	Back End	Renewable Energies	Other	Total Group
France	249	960	1,129	1,083	2	147	3,571
Europe (excluding France)	118	776	920	330	92	3	2,240
North & South America	227	405	718	128	55	6	1,539
Asia-Pacific	368	441	575	162	0	1	1,547
Africa and Middle East	129	30	43	5	0	0	207
TOTAL	1,092	2,612	3,384	1,709	150	157	9,104

Closing balances of net property, plant and equipment and intangible assets (excluding goodwill) at December 31, 2010 by geographical area and by business segment

<i>(millions of euros)</i>	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Other	Total Group
France	19	2,353	733	2,135	7	15	5,262
Europe (excluding France)	238	232	102		94	63	728
North & South America	1,057	169	300	25	68	43	1,662
Asia-Pacific	42	0	6	0	29	1	78
Africa and Middle East	2,170	0	1				2,171
TOTAL	3,526	2,754	1,141	2,159	197	122	9,900

Acquisitions of property, plant and equipment and intangible assets (excluding goodwill) at December 31, 2010 by geographical area and by business segment

<i>(millions of euros)</i>	Mining	Front End	Reactors & Services	Back End	Renewable Energies	Other	Total Group
France	5	760	146	137	6	39	1,093
Europe (excluding France)	96	50	34	0	18	20	218
North & South America	127	51	65	16	1	6	266
Asia-Pacific	13	0	2	0	1	0	15
Africa and Middle East	286	0	0	0		0	286
TOTAL	526	861	248	153	26	65	1,879

Additional information on Germany and Japan at December 31, 2010

<i>(millions of euros)</i>	Revenue by area of customer location	Closing balance of net property, plant and equipment and intangible assets (excluding goodwill)
Germany	959	308
Japan	644	0

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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 to December 31, 2011 were approved by the Executive Board on February 29, 2012 and reviewed by the Supervisory Board on March 1, 2012. The financial statements will be presented to the Annual General Meeting of Shareholders for approval on May 10, 2012.

The AREVA group is fully consolidated by the Commissariat à l'Énergie Atomique et aux Énergies Alternatives (see Note 21).

Information for 2009, reported in the 2010 Reference Document filed with the Autorité des marchés financiers (AMF) on March 30, 2011, 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, 2011. They reflect International Accounting Standards (IAS) and IFRS standards and interpretations issued by the IFRS Interpretations Committee and the former Standing Interpretation Committee (SIC). These financial statements are also consistent with IFRS rules established by the International Accounting Standards Board (IASB) to the extent that the mandatory date of implementation of the standards published by the IASB and not yet adopted by the European Union as of December 31, 2011 is later than said date.

Amended IAS 24 (Related Party Disclosures) and amendments to several existing standards have become applicable to fiscal years beginning January 1, 2011. In particular:

- amended IAS 24 grants a partial disclosure exemption to entities related to a public authority;
- amendments to IFRS 7 seek to clarify the information to be provided concerning the type and extent of risks arising from financial instruments.

These changes had no significant impact on AREVA's consolidated financial statements for the year ended December 31, 2011.

In addition, the IASB published several new standards and amendments to existing standards in 2011 which will become mandatory beginning in fiscal year 2013 or in advance in fiscal year 2012, subject to their adoption by the European Union.

AREVA has begun to analyze the potential consequences of the application of these new rules to its consolidated financial statements. Based on these preliminary analyses, it already appears that IFRS 11 (Joint Arrangements) and the amendments to IAS 19 (Employee Benefits) are likely to have significant impacts on AREVA's consolidated financial statements:

- IFRS 11 Joint Arrangements eliminates the proportionate consolidate method for joint arrangements deemed to be joint ventures, and makes it mandatory that they be consolidated using the equity method.

For purposes of information, the subsidiaries consolidated with the proportionate method contributed the following amounts to the AREVA group's consolidated data for the years ended December 31, 2010 and December 31, 2011:

	Dec. 31, 2010	Dec. 31, 2011
Revenue	235	333
Operating income	23	53
Borrowings	37	37

- The amendments to IAS 19 Employee Benefits eliminates the "corridor" option as well as amortization of actuarial gains and losses and of past service costs resulting from changes in retirement plans over the remaining period of activity of the employees concerned. Unprovisioned actuarial gains and losses and past service costs will be recognized as an offset to consolidated reserves in their after-tax amount on the date that these amendments first apply. The actuarial gains and losses that appear after this date will be recognized in "Other items of comprehensive income" (not recognized through profit and loss), and past service costs will be recognized in full in the income statement for the fiscal year in which the change of plan occurred, without the possibility for deferment. For purposes of information, the actuarial gains and losses and past service costs represent the following amounts in AREVA's consolidated financial statements for the years ended December 31, 2010 and December 31, 2011:

	Dec. 31, 2010	Dec. 31, 2011
Unprovisioned actuarial gains and losses	397	505
Unprovisioned past service costs	276	233
Amortization of actuarial gains and losses	15	15
Amortization of past service costs	36	30

1.1. HIGHLIGHTS OF THE PERIOD, ESTIMATES AND JUDGMENTS

1.1.1. Highlights of the period

1.1.1.1. Consequences of the Fukushima accident of March 11, 2011 and new strategic action plan

Following the Fukushima accident, 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 were set upon the completion of these tests. During the year, several countries confirmed their intentions of maintaining their existing nuclear power programs or launching new programs, including China, the Czech Republic, Finland, India, Poland, South Africa and the United Kingdom. At December 31, 2011, a total of 464 million euros in orders had been canceled by AREVA customers since the Fukushima accident. In the nuclear businesses, Japanese and German orders represent 13.1% and 3.6% respectively of the total of 45.6 billion euros in backlog at December 31, 2011. The short-term market environment for nuclear power following the Fukushima accident was marked by a drop in spot prices in the Mining segment (natural uranium) and in the Front End segment (chemistry, enrichment, fuel). The long-term price trend, meanwhile, was moderate.

The Group performed an analysis in the second half of 2011 of the medium and long term market outlook. It found:

- a slower pace of growth in the global installed base for nuclear power plants until 2030 and consequently a shift in the timing of new reactor construction and a reduction in the growth of demand in the Mining and Front End sectors;
- the emergence of new market opportunities related to the strengthening of the safety of the installed base of nuclear reactors, used fuel management solutions, and the dismantling of certain facilities;
- confirmation of growth prospects for renewable energies.

For AREVA, the medium and long term consequences of these events, which concern all of the nuclear cycle businesses as well as renewable energies, were analyzed in depth and in an integrated manner in the strategic action plan adopted on December 12, 2011. In particular, AREVA took into account these consequences to:

- establish business forecasts,
- design its industrial and commercial organization,
- assess the recoverable amount of property, plant and equipment and intangible assets at December 31, 2011.

In the new post-Fukushima world, the Group adopted its "Action 2016" strategic action plan on December 12, 2011 to strengthen AREVA's leadership in supplying power generation solutions with less CO₂. The plan's objective is to improve the Group's performance by making 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, modernization and extension of the life in service of existing reactors worldwide, and used fuel management solutions) and the construction of new reactors meeting the most demanding criteria for nuclear and industrial safety;

- **selectivity in capital spending**, which means focusing operating Capex through 2016 on nuclear safety, industrial safety and maintenance, and completing capital projects already launched; several capital projects, in particular extensions of production capacity, have been put on hold because of market uncertainties;
- **strengthening of our balance sheet** based on an appropriate level of liquidity and implementing an asset sales program for more than 1.2 billion euros in 2012 and 2013;
- **improving operational performance** in five key fields, with the goal of reducing the annual operating cost base by 1 billion euros and improving the working capital requirement by 500 million euros by 2015.

The consequences of the new market outlook and the strategic choices following on from this in the second half of 2011 are reflected in the financial statements for the year ended December 31, 2011 as concerns the recoverable amount of certain assets, including:

- impairment of the three mining claims of the UraMin entity in the amount of 1.46 billion euros, taking into account, in addition to the negative revision of natural uranium price forecasts, new volume and production cost assumptions as well as decisions to postpone the production of the three deposits; the status of the mining assets is described in more detail in Note 11;
- impairment of certain assets of the Chemistry BU in the amount of 283 million euros (see Note 12);
- impairment of certain assets of the Equipment BU in the amount of 100 million euros.

Aside from the impairment recognized, the recoverable amount of certain property, plant and equipment and intangible assets remains sensitive to assumptions used in the impairment tests. In particular, they concern the intangible assets relating to the development of the Group's Enrichment and New Builds businesses in the United States as well as the property, plant and equipment of the Chemistry BU. The sensitivity of the recoverable amount of these assets as a function of changes in assumptions is presented in notes 11 and 12.

1.1.1.2. Other highlights of the year

The year ended December 31, 2011 was also marked by the following:

- In the Front End and Back End segments, a reassessment of liabilities for end-of-lifecycle operations and other related provisions in the amount of 111 million euros (see Note 13). New estimates and the culmination of studies that were previously in progress are the source of these revisions.

- In the Reactors & Services segment, a revision of losses to completion of certain projects in the New Builds BU (OL3) and Installed Base BU in light of recent developments in these projects. The impact of the revised estimate of income from the OL3 contract on operating income for the period was -220 million euros (see Note 24).
- Damages received in the amount of 648 million euros connected with the dispute between AREVA and Siemens concerning the breach of the shareholders' agreement concerning AREVA NP (see Note 2).
- Revised forecasts of taxable income linked to the development of the new strategic action plan prompted the Group to reassess the recoverable amount of deferred tax assets. The Group did not recognize any additional deferred tax asset related to income for 2011. The Group's tax situation is described in more detail in Note 8.

1.1.2. 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 in the following areas:

- 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 property, plant, and equipment and intangible assets (see notes 1.10, 10 and 11). The projected cash flows used at December 31, 2011 are based on the most recent strategic action plan, "Action 2016", drawn up in December 2011, which takes into account the consequences of the Fukushima accident as well as the decisions made in connection with the strengthening of the Group's financial structure. They are established using assumptions concerning in particular the volumes sold, sales prices and the production cost of sales; in the Mining Business Group, they also take into account the most recent estimates available on mineable resources in the ground and on mine production costs;
- assumptions used to assess the value of put options held by minority shareholders of fully consolidated subsidiaries (see notes 1.19 and 25);
- all assumptions used to assess the value of pension commitments and other employee benefits, including future payroll escalation and discount rates, retirement age, employee turnover and the expected return on plan assets (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 33);
- 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 1.22 and 8);
- the share in equity and net income of equity associates that had not yet published their year-end financial statements as of the date of year-end closing of AREVA's financial statements.

1.2. PRESENTATION OF THE FINANCIAL STATEMENTS

AREVA's financial statements are presented in accordance with IAS 1.

1.2.1. Presentation of the 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.

Provisions for employee benefits are also presented under non-current liabilities for their full amount.

Deferred tax assets and liabilities are reported as non-current.

1.2.2. Presentation of the statement of income

In the absence of detailed guidance in IAS 1, the income statement is presented in accordance with recommendation 2009-R0.03 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 income statement),
 - reversals of impairment of property, plant and equipment and intangible assets;
 - other operating expenses, mainly comprising:
 - goodwill impairment, and
 - 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).
- Net financial income comprises:
 - gross borrowing costs;
 - income from cash and cash equivalents;
 - other financial expenses, most notably:
 - lasting impairment and gains or losses on sales of available-for-sale securities,
 - negative changes in value and losses on disposals of securities held for trading,
 - reverse discounting of provisions for end-of-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 and gains on disposals of securities held for trading,
 - reverse discounting of end-of-lifecycle assets (third party share),
 - returns on pension plan assets and other employee benefits.

1.2.3. Presentation of the statement of comprehensive income

The statement of comprehensive income is a reconciliation between the net income presented in the income statement and comprehensive income, in accordance with the election made by AREVA to apply IAS 1 revised.

Other comprehensive income items include:

- currency translation adjustments on consolidated entities;
- changes in the value of available-for-sale financial assets;
- changes in the value of cash flow hedging instruments.

Each item is presented before tax. The total tax impact of these items is presented on a separate line of the statement.

Shares of other comprehensive income items related to associates and discontinued operations are presented on separate lines in their total amount after tax.

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. Discontinued operations and non-current assets held for sale

Discontinued operations and non-current assets held for sale are presented in the financial statements in accordance with IFRS 5:

- Operations held for sale 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.
- 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 under a specific heading of the balance sheet in an amount included in total current assets. At December 31, 2010, this heading consisted of the Group's interest in the company STMicroelectronics, which was effectively sold to the Fonds Stratégique d'Investissement in March 2011. At December 31, 2011, it consisted of the Group's interest in the company Eramet following the December 27, 2011 announcement by AREVA and the Fonds Stratégique d'Investissement that they had entered into exclusive negotiations for the sale of AREVA's interest in that company.

1.3. CONSOLIDATION METHODS

The consolidated statements combine the financial statements for the year ending December 31, 2011 of AREVA and the subsidiaries which it controls or in which it exercises either joint control or a significant influence over financial policy and management.

- The companies controlled by AREVA are 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 in which AREVA exercises joint control are consolidated using the proportionate consolidation method.
- The companies in which AREVA exercises a significant influence over financial policy and management ("associates") are accounted for using the equity method. Significant influence is deemed to exist if the Group's investment is 20% or higher.
 - 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 1.2.1 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:

- statement of financial position 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 statements of cash flows are translated at average annual rates;
- the Group's share of currency translation differences in respect of net income and equity is recognized outside profit or loss under currency translation reserves. When a foreign company is sold, currency translation differences in respect of the company recorded in equity after January 1, 2004 (date of first-time adoption of IFRS) are recognized in income.

1.5. OPERATING SEGMENTS

AREVA presents its business segment information by operating Business Group, which corresponds to the level at which this information is examined by the Group's steering bodies, in accordance with the requirements of IFRS 8. Following the establishment in December 2011 of a separate subsidiary combining all of the Group's mining operations, the Executive Board of AREVA now assesses Mining Business Group data separately from those of the Front End Business Group, whereas these operations were formerly combined in the "Mining/Front End" segment.

Information by business segment therefore corresponds to AREVA's operating Business Groups: Mining, Front End, Reactors & Services, Back End and Renewable Energies; 2010 data used for comparison were restated to reflect this change in the analysis of business segment data.

Information by business segment relates only to operating data included in the income statement and the statement of financial position (revenue, operating income, 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 income statement 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 Middle East.

Additional data are presented on revenue and assets pertaining to Germany and Japan, given the situation in those countries as concerns their nuclear power plant programs following the Fukushima accident.

In accordance with IFRS 5, information concerning the income statement excludes data related to the operations of the Transmission & Distribution Business Group, which was sold in 2010.

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 acquisition cost method, the acquired company's assets, liabilities and contingent liabilities meeting the definition of identifiable

assets and liabilities are recognized at fair value on the date of acquisition, except for business segments of the acquired entity that are held for sale, 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 are recognized as identifiable liabilities and recorded at fair value on the date of acquisition. These liabilities reflect a potential obligation whose existence will only be confirmed if one or several uncertain future events which are not completely under the company's control were to occur.

The difference, on the acquisition date, between the acquisition price of the business or of the company's securities and the fair value of the corresponding assets, liabilities and contingent liabilities is recognized in goodwill when positive and in the income statement for the year of acquisition when negative.

Minority interests are initially valued based on the fair value of assets, liabilities and contingent liabilities recognized on the date of acquisition, prorated for the percentage of interest held by minority shareholders based on the "partial goodwill" method. AREVA did not apply the "total goodwill" method authorized by amended IFRS 3 for acquisitions subsequent to January 1, 2010.

The valuation of the acquired company's assets, liabilities and contingent liabilities may be adjusted within twelve months of the date of acquisition; this also applies to the valuation of the acquisition price if the contract contains conditional 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 consolidated unit, goodwill allocated to the unit is included in its net carrying amount and taken into consideration to determine the gain or loss on disposal.

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.

It is recognized net of rebates and sales taxes.

Revenue is recognized during the transfer to the buyer of the main risks and rewards of ownership, which generally coincides with the transfer of title or the performance of the service.

Revenue includes:

- revenue recognized according to the percentage of completion method (see Note 1.8 below);
- revenue other than according to the percentage of completion method, including:
 - sales of goods (products and merchandise), and
 - services performed.

Revenue in respect of transactions where the unit only acts as broker, without bearing the risks and rewards attached to the goods, consists of the margin obtained by the unit. The same is true for commodity trading activities, which primarily concern uranium trading.

No revenue is recognized when materials or products are exchanged for materials or products of a similar nature and value.

1.8. REVENUE RECOGNIZED ACCORDING TO THE PERCENTAGE OF COMPLETION METHOD

Revenue and margins on construction contracts and certain services are recognized according to the percentage of completion method (PCM), as provided in IAS 11 for construction contracts and in IAS 18 for services.

As required by this method, revenue and income from long-term contracts are recognized over the period of performance of the contract.

- 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 as of the end of the accounting period) to

the total anticipated cost of the contract. This ratio may not exceed the percentage of physical or technical completion as of the end of the accounting period.

- Under the physical completion PCM formula, a predetermined percentage of completion is assigned to each stage of completion of the contract. The revenue and costs recognized at the end of the 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 new 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 the gain or loss 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. The net margin recognized is therefore nil.

When a contract is expected to generate a loss at completion, the total projected loss is recorded immediately, after deduction of any already recognized partial loss, and a provision is set up accordingly.

1.9. VALUATION OF PROPERTY, PLANT AND EQUIPMENT AND INTANGIBLE ASSETS

1.9.1. Initial recognition

Property, plant and equipment and intangible assets are recognized at amortized cost.

AREVA did not elect to recognize certain 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. 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 accounting standard IAS 23 revised, 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

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 a project that has a strong probability of profitable mining development at year-end closing are capitalized. 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.

Amortization of intangible assets is calculated using the most appropriate method for the asset category, starting on the date of commissioning and over the shorter of their probable period of use and, when applicable, the length of their legal protection.

Intangible assets whose useful life is not defined, such as brands, are not amortized, but are 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 (see Note 1.18).

They are depreciated based on the approach most representative of the loss of economic value of each component, with each component depreciated based on its own useful life.

Mining land is depreciated over the life of the deposit; site layout and preparation expenses are depreciated over 10 years; buildings over 10 to 45 years; production facilities, equipment and tooling other than nuclear facilities over 5 to 10 years; general facilities and miscellaneous fixtures over 10 to 20 years; and transportation equipment, office equipment, computer equipment and furniture over 3 to 10 years.

Assets financed under leasing arrangements, which transfer, in substance, nearly all the risks and rewards inherent in ownership of the asset to AREVA, are recognized in the 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.

The Group's nuclear facilities are depreciated on a straight line over their useful lives based on firm contracts to be performed by these facilities, including reasonable expectations for contract renewals.

Depreciation periods are revised if the Group's backlog changes significantly.

1.10. IMPAIRMENT OF PROPERTY, PLANT AND EQUIPMENT, INTANGIBLE ASSETS AND GOODWILL

Goodwill and intangible assets with an indefinite useful life

Impairment tests are performed systematically at least once a year for goodwill and intangible assets with indefinite useful lives. These tests are performed at the level of the cash generating units (CGU) to which such goodwill and intangible assets belong.

A CGU is the smallest identifiable group of assets generating cash inflows which are largely independent of the cash inflows from 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, equal to the present value of the estimated future cash flows it generates, as projected in the budget and the strategic action plans approved by the Supervisory Board, plus, if applicable, its residual value at the end of its projected service life. To determine an asset's useful value, cash flows are discounted based on a discount rate consistent with a current assessment of the time value of money and the specific risk of the asset or the CGU.

For goodwill impairment tests, 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 as soon as there is an indication that property, plant and equipment or intangible assets with finite useful lives may be impaired.

When no estimate of an individual asset's recoverable amount may be established, the Group determines the recoverable amount of the cash-generating unit (CGU) to which the asset belongs.

1.11. INVENTORIES AND WORK-IN-PROCESS

Inventories and work-in-process are valued at production cost in the case of goods produced by the Group and at acquisition cost in the case of goods acquired for consideration. Items are valued according to the first-in first-out method (FIFO) or at weighted average cost, depending on the type of inventory or work-in-process.

Impairment is recognized when the likely recoverable amount of inventory or work-in-process is less than its net carrying amount.

Financial expenses and research and development costs funded by AREVA are not taken into account in the valuation of inventories and work-in-process. However, the cost of research and development programs funded by customers is recognized in inventories and work-in-process.

1.12. ACCOUNTS RECEIVABLE

Accounts receivable, generally due in less than one year, are recognized at book value at amortized cost.

An impairment charge is recognized to reflect the likely recovery value when collection is not assured.

1.13. FINANCIAL ASSETS

Financial assets consist of:

- assets earmarked 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 1.21);
- 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 recognized in a shareholders' equity account, "deferred unrealized gains and losses" 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, 2010 and December 31, 2011. In addition:

- 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 statement of financial position under a single heading corresponding to AREVA's share of their net asset value as of 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 outside profit or loss, except for lasting impairment, which is recognized through profit and loss in net financial income.

This heading also includes the Group's investments in the share capital of unconsolidated companies, either because AREVA does not have control and has no significant influence over them or because of immateriality. These 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 price 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
• Equities held directly	50%	3 years
Other available-for-sale securities		
• Equities held directly	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.

In addition, because 2008 to 2011 were marked by the financial crisis and the exceptionally high levels of volatility in market prices and interest rates, these thresholds may be revised over time based on 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 and is recognized outside profit or loss under deferred unrealized gains and losses. 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 statement of financial position but deducted from equity, at their acquisition cost.

Accordingly, treasury shares held by associates are deducted from the equity taken into account by AREVA when recognizing these companies under the equity method.

1.15. OPERATIONS HELD FOR SALE AND INCOME FROM DISCONTINUED OPERATIONS

As provided in IFRS 5, operations held for sale 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.

Assets from discontinued operations 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 statement of financial position and depreciation is discontinued upon transfer to this category.

Net income from discontinued operations, which includes net income from these operations until the date of their disposal and the net gain after tax on the disposal itself, is reported on a separate line in the income statement.

Net cash flows from discontinued operations, which include cash flows from these operations until the date of their disposal and the net cash flow after tax on the disposal itself, are reported on a separate line in the statement of cash flows.

1.16. EMPLOYEE BENEFITS

The Group recognizes the total amount of its commitments for retirement, early retirement, severance pay, medical insurance, long-service medals, accident and disability insurance, and other related commitments, whether for active personnel or for retired personnel, net of plan assets and unrecognized gains, as provided in IAS 19 (actuarial gains and losses, Group plans and disclosures).

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 commercial and industrial 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, 2010 and December 31, 2011 were determined using data observed for bond issues with different maturities.

Actuarial gains and losses (change in the valuation of the commitment due to changes in assumptions and experience differences) are spread out over the average expected remaining working life of personnel taking part in these plans for the portion exceeding the largest of the following values by more than 10%:

- the present value of the defined benefit obligation at the statement of financial position date;
- the fair value of plan assets at the statement of financial position opening date.

The costs of plan changes are allocated over the vesting period.

In accordance with the option provided under IFRS 1 for first-time adoption of IFRS, AREVA elected to record in equity at January 1, 2004 all actuarial gains and losses not recognized in the statement of financial position at December 31, 2003.

The costs relating to employee benefits (pensions and other similar benefits) are split into three categories:

- the discount reversal of the provision, net of returns on plan assets, is recognized in net financial expenses;
- the current service cost and the amortization of past services are split between the different operating expense items by destination: cost of sales, research and development expenses, marketing and sales expenses, and general and administrative expenses;
- the amortization of actuarial gains and losses is recognized in operating income under other operating income and expenses.

The French law of November 10, 2010 on reform of the French retirement system, which raises the retirement age by stages from age 60 to age 62, has the effect of increasing the cost of the commitments made by the Group's entities that had granted early retirement programs to certain categories of employees. AREVA elected to consider the law as a change in the regulations. Accordingly, the resulting increase in commitments is spread over the residual period of service of employees eligible for the early retirement programs.

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 is valued at the date that the corresponding nuclear facilities are placed in service and is an integral component of the cost basis of those facilities; it is recognized in property, plant and equipment (see Note 1.9.4), except for provisions for waste retrieval and packaging, which are recognized as operating expenses through profit and loss.

Treatment of income and expenses from discounting reversals

The discounting of the provision is partially reversed at the end of each period. The discounting reversal corresponds to the increase in the provision due to the passage of time. This increase is recorded as a financial expense.

Similarly, the discounting of the provision corresponding to the third party share is partially reversed rather than amortized.

The resulting increase in the third party share is recognized as financial income.

The share financed by third parties is reduced for the value of work done on their behalf, with recognition of a receivable from these third parties in the same amount.

Treatment of amortization

The share of each end-of-lifecycle asset (share of provisions for end-of-lifecycle operations to be borne by the Group) is amortized over the same period as the depreciation of the facilities to which it relates.

The corresponding amortization expense is not considered as part of the cost of inventories or the cost of contracts, and is not taken into account in the calculation of their percentage of completion. However, it is included in the income statement under 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 reflects the long-term objectives of the European Central Bank.

The discount rate is determined taking into account:

- the sliding four-year average of 30-year, constant maturity French treasury bonds (OATs); and
- the average of sliding four-year averages of spreads applicable to AA, A and BBB rated corporate borrowers.

For facilities in France, AREVA adopted an inflation rate of 2% and a discount rate of 5% at December 31, 2010 and December 31, 2011.

Treatment of changes in assumptions

Changes in assumptions relate to changes in cost estimates, discount rates and disbursement schedules.

As provided in IFRS, the Group uses the prospective method:

- end-of-lifecycle assets, whether for AREVA's share or the third party share, are adjusted in the same amount as the provision;
- AREVA's share of the end-of-lifecycle asset is amortized over the residual useful life of the facility;
- if the facility is no longer in operation, the impact is recognized in income in 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;
- other interest-bearing debt.

1.19.1. Put options held by minority shareholders of Group subsidiaries

As provided in IAS 32, unconditional put options held by minority shareholders of AREVA group subsidiaries are recognized as borrowings.

In the event that the agreements establishing these options stipulate that their exercise price shall be equal to the fair value of the minority interest in question at the exercise date, the amount recognized on AREVA's statement of financial position corresponds to the fair value of those minority interests at the statement of financial position date, calculated in accordance with the discounted cash flow method. This value is revised annually.

However, following Siemens' announcement on January 27, 2009 of its decision to exercise its option to sell its stake in AREVA NP, the procedure to determine the exercise price for that option had been set in motion in early February 2009, as provided in the shareholders' agreement signed by AREVA and Siemens on January 30, 2001 (see Note 25). As the parties have not reached an agreement, the exercise price for the option was determined by an independent expert in March 2011. In view of the uncertainties existing at December 31, 2010 regarding the exercise price pending the conclusions of this valuation, the value of the option recognized on AREVA's balance sheet at December 31, 2010 had been kept at the amount recognized at December 31, 2007.

The difference between the amount recognized in borrowings and the amount of minority interests correspond to the difference between the fair value of these interests and their net carrying amount. 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 statement of financial position, 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.

The difference between the exercise price of Siemens' put option determined by the expert and the amount of the debt appearing on AREVA's balance sheet at December 31, 2010 was recognized as an offset to 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;
- 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. TRANSLATION OF FOREIGN CURRENCY DENOMINATED TRANSACTIONS

Foreign currency denominated transactions are translated by Group companies into their functional currency at the exchange rate prevailing at the transaction date.

Monetary assets and liabilities denominated in foreign currencies are revalued at the exchange rate prevailing on the last day of the period. Foreign exchange gains and losses are then recognized:

- in operating income when related to operating activities: trade accounts receivable, trade accounts payable, etc.;
- in financial income when related to loans or borrowings.

However, currency translation differences relating to the long-term financing of foreign subsidiaries are not recognized in income, but rather directly in translation reserves in consolidated equity until the subsidiary concerned is divested.

1.21. DERIVATIVES AND HEDGE ACCOUNTING

1.21.1. Risks hedged and financial instruments

The AREVA group uses derivative instruments to hedge foreign exchange risks, interest rate risks and the price of commodities. The derivatives used are mainly forward exchange contracts, currency and interest rate swaps, currency options and commodity options.

The risks hedged relate to receivables, borrowings and firm commitments in foreign currencies, planned transactions in foreign currencies, and planned sales and purchases of commodities.

1.21.2. 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 through 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 item is not valued in the statement of financial position. Only the hedging derivative is revalued at the end of each accounting period. The component of the gain or loss considered effective is recognized outside profit or loss under "deferred unrealized gains and losses" in its net amount after tax. Only the ineffective component of the hedge impacts income for the period.

The amount accumulated in equity is 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. Exchange gains and losses related to these borrowings are recognized outside profit or loss under "currency translation adjustments" in their net amount after tax; only the ineffective component of the head is recognized through profit and loss.

The amount accumulated in equity is released to profit and loss when the subsidiary 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.

1.21.3. Presentation of derivatives in the statement of financial position and income statement

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 income statement

The spot component of fair value gains and losses on derivatives and hedged items relating to market transactions affecting the income statement is recognized under other operating income and expenses; the discount/premium component 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.

1.22. INCOME TAX

As provided in IAS 12, deferred taxes are determined according to the liability method 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 items recognized outside profit or loss, i.e. changes in the value of available-for-sale securities and derivatives considered as cash flow hedges, or currency translation adjustments on borrowings considered as hedges of net investments in foreign operations. Deferred taxes related to these items are also recognized outside profit or loss.

The income tax related to the operations of the Transmission & Distribution segment sold in 2010 is reported under net income from discontinued operations in the income statement.

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% at December 31, 2010 and at December 31, 2011 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. CONSOLIDATION SCOPE

2.1. CONSOLIDATED COMPANIES (FRENCH/FOREIGN)

(number of companies)	2011		2010	
	Foreign	French	Foreign	French
Consolidation method				
Full consolidation	89	65	89	71
Equity method (associates)	3	6	4	7
Proportionate consolidation	21	4	21	4
Sub-total	113	75	114	82
TOTAL		188		196

Note 36 provides a list of the main consolidated companies.

2.2. 2011 TRANSACTIONS

Subsidiarizing of the mining operations

Pursuant to the request of the Conseil de Politique Nucléaire (French nuclear policy board) on February 21, 2011, the mining operations formerly held by AREVA NC were spun off as the AREVA Mines company, a wholly-owned subsidiary of AREVA SA since December 2011. With this operation, the mining operations are attached to a single, dedicated, first-tier subsidiary.

Eramet

AREVA and the Fonds Stratégique d'Investissement (FSI) entered into exclusive negotiations on December 27, 2011 concerning the sale of AREVA's 25.93% interest in the mining group Eramet. The sale should close in 2012.

With that prospect, AREVA set aside a provision in the financial statements for the year ended December 31, 2011 for a potential capital loss on the sale in the amount of 48 million euros. AREVA's equity interest in Eramet, previously reported on the balance sheet under the heading "Investment in associates", was reclassified to "Non-current assets held for sale" as from December 27, 2011 (see notes 7, 9 and 14).

Areva NP

On January 27, 2009, Siemens had announced its decision to exercise its option to sell its 34% interest in AREVA NP to AREVA.

The two companies mandated an independent expert to determine the value of Siemens' minority interest as of the first quarter of 2009, in accordance with the procedure provided in the shareholders' agreement signed by AREVA and Siemens in 2001. In March 2011, in his report, the independent expert put the value of Siemens' 34% interest in AREVA NP at 1.62 billion euros. The total amount of the acquisition of AREVA NP shares was 1.679 billion euros excluding interest, including 51 million euros corresponding to Siemens' contribution to the capital increase of AREVA NP SAS in March 2009. AREVA paid that amount plus related interest to Siemens on March 18, 2011.

This valuation reduces the goodwill related to AREVA NP by 421 million euros (see notes 10 and 25).

In addition, in the first half of 2011, Siemens paid a 648-million-euro penalty to AREVA in connection with the dispute between AREVA and Siemens concerning the violation of the shareholders' agreement pertaining to AREVA NP (see Note 34).

The main changes in the scope of consolidation in 2011 were as follows:

Areva Solar

In March 2011, Agave SPV became a shareholder of AREVA Solar, with a 6.54% interest. The partner subscribed to a capital increase for 12.3 million US dollars.

Areva Koblitz

In April 2011, AREVA exercised its call option on the interest held by the minority shareholder in AREVA Koblitz Brazil, representing 30% of the share capital.

The final acquisition price for this interest came to 21 million euros.

STMicroelectronics

On December 15, 2010, the Supervisory Board examined the firm offer from the Fonds Stratégique d'Investissement (FSI, the strategic investment fund) to acquire AREVA's indirect equity interest in STMicroelectronics and authorized AREVA to give FSI an exclusive right to purchase that interest for a unit price of 7 euros per STMicroelectronics share, giving a total of 696 million euros. Acceptance of FSI's offer was subject to informing and consulting with AREVA's employee representative bodies and to the approval of the cognizant competition authorities.

The sale closed on March 30, 2011. A provision in the amount of 101 million euros had been set up at December 31, 2010 for the consolidated capital loss on the sale.

2.3. 2010 TRANSACTIONS

Goodwill recognized on 2010 transactions was adjusted in 2011 insofar as more accurate estimates of the assets and liabilities acquired were obtained within a year of the acquisition.

Sale of the Transmission & Distribution business

On January 20, 2010, the Group signed the agreement on the legal and financial terms for the disposal of the AREVA group's Transmission & Distribution business. It became effective on June 7, 2010, following the approval of the competition authorities and the issuance of the decree on the recommendation of the French Commission des participations et des transferts (the administration in charge of approving sales of government-owned assets).

Accordingly, the IFRS 5 accounting standard on discontinued operations applied at December 31, 2010. Net income for 2010 from T&D operations is presented on a separate line in the income statement, "Net income from discontinued operations", and the cash flow statement is restated accordingly.

The disposal gain comes to 1.266 billion euros, with 3.37 billion euros in cash received by AREVA.

Firm offer to purchase AREVA's equity interest in STMicroelectronics

On December 15, 2010, AREVA's Supervisory Board examined the firm offer from the Fonds Stratégique d'Investissement (FSI, the strategic investment fund) to acquire AREVA's indirect equity interest in STMicroelectronics and decided to give FSI an exclusive right to purchase that interest at a unit price of 7 euros per STMicroelectronics share, for a total price of 696 million euros. Acceptance of FSI's offer was subject to informing and consulting with AREVA's employee representative bodies and to the approval of the cognizant competition authorities. The sale closed in March 2011.

AREVA's equity interest in STMicroelectronics, previously reported on the balance sheet under the heading "Investment in associates", was reclassified to "Non-current assets held for sale" at December 31, 2010.

The other main changes in the scope of consolidation in 2010 were as follows:

AREVA Solar

In March 2010, AREVA acquired Ausra, a US company based in Mountain View, California. The company's name was changed to AREVA Solar. AREVA Solar offers concentrated solutions for power generation and industrial steam production based on concentrated solar power. The acquisition expands AREVA's portfolio of renewable energy solutions to make it a major player in the concentrated solar power market.

AREVA Solar had 70 employees in 2009. The final purchase price came to 243 million dollars, including a contingent price of 75 million dollars paid on December 31, 2010. After final allocation of the acquisition price, goodwill was 192 million US dollars at December 31, 2011 (it had been temporarily estimated at 165 million US dollars at December 31, 2010).

Multibrid

In April 2010, AREVA acquired 49% of the share capital of the German wind turbine manufacturer Multibrid, held entirely by minority interests, for 27 million euros.

Comin USA

In January 2010, as part of an initiative to optimize AREVA's mining portfolio, AREVA finalized the sale of its mining company COMIN to the Uranium One company for 27 million US dollars, which produced a gain of 20 million euros before tax.

Georges Besse II

In November 2010, AREVA signed agreements with the Japanese utilities Kyushu Electric Power and Tohoku Electric Power, whereby each acquired a 1% interest in the share capital of the holding company Société d'enrichissement du Tricastin (SET), the operator of the Georges Besse II enrichment plant. The sale price was 103 million euros.

NOTE 3. REVENUE

<i>(millions of euros)</i>	2011	2010
Contracts accounted for according to the percentage of completion method	4,224	4,231
Other sales of products and services		
Sales of goods	2,514	2,245
Sales of services	2,133	2,628
TOTAL	8,872	9,104

Revenue for 2011 and 2010 does not include any significant revenue from exchanges of goods or services for current or future consideration other than cash.

The table below presents data on contracts recognized according to the percentage of completion method, which were in progress as of December 31, 2011 and December 31, 2010:

<i>(millions of euros)</i>	2011	2010
Amount of costs incurred and profits recognized, net of losses recognized, through December 31	24,537	25,028
Customer advances	4,874	4,984
Amounts withheld by customers	15	1

The Group has elected to present its income statement based on the destination of income and expense items. Additional information is provided in notes 4 and 5 below:

NOTE 4. ADDITIONAL INFORMATION BY TYPE OF EXPENSE

<i>(millions of euros, except workforce)</i>	2011	2010
Payroll expenses	(3,562)	(3,566)
Employees at the end of the year	47,541	47,851
Operating leases	(178)	(181)

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

<i>(millions of euros)</i>	2011	2010
Net amortization of intangible assets	(170)	(139)
Net depreciation of property, plant and equipment	(417)	(396)
Impairment of intangible assets, net of reversals	(1,149)	(426)
Impairment of property, plant and equipment, net of reversals	(908)	(121)
Impairment of goodwill	-	-

<i>(millions of euros)</i>	2011	2010
Provisions, net of reversals	(158)	155

NOTE 6. OTHER OPERATING INCOME AND EXPENSES

OTHER OPERATING EXPENSES

<i>(millions of euros)</i>	2011	2010
Restructuring and early retirement costs	(89)	(2)
Goodwill impairment losses	-	-
Impairment of property, plant and equipment and intangible assets, net of reversals	(2,056)	(548)
Other operating expenses	(303)	(164)
TOTAL OTHER OPERATING EXPENSES	(2,449)	(714)

The **restructuring costs** recognized in 2011 include in particular 70 million euros in respect of the phase-out of the Dessel fuel fabrication plant in Belgium (Front End segment) by 2015.

In 2011, **impairment of property, plant and equipment and intangible assets**, net of reversals, included:

- in the Mining segment: 1.456 billion euros for mining projects emanating from UraMin (see Note 11);
- in the Front End segment:
 - 283 million euros in the Chemistry business, including 71 million euros for the Comurhex I plant, in particular in connection with the revision of the dismantling estimate for this plant, and 212 million euros for the Comurhex II plant currently under construction, the Group having opted after a review to postpone the capital spending program to extend this plant's capacity to 21,000 metric tons per year until after the period covered by the "Action 2016" strategic action plan

- 191 million euros for decommissioning assets for Eurodif's Georges Besse I plant following the revision to the dismantling estimate for this plant;

- in the Reactors & Services segment: 100 million euros for the downward revision of workload forecasts for certain equipment manufacturing facilities, and 24 million euros for capitalized development costs, given the uncertainties related to the commercial outlook.

In 2010, impairment of property, plant and equipment and intangible assets, net of reversals, included:

- in the Mining segment: 426 million euros for mining projects emanating from UraMin;
- in the Front End segment: the financial impact of the agreement reached following mediation by the French State on the conditions for closing the Georges Besse I plant, in the amount of 120 million euros.

Impairments of intangible assets and property, plant and equipment in 2010 and 2011 are described in notes 11 and 12 respectively.

Other operating expenses include 181 million euros for operations preparatory to the final shutdown of Eurodif's Georges Besse I plant. This net expense corresponds to the difference between:

- a provision of 256 million euros set up in 2011 following the in-depth review of the estimated costs of cascade rinsing operations; and

- the valuation, in the amount of 75 million euros, of natural uranium inventories present in the cascade in the gaseous state that will be recovered during these rinsing operations.

OTHER OPERATING INCOME

<i>(millions of euros)</i>	2011	2010
Income on disposals of assets other than financial assets	-	17
Other operating income	674	85
TOTAL OTHER OPERATING INCOME	674	102

In 2011, "other operating income" primarily includes 648 million euros in damages received in connection with the dispute between AREVA and Siemens concerning the violation of the shareholders' agreement pertaining to AREVA NP.

NOTE 7. NET FINANCIAL INCOME

<i>(millions of euros)</i>	2011	2010
Net borrowing costs	(72)	(158)
Income from cash and cash equivalents	121	37
Gross borrowing costs	(193)	(195)
Other financial income and expenses	(477)	(156)
Share related to end-of-lifecycle operations	(152)	(98)
Income from disposals of securities earmarked for end-of-lifecycle operations	111	29
Dividends received	54	51
Income from receivables related to dismantling and from discount reversal on earmarked assets	60	81
Impairment of available-for-sale securities	(86)	-
Impact of revised schedules		(5)
Discounting reversal expenses on end-of-lifecycle operations	(291)	(254)
Share not related to end-of-lifecycle operations	(325)	(58)
Foreign exchange gain (loss)	(16)	36
Income from disposals of securities and change in value of securities held for trading	1	214
Income from disposals of investments in associates	(48)	(101)
Dividends received	8	20
Impairment of financial assets	(23)	(10)
Interest income on prepayments received (Back End contracts)	(37)	(45)
Other financial expenses	(141)	(109)
Other financial income	14	11
Financial income from pensions and other employee benefits	(82)	(73)
NET FINANCIAL INCOME	(548)	(314)

At December 31, 2011, income from disposals of investments in associates consisted of the 48-million-euro capital loss pertaining to the planned disposal of Eramet shares.

The Group recognized lasting impairment on available-for-sale securities in the amount of 113 million euros, including 86 million euros on funds earmarked for dismantling and 27 million euros on the share not related

to end-of-lifecycle operations. The net gain on sales of securities included in the share related to end-of-lifecycle operations includes 14 million euros corresponding to the recapture of lasting impairment of securities sold, compared with 4 million euros at December 31, 2010.

At December 31, 2010, income from disposals of securities not related to end-of-lifecycle operations primarily consisted of gains on the disposal of Safran securities. Income from disposals of investments in associates consisted of the 101-million-euro capital loss pertaining to the planned disposal of STMicroelectronics shares.

NOTE 8. INCOME TAXES

ANALYSIS OF TAX INCOME

<i>(millions of euros)</i>	2011	2010
Current taxes (France)	(59)	(21)
Current taxes (other countries)	(109)	(87)
Total current taxes	(168)	(108)
Deferred taxes	12	442
TOTAL TAX INCOME	(156)	334

RECONCILIATION OF TAX INCOME AND INCOME BEFORE TAXES

<i>(millions of euros)</i>	2011	2010
Net income attributable to equity owners of the parent	(2,424)	883
Less: income from discontinued operations	2	(1,236)
Minority interests	(143)	103
Share in net income of equity associates	(62)	(153)
Tax expense (income)	156	(334)
Income before tax	(2,471)	(737)
Theoretical tax income (expense)	851	254
<i>Reconciliation</i>		
Impact of tax consolidation		4
Operations taxed at a rate other than the full statutory rate	(152)	29
Unrecognized deferred taxes	(657)	5
Other permanent differences	(198)	42
EFFECTIVE TAX INCOME (EXPENSE)	(156)	334

The Group recognized impairment of deferred tax assets in the amount of 657 million euros based on the forecast for tax income.

TAX RATES USED IN FRANCE

<i>(percentage)</i>	2011	2010
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 36.10% are temporary in application.

OTHER PERMANENT DIFFERENCES

<i>(millions of euros)</i>	2011	2010
Parent/subsidiary tax treatment and inter-company dividends	1	3
Impact of permanent differences for tax purposes	13	18
Differences between the French tax rate and tax rates applicable abroad	(163)	30
CVAE	(24)	(25)
Other permanent differences	(25)	16
TOTAL PERMANENT DIFFERENCES	(198)	42

EFFECTIVE TAX RATE FOR THE GROUP

<i>(millions of euros)</i>	2011	2010
Operating income	(1,923)	(423)
Net financial income	(548)	(314)
Other income		
TOTAL INCOME SUBJECT TO TAX	(2,471)	(737)
Tax income (expense)	(156)	334
Effective tax rate	NA	NA

DEFERRED TAX ASSETS AND LIABILITIES

<i>(millions of euros)</i>	December 31, 2011	December 31, 2010
Deferred tax assets	742	1,044
Deferred tax liabilities	131	570
NET DEFERRED TAX ASSETS AND LIABILITIES	610	474

MAIN CATEGORIES OF DEFERRED TAX ASSETS AND LIABILITIES

<i>(millions of euros)</i>	December 31, 2011	December 31, 2010
Tax impact of temporary differences related to:		
Property, plant and equipment, intangible assets and non-current financial assets	(69)	(401)
Working capital assets	5	98
Employee benefits	344	332
Provisions for restructuring	4	7
Tax-driven provisions	(263)	(307)
Provisions for end-of-lifecycle operations	80	108
Impact of loss carry-forwards and deferred taxes	482	568
Other temporary differences	27	69
NET DEFERRED TAX ASSETS AND LIABILITIES	610	474

REVERSAL SCHEDULE FOR DEFERRED TAX ASSETS AND LIABILITIES

<i>(millions of euros)</i>	December 31, 2011	December 31, 2010
Reversal in more than 12 months	562	336
Reversal in 12 months or less	48	139

CHANGE IN CONSOLIDATED DEFERRED TAX ASSETS AND LIABILITIES

<i>(millions of euros)</i>	2011	2010
AT JANUARY 1	474	150
Tax on continuing operations, recognized in profit or loss	12	442
Tax on discontinued operations	3	(25)
Tax recognized directly in "other comprehensive income items"	106	(50)
Change in Consolidated Group	5	(21)
Currency translation adjustments	10	(22)
AT DECEMBER 31	610	474

CONSOLIDATED DEFERRED TAX INCOME AND EXPENSES BY CATEGORY OF TEMPORARY DIFFERENCE

<i>(millions of euros)</i>	2011	2010
Tax impact of temporary differences related to:		
Property, plant and equipment, intangible assets and non-current financial assets	345	85
Working capital assets	(36)	46
Employee benefits	31	2
Provisions for restructuring	(11)	(11)
Tax-driven provisions	44	48
Provisions for end-of-lifecycle operations	(30)	14
Net loss carry-forwards and deferred taxes	221	253
Impairment of deferred taxes	(657)	5
Other temporary differences	105	0
NET DEFERRED TAX INCOME (EXPENSES)	12	442

DEFERRED TAX RECOGNIZED IN "OTHER COMPREHENSIVE INCOME ITEMS"

<i>(millions of euros)</i>	2011	2010
IAS 32-39 impacts: change in value of available-for-sale assets, cash flow hedges and hedges of a net investment	106	(65)
Other	-	15
DEFERRED TAX RECOGNIZED DIRECTLY IN "OTHER COMPREHENSIVE INCOME ITEMS"	106	(50)

UNRECOGNIZED DEFERRED TAX ASSETS

<i>(millions of euros)</i>	2011	2010
Tax credits		
Tax losses	726	442
Other temporary differences	419	54
TOTAL UNRECOGNIZED DEFERRED TAX ASSETS	1,145	496

At December 31, 2011, unrecognized deferred tax assets totaled 1.145 billion euros, compared with 496 million euros at the end of 2010.

NOTE 9. ITEMS RELATED TO NON-CURRENT ASSETS HELD FOR SALE AND TO DISCONTINUED OPERATIONS

For 2010, net income before tax from discontinued operations corresponds to the following items:

<i>(millions of euros)</i>	2010
Net income from discontinued operations (T&D) from January 1 to June 7, 2010	(30)
Net gain on disposals*	1,266
NET INCOME FROM DISCONTINUED OPERATIONS	1,236

*: Including the release to income of currency translation reserves and deferred unrealized gains and losses

Net cash flows from discontinued operations consist of the following items for 2010:

<i>(millions of euros)</i>	2010
Sales price for T&D securities, net of disposal expenses	2,245
Contribution to the opening cash position upon disposal of T&D	(2)
NET	2,243

In addition to the purchase of AREVA T&D shares on June 8, 2010, the Group was reimbursed for the liabilities and financial debt owed to it by T&D. These items are mainly included under "Loan repayments and disposals of non-current financial assets" in the statement of cash flows.

At December 31, 2011, net income before tax and net cash flows from discontinued operations were insignificant.

NON-CURRENT ASSETS HELD FOR SALE

The amount recognized on the balance sheet at December 31, 2011 under "non-current assets held for sale" corresponds to AREVA's indirect equity interest in Eramet, restated for its sales value.

Non-current assets held for sale at December 31, 2010 included:

- CEA's indirect equity interest in STMicroelectronics in the amount of 194 million euros;
- AREVA's indirect equity interest in STMicroelectronics, corresponding to the value of its carrying value of 740 million euros at December 15, 2010, less:
 - a provision of 45 million euros to reduce that value to its sales price of 696 million euros, and
 - a provision of 57 million euros corresponding to the recognition through profit and loss, upon closing of the sale, of comprehensive income items associated with the equity interest (see Note 7).

NOTE 10. GOODWILL

The change in goodwill from December 31, 2010 to December 31, 2011 was as follows:

<i>(millions of euros)</i>	Dec. 31, 2010	Additions	Disposals	Discontinued operations	Minority interest put options	Currency translation adjustments and other	Dec. 31, 2011
Mining	966					30	996
Front End	1,342				(179)	0	1,163
Reactors & Services	1,820		(1)		(248)	4	1,575
Back End	216					0	216
Renewable Energies	277				(12)	21	285
Corporate and other operations	4					0	4
TOTAL	4,625		(1)		(440)	55	4,239

The “minority interest put options” column primarily includes the impacts of AREVA NP securities transactions in the amount of 421 million euros.

In 2010, following the establishment of the new organization of the AREVA group into Business Groups, certain items of goodwill previously appearing under “Other nuclear – AREVA” were allocated to the Front End, Reactors & Services and Back End Business Groups. This concerns:

- goodwill resulting from the creation of the AREVA group in 2001 in the amount of 394 million euros, which was allocated to the Front End BG (178 million euros) and to the Back End BG (216 million euros);
- goodwill corresponding to the difference between the value of put options held by minority shareholders in AREVA NP and the value of minority interests (2.183 billion euros – see Note 25), which was allocated to the Front End BG (929 million euros) and to the Reactors & Services BG (1.254 billion euros).

These amounts were revised after the AREVA NP securities transactions occurring in 2011 (see Note 2): goodwill was restated to 1.762 billion euros, of which 750 million euros was allocated to the Front End BG and 1.012 billion euros to the Reactors & Services BG.

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 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-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:

December 31, 2011	Discount rate after tax data	Growth rate of pro forma year	Number of years of forecast
Mining	10.5%	not applicable	7 to 39
Front End	8%	2%	10
Reactors & Services	8.75%	2%	10
Back End	6%	2%	10
Renewable Energies	9%	2%	5

December 31, 2010	Discount rate after tax data	Growth rate of pro forma year	Number of years of forecast
Mining	10.5%	not applicable	7 to 36
Front End	8%	2%	10
Reactors & Services	9.25%	2%	5 to 10
Back End	6%	2%	10
Renewable Energies	9.75%	2%	5

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 (through 2018 for gold mining and 2050 for uranium mining), rather than on a pro forma year.

These tests did not lead to the recognition of impairment.

In addition, sensitivity analyses showed that a discount rate of 1% higher or a growth rate for the pro forma year of 1% lower than the abovementioned rates would not have led to the recognition of goodwill impairment, since the recoverable value of the cash generating units is appreciably greater than the net carrying amount of their assets, except for the Front End CGU, where the impairment test would be sensitive to a 1% increase in the discount rate (to 9% instead of 8%), based on the assumption selected for the long-term euro/US dollar exchange rate, applied to long-term SWU* price assumptions (usually expressed in

dollars): the conjunction of these two assumptions would lead to recognition of impairment of 280 million euros for all of the Enrichment CGU's property, plant and equipment and intangible assets, including goodwill of 161 million euros. However, the use of a discount rate of 9% with a long-term euro/US dollar exchange rate assumption identical to the spot price recognized at December 31, 2011 (i.e. 1 euro = 1.30 US dollars) would not lead to impairment of goodwill of the Enrichment CGU.

In the mining segment, a downside uranium sales price assumption of 5 dollars per pound versus the selected scenario, which is based on 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. However, the change in sales prices may lead to a revision of mineable uranium quantities as well as of production schedules.

NOTE 11. INTANGIBLE ASSETS

(millions of euros)	December 31, 2011			December 31, 2010
	Gross	Amortization and impairment	Net	Net
Pre-mining expenses	1,783	(679)	1,104	1,108
Research and development expenses	884	(190)	694	591
Mineral rights	1,466	(1,400)	66	988
Other	1,738	(674)	1,064	965
TOTAL	5,871	(2,942)	2,929	3,652

* SWU: Separative Work Unit.

2011

<i>(millions of euros)</i>	Pre-mining expenses	R&D expenses	Mineral rights	Other	Total
Gross amount at December 31, 2010	1,534	717	1,422	1,569	5,241
Internally generated assets	39	62	1	58	159
Acquired assets	188	78	(1)	160	426
Disposals	(7)	(1)		(58)	(66)
Discontinued operations					-
Currency translation adjustments	29	8	44	19	99
Change in Consolidated Group				(2)	(3)
Other changes		21		(7)	14
Gross amount at December 31, 2011	1,783	884	1,466	1,738	5,871
Depreciation and provisions at December 31, 2010	(426)	(126)	(434)	(603)	(1,588)
Net increase in depreciation/impairment ⁽¹⁾	(239)	(63)	(890)	(127)	(1,319)
Disposals	7	1		56	65
Discontinued operations					
Currency translation adjustments	(22)	(3)	(76)	(2)	(102)
Change in Consolidated Group				3	3
Other changes					
Depreciation and provisions at December 31, 2011	(679)	(190)	(1,400)	(674)	(2,942)
NET CARRYING AMOUNT AT DECEMBER 31, 2010	1,108	591	988	965	3,652
NET CARRYING AMOUNT AT DECEMBER 31, 2011	1,104	694	66	1,064	2,929

(1) Impairment of intangible assets in the amount of -1.149 billion euros was recognized at December 31, 2011.

Increases in intangible assets in 2010 and 2011 primarily concern pre-mining expenses at sites in operation (AREVA Resources Canada, Katco) or under development (Imouraren), and development expenses for EPR™ reactor projects.

CAPITALIZED PRE-MINING EXPENSES

<i>(millions of euros)</i>	Net carrying amount at Dec. 31, 2010	Additions	Disposals	Amortization/ Impairment	Currency translation adjustments	Other changes	Net carrying amount at Dec. 31, 2011
Uranium	1,075	217		(225)	6		1,073
Gold	34	10		(14)	1		31
TOTAL	1,108	227		(239)	7		1,104

EXPLORATION EXPENSES (INCLUDED IN RESEARCH AND DEVELOPMENT EXPENSES IN THE INCOME STATEMENT)

<i>(millions of euros)</i>	2011	2010
Uranium	43	48
Gold	6	5
TOTAL	49	53

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.

URAMIN ASSETS

Impairment in the total amount of 1.456 billion euros was recognized in 2011, including 1.078 billion euros on intangible assets and 378 million euros on capitalized property, plant and equipment assets for mining projects emanating from UraMin in Namibia (Trekkojpe), Central African Republic (Bakouma) and South Africa (Rystkuil), whether in the development phase or as yet unlaunched.

This impairment is mainly attributable to:

- specifically for the Trekkojpe deposit, unfavorable revisions of (i) the level of recorded resources, from 45,200 metric tons of uranium to 26,000 metric tons, and (ii) site production cost assumptions following interpretation of the results of technical analyses;
- for all three deposits, the rebalancing of supply and demand in the aftermath of the Fukushima accident, the downward trend in market price forecasts for natural uranium as emerges from publications by independent experts available at the date of year-end closing, and the decision to postpone the schedule for production startup of these three mining claims;
- the revised mining plan for the three deposits in question based on the above items. In particular, for the Rystkuil deposit, in the absence of detailed geological data for the unworked areas of the deposit, a flat percentage was taken off the volume of economically recoverable resources in these unworked areas compared with December 31, 2010, given the lower anticipated market price forecasts for natural uranium in the third quarter of 2011.

At December 31, 2010, the impairment of mineral rights in the amount of 426 million euros reflected uranium market conditions, uncertainties concerning the quality and level of actual resources in the abovementioned deposits, and the restructuring of the investment schedule for certain mining projects.

At December 31, 2011, given the impairment recognized in 2010 and 2011, the residual value of capital assets for mining projects emanating from UraMin was 404 million euros, corresponding to their estimated net realizable value, based on a dollar valuation per pound of uranium in the ground.

A valuation of 1 US dollar less per pound of uranium in the ground compared with the valuation used at December 31, 2011 to estimate the net realizable value of these assets would increase their impairment by about 120 million euros. Similarly, 10% fewer quantities of resources in the ground compared with current estimates would increase their impairment by around 40 million euros.

Following the announcement during the presentation of the strategic action plan that investment in development of the Bakouma mining field would be suspended and the production date postponed accordingly, AREVA initiated dialogue with the Central African Republic aimed at reinforcing the future of this mining field.

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 ATMEA reactor) totaled 601 million euros at December 31, 2011, after recognition of the impairment described hereunder.

Impairment tests of these intangible assets are highly dependent on commercial calendar assumptions, volume and sales price forecasts, and the profitability expected from future sales of these reactors.

AREVA performed impairment tests on capitalized development expenses for the EPR™ reactor and the ATMEA reactor using the same discount rate as for impairment tests on the Reactors & Services BG’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 recognition of impairment of these intangible assets.

A two-year delay in the marketing schedule for the ATMEA reactor and the EPR™ reactors, 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 also not require recognition of impairment.

A 20% reduction in the number of EPR™ reactors sold in the United States by 2030 compared with the assumptions used would not require recognition of impairment of the capitalized development expenses corresponding to licensing of the EPR™ reactor in the United States. However, it should be noted that nuclear power’s share of the energy mix in the United States is highly sensitive to US energy policy and to its regulatory requirements.

Likewise, a 20% reduction in the number of ATMEA 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. Two nuclear reactor construction projects are currently being considered in Finland in studies led by Fennovoima and TVO. AREVA has already responded to the call of tender issued by Fennovoima. If AREVA does not receive a second EPR™ reactor order in Finland, impairment of the capitalized development expenses in the amount of 60 million euros would be recognized.

Lastly, 24 million euros in impairment of other capitalized development expenses was recognized at December 31, 2011 due to uncertainties concerning the commercial outlook.

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 160 million euros at December 31, 2011. The results of the impairment test on these intangible assets is highly dependent on assumptions for the plant construction schedule, the SWU price forecast, and the discount rate and compound annual growth rate used.

AREVA performed the impairment test on these capitalized study expenses using a discount rate of 7%, justified by the location and financing mode, and an average annual growth rate of 2%. This test did not lead to the recognition of impairment.

Sensitivity studies show that the use of a discount rate that is higher by 1% or a compound annual growth rate that is lower by 1% than those used to perform this test would lead to the recognition of total impairment of the capitalized study expenses for the EREF.

A SWU price forecast that is lower by 10% than that chosen to perform the test would lead to the same result and also to the recognition of total impairment of these intangible assets.

NOTE 12. PROPERTY, PLANT AND EQUIPMENT

<i>(millions of euros)</i>	Land	Buildings	Plant, equipment and tooling	End-of-lifecycle assets – AREVA share	Other	In process	Total
Gross amount at December 31, 2010	178	1,997	16,677	839	1,215	1,965	22,870
Additions	1	36	73		118	1,315	1,544
Disposals	(0)	(18)	(111)		(54)	(23)	(207)
Discontinued operations	-	-	-	-	-	-	-
Currency translation adjustments	1	2	21	1	21	6	52
Change in Consolidated Group	(1)	(10)	(7)		(5)		(23)
Other changes	9	7	779	243	112	(855)	294
Gross amount at December 31, 2011	187	2,015	17,431	1,083	1,407	2,406	24,530
Depreciation and provisions at December 31, 2010	(78)	(1,087)	(14,176)	(696)	(573)	(12)	(16,622)
Net increase in depreciation/impairment ⁽¹⁾	(3)	(61)	(280)	(287)	(458)	(236)	(1,325)
Disposals		6	65		45	26	143
Discontinued operations							
Currency translation adjustments		(3)	(7)		(31)		(42)
Change in Consolidated Group		8	10		5		23
Other changes		(8)	(222)		5	4	(220)
Depreciation and provisions at December 31, 2011	(81)	(1,145)	(14,611)	(984)	(1,005)	(217)	(18,043)
Net carrying amount at December 31, 2010	99	910	2,501	143	642	1,953	6,249
Net carrying amount at December 31, 2011	106	870	2,820	99	402	2,190	6,487

(1) Impairment of property, plant and equipment in the amount of 908 million euros was recognized at December 31, 2011.

The following impairment was recognized at December 31, 2011:

- in the Mining segment, 378 million euros on property, plant and equipment assets for mining projects emanating from UraMin (see Note 11);
 - in the Front End segment:
 - 191 million euros for the increase in dismantling assets for the Georges Besse I enrichment plant following the upward revision of dismantling estimates;
 - 283 million euros in the Chemistry business (including 5 million euros of intangible assets), including 71 million euros for the Comurhex I plant, in particular in connection with the revision of the dismantling estimate for this plant, and 212 million euros for the Comurhex II plant currently under construction, the Group having opted after a review to postpone the capital spending program to extend this plant's capacity to 21,000 metric tons per year until after the period covered by the "Action 2016" strategic action plan.
- The impairment test of the assets of the Comurhex II plant currently under construction used discount rate and compound annual growth rate assumptions that are identical to those used to test Front End BG goodwill (see Note 10).

Sensitivity studies show that the use of a discount rate that is higher by 1% or a compound annual growth rate that is lower by 1% than those used to perform this test would lead to the recognition of total impairment of these assets in the amounts of 180 million euros or 125 million euros respectively.

A price forecast for uranium conversion units that is lower by 10% than that used in performing the test would lead to recognition of additional impairment of about 170 million euros.

Lastly, if it is assumed that the annual production capacity of the Comurhex II plant is maintained at 15,000 metric tons over the long term, this would lead to impairment of all property, plant and equipment and intangible assets in the amount of 187 million euros at December 31, 2011;

- in the Reactors & Services segment, 60 million euros for equipment production facilities due to the downward revision of workload forecasts for these facilities in the aftermath of the Fukushima accident. The residual value of these assets is less than 80 million euros.

On December 3, 2010, AREVA and EDF sealed an agreement to extend the operation of the Georges Besse I enrichment plant until the end of 2012. This agreement, which falls within the strategic partnership between AREVA and EDF, helped set the principal conditions for plant operations for the 2011-2012 period. A negative impact of 120 million euros had been recognized for 2010 corresponding to the depreciation of plant assets.

In 2011, the net value of finance lease contracts capitalized was 23 million euros (30 million euros in 2010).

Interest expenses capitalized in the cost of property, plant and equipment were not significant at December 31, 2010 and December 31, 2011.

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 (millions of euros)			Shareholders' equity and liabilities		
	Dec. 31, 2011	Dec. 31, 2010		Dec. 31, 2011	Dec. 31, 2010
End-of-lifecycle assets – AREVA share ⁽¹⁾	99	143			
Assets earmarked for end-of-lifecycle operations	5,513	5,834	Provisions for end-of-lifecycle operations	6,026	5,815
● End-of-lifecycle assets – third party share ⁽²⁾	226	252	● funded by third parties ⁽²⁾	226	252
● Assets earmarked for end-of-lifecycle operations ⁽³⁾	5,287	5,582	● funded by AREVA	5,800	5,563

(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 ASSET

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.

<i>(millions of euros)</i>	AREVA share			Third party share	Dec. 31, 2011	Dec. 31, 2010
	Gross	Amortization	Net			
Dismantling	1,083	(984)	99	226	325	395
Waste retrieval and packaging				0	0	-
TOTAL	1,083	(984)	99	226	325	395

2011 <i>(millions of euros)</i>	Net carrying amount at Dec. 31, 2010	Increase	Decreases	Increases in and reversals of amortization and provisions	Discounting reversals	Other changes	Net carrying amount at Dec. 31, 2011
AREVA share	143	300	(57)	(287)		0	99
Third party share	252		(38)		12		226
TOTAL	395	300	(95)	(287)	12		325

The net end-of-lifecycle asset totaled 325 million euros at December 31, 2011, compared with 395 million euros at December 31, 2010.

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 the assets is attributable to the increased dismantling estimate, mainly concerning Eurodif's Georges Besse I plant and the Comurhex plant.

Increases in amortization of the dismantling asset primarily concern facilities at the end of their lifecycle, in particular Eurodif's Georges Besse I plant and the Comurhex plant.

PROVISIONS FOR END-OF-LIFECYCLE OPERATIONS

<i>(millions of euros)</i>	Net carrying amount at Dec. 31, 2010	Reversals (when risk has materialized): expenses covered by a provision	Discounting reversals	Change in assumptions, revised budgets, etc.	Net carrying amount at Dec. 31, 2011
Provision for nuclear facility dismantling	4,212	(102)	210	62	4,382
Provision for waste retrieval and packaging	1,603	(82)	81	43	1,644
Provisions for end-of-lifecycle operations	5,815	(184)	291	105	6,026

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, 2011 and December 31, 2010:

<i>(millions of euros)</i>	Dec. 31, 2011	Dec. 31, 2010
Dismantling of regulated nuclear facilities, excluding long-term radioactive waste management	3,633	3,629
Dismantling of used fuel, excluding long-term radioactive waste management	-	-
Retrieval and packaging of legacy waste, excluding long-term radioactive waste management	1,216	1,200
Long-term radioactive waste management	658	589
Post-closure disposal center monitoring costs	38	38
TOTAL PROVISIONS FOR END-OF-LIFECYCLE OPERATIONS OF FACILITIES COVERED BY THE FRENCH LAW OF JUNE 28, 2006	5,545	5,456
Provisions for end-of-lifecycle operations of facilities not covered by the French law of June 28, 2006	481	359
TOTAL PROVISIONS FOR END-OF-LIFECYCLE OPERATIONS	6,026	5,815

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 waste from operating activities that could not be processed as it was produced. 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 removal and final waste disposal costs.

Determination of provisions for end-of-lifecycle operations

Dismantling and waste retrieval and packaging

Estimated dismantling obligations are calculated facility by facility as follows:

The Group's dismantling standards correspond to the following final condition: buildings are decontaminated where they stand and all nuclear waste areas are decommissioned to conventional waste status.

Dismantling costs for facilities currently in operation are mainly calculated using the ETE EVAL software application certified by Bureau Veritas.

Detailed estimates related to the dismantling of facilities that are shut down and to the retrieval and packaging of legacy waste are subject to operational estimates developed with tools designed specifically for the requirements of these operations.

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 present value. The discounting reversal is recognized in "Net financial expense".

Since 2007, the discount rate is set by reference to a "theoretical cap rate", the latter being calculated according to the provisions defined in Article 3 of the ministerial order of March 21, 2007, and to an anticipated rate of return on earmarked assets. The theoretical cap rate is formed from 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).

As of December 31, 2011 and December 31, 2010, the estimated rates applied to facilities located in France were the following:

- Inflation rate: 2%
- Discount rate: 5%.

At December 31, 2011, the use of a discount rate of 0.25% higher or 0.25% lower than the rate actually used changes the value of end-of-

lifecycle provisions falling within the scope of the French law of June 28, 2006 by -228 million euros or +249 million euros respectively.

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. As required by French program law no. 2006-739 of June 28, 2006 on the sustainable management of radioactive materials and waste, the Group submits a report every three years on cost estimates and calculation methods for provisions, in addition to an annual report update.

The estimates include a certain amount of contingencies and risks that the Group deems sufficient in light of its experience and its level of control of the dismantling methods chosen for purposes of developing the estimates. Any upward revision of the level of risks and contingencies included in the estimate would increase the level of end-of-lifecycle provisions proportionately.

Some waste from fuel treatment operations performed under older contracts could not be processed as it was produced, 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.

The changes in provisions recognized in 2011 for the Back End segment (-209 million euros) are the result of:

- additional provisions related to the UP2 400 plant at La Hague (connected in particular to perimeter extensions pursuant to the dismantling decrees and performance improvement activities concerning initial facility conditions);
- additional provisions concerning the Cadarache site resulting from ASN's suspension of dismantling work at the ATPu in 2009 following a level 2 incident;
- the revised dismantling scenario for the UP2 800 and UP3 plants at La Hague (definition of a detailed industrial scenario and related schedule).

The changes in provisions recognized in 2011 for the Front End segment (+320 million euros) are the result of:

- an extension to the dismantling perimeter of the Comurhex plant and consideration of operating experience and the transition to regulated nuclear facility status of the B1/B2 ponds at Malvés;
- a change in the technical approach and planned modifications of scenarios and of the dismantling schedule for Eurodif's Georges Besse I plant following assessments performed during dismantling enabling a more precise picture of initial facility conditions.

Final waste shipment 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 shipment and underground disposal of low-level, long-lived waste (graphite) owned by the company;
- the shipment and disposal of medium- and high-level waste covered by the French law of December 30, 1991 (now included in Articles L. 542-1 *et seq.* of the French Environmental Code). The provision is based on the assumption that a deep geological repository will be built.

Concerning this last heading, a working group established in 2004 at the request of the Ministry of Industry's Department of Energy and the Climate (DGEC) issued its findings in 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 costs in 2003) for the deep geologic repository, including both the cost of retrievability and allowances for contingencies.

As provided in the French law of June 28, 2006, the DGEC designated a working group to perform a new cost assessment for deep geologic disposal. The working group, led by the DGEC, includes representatives from Andra, AREVA, the CEA, EDF and the French nuclear safety authority ASN.

When the working group has completed its work, the Minister of Environment, Energy, Sustainable Development and Regional Development may establish and make public the cost of deep reversible disposal.

For information purposes, a 1-billion-euro increase (at 2003 economic conditions) of the cost estimate for the deep disposal center would have an impact of 26 million euros on the Group's end-of-lifecycle provision, assuming the percentage allocation of cost among waste producers remains the same.

Provisions for end-of-lifecycle operations, before discounting

Provisions for end-lifecycle operations before discounting (subject to escalation from the date of closing):

<i>(millions of euros)</i>	December 31, 2011	December 31, 2010
Dismantling of nuclear facilities	9,123	8,456
Waste retrieval and packaging	2,498	2,261
TOTAL	11,621	10,717

ASSETS EARMARKED FOR END-OF-LIFECYCLE OPERATIONS

This heading consists of the following:

<i>(millions of euros)</i>	December 31, 2011	December 31, 2010
Receivables related to end-of-lifecycle operations	646	1,262
Earmarked assets	4,641	4,320
TOTAL	5,287	5,582

Receivables related to end-of-lifecycle operations correspond primarily to:

- receivables from the CEA resulting from the signature of an agreement in 2004 for the latter's assumption of a share of the dismantling costs of facilities at the La Hague and Cadarache plants and of the costs of waste retrieval and packaging at the UP2 400 plant;
- the receivable from EDF following the signature in December 2008 of a memorandum of understanding between EDF and AREVA on principles governing contracts in the back end of the cycle for the post-2007 period. An agreement on payment methods of the EDF receivable had been signed in July 2009. Under the terms of this agreement, the last payment by EDF to AREVA took place in June 2011.

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 French law no. 2006-

739 of June 28, 2006 and the implementing decree no. 2007-243 of February 23, 2007 came into force. This portfolio was constructed based on a budget of disbursements. These operations are scheduled to take place, for the most part, during the 2025-2060 timeframe. Accordingly, the portfolio is managed with long-term objectives. The portfolio is comprised of financial assets covering all of the Group's commitments, whether related to obligations imposed by the French 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 Decommissioning Fund Monitoring Committee. Long term asset allocations indicate the target percentage of assets to cover liabilities (bonds and money market investments, including receivables from third parties) and the diversification of assets (shares of stock, etc.), subject to

limitations stated in the French decree of February 23, 2007, both in terms of the control and spread of risks and in terms of type of investments.

After review, the Group revised the portfolio's structure and the funds' management over the past three years.

In doing so, AREVA ensured that all AREVA NC and AREVA NP funds are held, registered and valued by a single custodian capable of performing the necessary control and valuation procedures independently, as required by the implementing order.

External service providers manage the Equity segment via:

- an equity management agreement,
- earmarked investment funds.

The Rate segment (bonds and money market) is invested via:

- open-ended mutual funds,
- earmarked investment funds,
- directly-held bonds.

The portfolio of assets earmarked to fund end-of-lifecycle expenses includes the following:

<i>(millions of euros)</i>	December 31, 2011	December 31, 2010
At market value		
Publicly traded shares	1,201	1,010
Equity funds	754	766
Bonds and money market – Mutual funds and securities	2,686	2,544
TOTAL	4,641	4,320
By region		
Euro zone	4,026	3,648
Non-euro Europe	615	672
Other	-	-
TOTAL	4,641	4,320

The increase in traded shares held in 2011 is the result of the acquisition of securities on the market and reclassifications to the portfolio of available-for-sale securities initially not earmarked for end-of-lifecycle operations in the total amount of 305 million euros, offset in part by negative changes in market value of nearly 100 million euros.

At December 31, 2011, the earmarked portfolio included 225 million euros of listed shares that the Group has agreed to hold until June 30, 2012 and for which it has a price guarantee until that date.

Management mandate for publicly traded equities

Composition

The mandate was established at the beginning of 2007 and includes some thirty securities from the euro zone. The securities are held in order to generate gains over the long term. The mandate portfolio held 38 companies with a market value of 1.161 billion euros at December 31, 2011.

Risk assessment

Although it is not a management guideline, the mandate will be assessed over the long term by reference to the MSCI EMU index, net dividends reinvested. The nature of the long-term mandate is not compatible with an evaluation against a benchmark.

Earmarked equity funds

Composition

Other equity assets are invested in equity funds earmarked for AREVA with a net asset value of 754 million euros at December 31, 2011.

The investment strategy is one of diversified management centered on European securities:

- indexed management,
- high dividend yield securities,
- small cap securities,
- actively managed quant funds.

Risk assessment

The managers must follow strict rules of exposure, depending on the objectives of the fund involved, including limits on the amounts invested per issuer or in percentage of the net value of the portfolio, limits on exposures in currencies other than the euro, tracking error (relative risk compared with the benchmark), and limits on exposures to certain types of instruments. Together, these limits are designed to comply with investment rules established in the implementing decree of the French law of June 28, 2006.

A single custodian was selected for all of the funds to verify that the managers apply the rules at all times and to perform independent valuations of the funds.

Derivatives

Derivatives may be used for hedging or to acquire a limited exposure. They are subject to specific investment guidelines prohibiting leverage. Sales of puts and calls must be fully covered by underlying assets (and are prohibited on assets not included in the portfolio).

Fund valuation

The funds are valued based on their net asset value, corresponding to the market value of the securities held by each fund on the last day of the period.

Bonds and money market – Directly held securities and mutual funds

Composition

Several types of securities are held by AREVA NP and AREVA NC:

- directly held securities;
- earmarked bond funds;
- open-ended money market funds.

Mandates and bond funds were established specifically for Eurodif to match disbursement flows exactly.

Risk assessment

Directly held securities consist of government bonds of Eurozone countries. These instruments will be held to maturity. Consequently, the

potential risk concerns a credit event impacting the country issuing the securities. Countries are selected for their intrinsically high credit quality (minimum rating equivalent to AA).

Aside from Eurodif's open-ended investment funds and mandates with durations consistent with those of the liability funded, there are two types of earmarked investment funds:

- actively managed bond funds, and
- buy and hold funds.

For actively managed bond funds, the approach is "absolute return". Each actively managed bond fund's sensitivity to interest rates is bounded by a minimum of 0 and a maximum of 5. The credit risk exposure of actively managed bond fund investments is low, as the credit quality of the issuers is rated by Moody's or Standard & Poor's and must be higher than a rating equivalent to AA-.

Buy & hold bond funds consist of bonds from private issuers held to maturity. The risk involves potential credit events concerning the issuers.

The money market funds in which a share of the assets is invested are highly secure short-term money market funds.

Derivatives

The sole purpose of derivatives is to hedge existing positions. Total nominal commitments may not exceed the fund's net assets.

Nuclear Site Value Development

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.

Directly held government securities are and will be held to maturity and are recognized at their acquisition cost (on an amortized cost basis).

Performance of various asset classes (excluding receivables) used to cover liabilities pursuant to the French law of June 28, 2006 and its implementing order no. 2007-243 of February 23, 2007

	2011	2010
AREVA NC		
I. 1° Euro zone bonds	+9.3%	-
I. 3° Euro zone equities	-10.7%	+18%
AREVA NC		
I. 4° EU equity funds (#)	-10.5%	+13.1%
I. 4° Euro bond funds (#)	+2.9%	+1.7%
I. I. 4° Money market funds	+1.0%	+0.6%
AREVA NP		
I. I. 4° Money market and equity funds	-3.3%	+3.8%
Eurodif		
I. 4° Money market, equity and bond funds and mandates	+2.3%	+3.2%

(#) 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.

Performance of all earmarked assets of the Group

Financial assets held as securities or mutual funds represent 88% of all earmarked assets at December 31, 2011. Earmarked assets were allocated as follows: 37% equities, 51% bonds, 12% receivables. If interest on receivables is used to determine the performance of rate instruments, the overall performance of all earmarked assets would be approximately -2.4% for the 2011 calendar year.

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, 2011)

<i>(millions of euros)</i>	5,287
Assumption: declining equity markets and rising interest rates	
-10% on equities	(196)
+100 basis points on rates	(44)
TOTAL	(240)
Assumption: rising equity markets and declining interest rates	
+10% on equities	196
-100 basis points on rates	44
TOTAL	240

NOTE 14. INVESTMENTS IN ASSOCIATES

INVESTMENTS IN ASSOCIATES (BY ASSOCIATE)

December 31, 2011 <i>(millions of euros)</i>	% of control	Share in net income of associates	Investment in associates, excluding goodwill	Goodwill	Investment in associates, including goodwill
ERAMET	25.93	54	-	-	-
MNF	30.00	(3)	53	85	138
Other associates		11	62	5	67
TOTAL		62	115	90	205

In 2011, in view of AREVA's exclusive negotiations with the Fonds Stratégique d'Investissement for the sale of Eramet shares, AREVA's equity interest in that company is reported under "Non-current assets held for sale" (see notes 2 and 9).

The assessment of the recoverable value of MNF securities was based on MNF forecast data available at December 31, 2011. This data will be updated in the first half of 2012 to reflect the post-Fukushima market.

December 31, 2010 (millions of euros)	% of control	Share in net income of associates	Investment in associates, excluding goodwill	Goodwill	Investment in associates, including goodwill
STMicroelectronics	14.22	69	-	-	-
ERAMET	25.79	83	761	35	796
MNF	30.00	(3)	52	79	131
Other associates		4	56	5	61
TOTAL		153	869	119	988

In 2010, following the sale of STMicroelectronics shares, AREVA's equity interest in that company is reported under "Non-current assets held for sale" on the balance sheet (see notes 2 and 9).

CHANGE IN INVESTMENTS IN ASSOCIATES

(millions of euros)	2011
Investments in associates at January 1	988
Share in net income of associates	62
Dividends	(31)
Currency translation adjustments	17
Additions	
Disposals	
Reclassification of Eramet shares to "Non-current assets held for sale"	(822)
Other changes	(8)
INVESTMENTS IN ASSOCIATES AT DECEMBER 31	205

SUMMARY DATA ON ASSOCIATES

(millions of euros)	MNF*
Total assets	386
Total liabilities	211
Equity	175
Revenue	195
Net income	(11)

*: Information reported in accordance with IFRS (12/31/11).

MARKET VALUE OF INVESTMENTS IN PUBLICLY TRADED ASSOCIATES

(millions of euros)	December 31, 2011			December 31, 2010		
	% of control	Investment in associates	Market value	% of control	Investment in associates	Market value
Eramet		-	-	25.79	796	1,747
TOTAL					796	1,747

NOTE 15. OTHER NON-CURRENT FINANCIAL ASSETS

<i>(millions of euros)</i>	Dec. 31, 2011	Dec. 31, 2010
Available-for-sale securities	111	293
Loans to equity associates	10	3
Other non-current financial assets	82	89
Derivatives on financing activities	14	92
TOTAL	217	477

AVAILABLE-FOR-SALE SECURITIES

Changes during the year were as follows:

<i>(millions of euros)</i>	
December 31, 2010	293
Additions	17
Disposals	(4)
Lasting impairment	(27)
Changes in fair value recognized outside profit or loss	(89)
Change in consolidation scope, currency translation, reclassifications and miscellaneous	(79)
DECEMBER 31, 2011	111

Available-for-sale securities are as follows:

<i>(millions of euros)</i>	Number of shares at Dec. 31, 2011	Dec. 31, 2011	Dec. 31, 2010
Publicly traded shares (at market value)			
• Alcatel	2,597,435	3	6
• Suez Environnement	-	-	107
• Summit	21,879,518	28	61
• Japan Steel	4,830,000	26	38
• Other publicly traded shares		18	23
Investment in privately held companies		36	58
TOTAL		111	293

In 2011, the Suez Environment securities were reclassified in the AREVA NC fund earmarked to fund end-of-lifecycle operations.

At December 31, 2011 and December 31, 2010, "investments in privately held companies" consists 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

<i>(millions of euros)</i>	December 31, 2011			December 31, 2010		
	Gross	Impairment	Net	Gross	Impairment	Net
Raw materials and other supplies	730	(120)	610	627	(114)	513
Goods in process	557	(65)	493	537	(10)	528
Services in process	350	(96)	254	334	(16)	318
Intermediate and finished products	1,252	(28)	1,223	1,263	(23)	1,240
TOTAL	2,888	(309)	2,579	2,762	(162)	2,599
Inventories and work-in-process						
• at cost			2,218			2,187
• at fair value net of disposal expenses			362			412
			2,579			2,599

NOTE 17. TRADE ACCOUNTS RECEIVABLE AND RELATED ACCOUNTS

<i>(millions of euros)</i>	Dec. 31, 2011	Dec. 31, 2010
Gross amount	2,564	2,288
Impairment	(20)	(21)
NET CARRYING AMOUNT	2,544	2,267

CHANGE IN IMPAIRMENT OF TRADE ACCOUNTS RECEIVABLE AND RELATED ACCOUNTS

JAN. 1, 2011	(21)
Change in Consolidated Group	0
Discontinued operations	-
Charge	(13)
Reversal (when risk has materialized)	12
Reversal (when risk has not materialized)	1
Other (currency translation adjustments)	0
DECEMBER 31, 2011	(20)

The gross amount of trade accounts receivable and related accounts includes 89 million euros in receivables maturing in more than one year.

At December 31, 2011, "Trade accounts receivable and related accounts" include receivables in the amount of 918 million euros on contracts recognized according to the percentage of completion method (compared with 724 million euros at December 31, 2010).

TRADE ACCOUNTS RECEIVABLE AND RELATED ACCOUNTS (GROSS)*

<i>(millions of euros)</i>	Accounts receivable and related accounts			Including not impaired and past due					
	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 1 year
December 31, 2011	1,647	1,219	16	330	26	19	10	19	7
December 31, 2010	1,564	1,330	18	143	19	15	10	14	14

* Excluding accounts receivable on contracts recognized according to the percentage of completion method.

NOTE 18. OTHER OPERATING RECEIVABLES

<i>(millions of euros)</i>	December 31, 2011	December 31, 2010
French State	639	593
Advances and down payments to suppliers	771	667
Miscellaneous accounts receivable	461	593
Financial instruments	237	294
Other	28	18
TOTAL	2,136	2,165

“Miscellaneous accounts receivable” includes receivables from employees and social security and unemployment administrations.

“Financial instruments” include the fair value of derivatives hedging market transactions and the fair value of the firm commitments hedged.

At December 31, 2011, other operating receivables include 541 million euros in receivables maturing in more than one year.

NOTE 19. CASH AND CASH EQUIVALENTS

<i>(millions of euros)</i>	December 31, 2011	December 31, 2010
Cash equivalents	2,115	3,029
Cash and current accounts	232	329
NET	2,347	3,358

Cash equivalents consist chiefly of short-term marketable securities and mutual funds.

NOTE 20. OTHER CURRENT FINANCIAL ASSETS

<i>(millions of euros)</i>	December 31, 2011	December 31, 2010
Securities held for trading	78	84
Other current financial assets and derivatives on financing activities	121	126
TOTAL	199	210

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, 2011, AREVA's share capital was held as follows:

SHARE CAPITAL

At December 31	2011	2010
CEA	73.0%	73.2%
French State	10.2%	10.2%
Kuwait Investment Authority	4.8%	4.8%
Caisse des dépôts et consignations	3.3%	3.3%
Total	1.0%	1.0%
Crédit Agricole CIB and employee shareholders	1.2%	1.3%
EDF	2.2%	2.3%
Treasury shares	0.3%	0.2%
Public	4.0%	-
Shareholders with voting rights	100.0%	96.3%
Investment certificate holders		3.7%
TOTAL	100.0%	100.0%

The par value of the AREVA SA share is 3.80 euros.

The investment certificates and ADPCIs were converted into common shares on May 30, 2011.

CAPITAL INCREASE AND LISTING OF SHARES

In January 2011, AREVA undertook a capital increase reserved for investment certificate holders in the amount of 35 million euros by issuing 1,085,535 new shares (ADPCI).

CURRENCY TRANSLATION RESERVES

Currency translation reserves came to 106 million euros in 2011, compared with 46 million euros in 2010. The change primarily reflects the change in the US dollar/euro exchange rate.

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 382,012,007 shares was used to calculate earnings per share for 2011.

OTHER COMPREHENSIVE INCOME ITEMS

<i>(millions of euros)</i>	2011	2010
Currency translation adjustments on consolidated companies and other		
• Unrealized gains (losses) for the period	(17)	101
• Less gains (losses) recognized in profit and loss	(2)	(1)
Change in value of available-for-sale financial assets		
• Unrealized gains (losses) for the period	(176)	290
• Less gains (losses) recognized in profit and loss	(129)	(71)
Change in value of cash flow hedges		
• Unrealized gains (losses) for the period	(21)	80
• Less gains (losses) recognized in profit and loss	(11)	(7)
Income tax related to these items	106	(52)
Other comprehensive income items from discontinued operations		1
Share in comprehensive income of associates (net of income tax)	12	75
Non-current assets held for sale	30	8
TOTAL OTHER COMPREHENSIVE INCOME ITEMS (NET OF INCOME TAX)	(207)	423

TAX IMPACT OF OTHER COMPREHENSIVE INCOME ITEMS

<i>(millions of euros)</i>	2011			2010		
	Before tax	Income tax	After tax	Before tax	Income tax	After tax
Currency translation adjustments on consolidated companies and other	(19)	13	(6)	100	49	149
Change in value of available-for-sale financial assets	(305)	88	(217)	218	(81)	137
Change in value of cash flow hedges	(32)	6	(26)	73	(20)	53
Share in comprehensive income of associates (net of income tax)	12		12	75		75
Other comprehensive income items from discontinued operations				(3)	4	1
Non-current assets held for sale	30		30	8		8
TOTAL OTHER COMPREHENSIVE INCOME ITEMS (NET OF INCOME TAX)	(314)	106	(207)	471	(48)	423

NOTE 22. MINORITY INTERESTS

The largest minority interests were as follows:

<i>(millions of euros)</i>	December 31, 2011	December 31, 2010
Katco	234	151
SET and SET Holding	154	156
Somair	58	42
Imouraren	50	56
La Mancha group	46	37
UraMin Lukisa	(13)	50
Eurodif/Sofidif and subsidiaries	(22)	179
Minority interests related to non-current assets held for sale and discontinued operations	-	199
Other	38	45
TOTAL	545	915

At December 31, 2010, "Minority interests related to non-current assets held for sale and discontinued operations" included the minority interests in STMicroelectronics, in the amount of 199 million euros.

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 principles defined in Note 1.16.

The Group calls on independent actuaries for a valuation of its commitments each year.

In some subsidiaries, 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 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.

For France, retirement age assumptions were restated for all benefits in accordance with the provisions of the 2010 retirement reform. Aside from the impacts on early retirement plans already valued and recognized in 2010, the impact on other defined benefit obligations was insignificant.

It should be noted that collective agreements governing the most significant early retirement plan were rescinded and terminate in March 2012. A substitute agreement was negotiated between management and the labor organizations in 2011. The Central Work Committee is to render its opinion on this plan in March 2012, for potential signature in that same month. Since the Central Work Committee had not yet rendered its opinion and the new agreement had not been signed as of the closing of the accounts, the provisions of the former agreement were maintained for year-end closing at December 31, 2011.

PROVISIONS RECOGNIZED ON THE STATEMENT OF FINANCIAL POSITION

<i>(millions of euros)</i>	December 31, 2011	December 31, 2010
PROVISION FOR PENSION OBLIGATIONS AND OTHER EMPLOYEE BENEFITS	1,267	1,171
Less pension plan assets	(2)	(2)
Less local pension plan assets	(4)	(4)
TOTAL PLANS REVIEWED BY THE GROUP'S ACTUARIES	1,261	1,165
Retirement benefits	306	269
Supplemental retirement benefits	(11)	20
Early retirement benefits	681	597
Medical expenses and accident/disability insurance	265	259
Job-related awards	20	20

The information below concerns plans reviewed by the Group's actuaries. CATS, CASA and CASAIC plans are included in early retirement plans.

The main actuarial assumptions used in determining the Group's obligations are as follows:

	2011	2010
Inflation	2%	2%
Discount rate		
• Euro zone	4.75%	5.00%
• US dollar zone	4.5%	5.25%
Expected average return on plan assets		
• Euro zone	5 to 6.25%	5 to 6.25%
• US dollar zone	7.5%	7.5%
Pension benefit increases		
• Euro zone	2%	1.95%
• US dollar zone	0%	0%
Annual social security ceiling increase (before inflation)	+0.5%	+0.5%

• Mortality tables

	2011	2010
France		
• Annuities	Mortality tables INSEE 2000-2002 Men/Women	Mortality tables INSEE 2000-2002 Men/Women
• Lump sum payments		
Germany	Heubeck 2005	Heubeck 2005
United States	RP-2000	RP-2000

- Retirement age

	2011	2010
Management personnel	64	63
Non-management	62	61

- Average attrition is assumed to occur among employees in each company at a declining rate reflecting age brackets.
- Salary increases are assumed to be net of inflation (weighted average based on the number of employees in each company).

France	Management personnel		Non-management personnel	
	2011	2010	2011	2010
< 30 years	2.12%	2.10%	1.54%	1.60%
30-39 years	1.92%	1.90%	1.41%	1.50%
40-49 years	1.56%	1.55%	1.21%	1.23%
50-54 years	1.14%	1.13%	1.09%	1.08%
55 years and above	0.88%	0.87%	0.97%	0.77%

Germany	2011	2010
< 35 years	1.50%	1.50%
> 35 years	1.50%	1.50%

United States	2011	2010
	1.75%	1.75%

- Assumed rate of salary increases including changes in consolidation scope
- Assumed rate of increase in medical expenses in the United States

Year	
2012	6.5%
2013	6%
2014	5.5%
2015	5%
2016	5%
2017+	5%

- Contributions/benefits anticipated for defined benefit plans in 2012.

- The costs to be borne by the company for baseline contributions/benefits are estimated at 73 million euros.
- Estimated contributions to qualified US retirement plans are estimated at 15 million euros.

FINANCIAL ASSETS

Europe

Type of asset	2011	2010
Cash	10%	5%
Bonds	68%	69%
Shares	18%	22%
Real estate	4%	4%

United States

Type of asset	2011	2010
Cash	3%	2%
Bonds	41%	40%
Shares	56%	58%
Real estate	0%	0%

Effective return on plan assets	2011	2010
Europe	0.15%	1.75%
United States	1.41%	11.73%

The returns expected on assets are calculated taking into account:

- plan asset allocations by type of investment;
- assumptions of average future returns by category of asset.

The Group's pension assets do not include financial instruments of the AREVA group. The pension plans' real estate assets do not include real property owned by AREVA.

NET CARRYING AMOUNT OF BENEFIT OBLIGATIONS

December 31, 2011	Retirement bonuses	Supplemental retirement benefits	Early retirement benefits	Medical benefits	Job-related awards	Total	Total	Total		
	Outsourced	Outsourced	In-house management	Outsourced	In-house management	In-house management	In-house management	In-house management		
<i>(millions of euros)</i>										
Benefit obligation	482	762	30	1,052	327	256	20	2,296	633	2,929
Fair value of plan assets	(26)	(614)	-	(290)	-	-	-	(930)	-	(930)
Unrecognized actuarial gains and losses	(126)	(184)	(4)	(142)	(40)	(9)	-	(452)	(53)	(505)
Unrecognized past service cost	(24)	-	(1)	(181)	(45)	18	-	(205)	(28)	(233)
Plan assets recognition limit	-	-	-	-	-	-	-	-	-	-
NET BENEFIT OBLIGATION	306	(36)	25	439	242	265	20	709	552	1,261

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 actuarial obligation by 2.3%.

Experience differences since IFRS adoption
Actuarial (gains) losses by year (millions of euros)

	Benefit obligations	173
	Plan assets	190
Cumulative 2004 to 2010	TOTAL	363
	Benefit obligations	(14)
	Plan assets	63
2011	TOTAL	49

TOTAL EXPENSE FOR THE YEAR

2011 <i>(millions of euros)</i>	Retirement bonuses	Supplemental retirement benefits	Early retirement benefits	Medical benefits	Job-related awards	Total	2010
Current service cost	22	15	25	4	1	67	69
Interest expense	23	36	66	11	1	137	126
Expected return on plan assets	(2)	(37)	(16)	-	-	(55)	(54)
Amortization of actuarial gains or losses	6	6	4	(1)	-	15	15
Past service cost	2	-	30	(2)	-	30	36
Plan curtailment or termination	-	-	-	-	-	-	(10)
Impact of limit on recognition of assets	-	-	-	-	-	-	-
TOTAL EXPENSE FOR THE YEAR	51	20	109	12	2	194	182

CHANGE IN THE DEFINED BENEFIT OBLIGATION

December 31, 2011 (millions of euros)	Retirement bonuses	Supplemental retirement benefits	Early retirement benefits	Medical benefits	Job- related awards	Total	2010
Defined benefit obligation at December 31, 2010	464	736	1,329	261	20	2,810	2,472
Current service cost	22	15	25	4	1	67	69
Cost escalation	23	36	66	11	1	137	126
Employee contributions	-	8	-	-	-	8	5
Past service cost	5	-	-	(18)*	-	(13)	206
Acquisitions and disposals	(3)	-	-	-	-	(3)	4
Change in consolidation scope	-	-	-	-	-	-	-
Plan transfer	(8)	(5)	13	-	-	-	-
Curtailements/terminations	-	-	-	-	-	-	(13)
Defined benefit obligation of operations held for sale	-	-	-	-	-	-	-
Benefits paid during the year	(17)	(36)	(81)	(8)	(2)	(144)	(134)
Actuarial gains and losses	(4)	30	27	4	-	57	55
Exchange gains and losses	-	8	-	2	-	10	20
DEFINED BENEFIT OBLIGATION AT DECEMBER 31, 2011	482	792	1,379	256	20	2,929	2,810

* Collective agreements defining the medical coverage of the retirees of some entities were renegotiated in 2011, generating a decrease in the defined benefit obligation of 18 million euros.

CHANGES IN PLAN ASSETS

(millions of euros)	2011
Changes in asset values	
Opening balance	971
Expected return	55
Actuarial gains and losses	(63)
Employer contributions	97
Employee contributions	8
Benefits paid	(144)
Acquisitions and disposals	-
Assets of operations held for sale	-
Change in consolidation scope	-
Exchange gains and losses	6
CARRYING VALUE AT DECEMBER 31	930

CHANGE IN PROVISION ESTIMATED BY THE GROUP'S ACTUARIES

(millions of euros)	2011
Change in the provision	
Opening balance	1,165
Exchange gains and losses	1
Change in consolidation scope	(2)
Total expense	194
Contributions collected/benefits paid	(97)
BENEFIT OBLIGATION AT DECEMBER 31	1,261

NOTE 24. OTHER PROVISIONS

<i>(millions of euros)</i>	Jan. 1, 2011	Charge*	Reversal (when risk has materialized)	Reversal (when risk has not materialized)	Reclassifications, changes in consolidation scope/currency translation adjustments	Dec. 31, 2011
Restoration of mining sites and mill decommissioning	115	16	(11)		5	125
Provision for site clean-up and reclamation of other industrial sites	1					1
Other non-current provisions	116	16	(11)		5	126
Restructuring and layoff plans	20	45	(9)	(1)		56
Provisions for ongoing cleanup	99	208	(20)	(15)	72	344
Provisions for customer warranties	103	36	(33)	(10)	6	103
Provisions for losses to completion	636	445	(490)	(47)	10	554
Accrued costs	638	174	(78)	(9)		724
Other	281	177	(92)	(29)	68	405
Current provisions	1,777	1,086	(722)	(111)	156	2,187
TOTAL PROVISION	1,894	1,102	(732)	(111)	161	2,313

* including 28 million euros in discounting reversals in 2011.

At December 31, 2011, provisions for cleanup include 244 million euros for operations preparatory to the final shutdown of Eurodif's Georges Besse I plant.

At December 31, 2011 and December 31, 2010, other provisions were as follows:

	2011	2010
Contingencies on contracts	4	5
Provisions for litigation	21	30
Provisions for tax risk	39	22
Provisions for fines and penalties	6	4
Provisions for other expenses	221	106
Provisions for other contingencies	114	112
TOTAL	405	281

PROVISIONS FOR LOSSES TO COMPLETION

At December 31, 2011, a total of nearly 400 million euros had been provisioned for several reactor construction or modernization projects, including 220 million euros for the OL3 EPR™ reactor.

Contract for construction of the Olkiluoto 3 EPR™ reactor

The project was 82% complete at the end of 2011. At the site, mechanical installation activities were 70% complete overall. Site installation was brought to a sufficiently advanced stage in 2011 to ensure that 2012 will be the year for equipment and system testing.

Preparations are in progress with the customer TVO for the fuel delivery and core loading phases. Many site activities are now carried out under

the control of the operational readiness team consisting of AREVA/Siemens test engineers and TVO operators.

Power distribution tests linked to the delivery of the first I&C cabinets to the site should begin in the second quarter of 2012. The installation of auxiliary diesel generator components should be finalized by July 2012. The integration phase preceding core loading should take place in 2013.

However, on the whole, procedures imposed by the customer, TVO, for detailed implementation of the different phases of installation delayed the project overall and obliged the consortium in December 2011 to revise all of the sequences for the end of construction and transfer to testing. The master plan was updated accordingly and postponed by one year to the end of December 2013, the date of core loading, with a

new sequence of commissioning and instrumentation & control phases presented to TVO in early December 2011.

Going forward, instrumentation & control and the installation of the diesel generators needed to perform testing constitute the critical path. Successful performance of testing continues to require strong cooperation between the consortium and the customer TVO, in particular in the document approval phases preceding the performance of functional test sequences.

The consortium continued to assert its rights by filing a claim in May 2011, in connection with the arbitration proceedings lodged in 2008, for compensation of 1.9 billion euros for a 22-month extension of the contract period running to the end of 2007. No revenue was recognized in respect of this claim, and no provision was constituted for the claim filed by TVO with the consortium in the amount of 1.4 billion euros. In fact, the consortium and its counsel still consider that the allegations made in the counterclaim remain unfounded and without merit under Finnish law. The next important milestone in the arbitration proceeding will consist of the filing of TVO's pleadings in June 2012 (statement of defense to the Consortium's statement of claims and counterclaims).

The results of the stress tests published by the nuclear safety authority in late 2011 had no impact on the loss to completion of the project, with the customer TVO having not requested any modification to date. If TVO should ask for a modification, it will be dealt with through a commercial amendment.

On these bases, AREVA recognized an addition provision for loss to completion at December 31, 2011 in the amount of 220 million euros, bringing the total for provisions recognized to 2.8 billion euros. Remaining uncertainties concerning the estimated loss to completion still concern the contract risks and operating procedures for the end of construction completion and testing rampup leading to core loading.

PROVISIONS FOR CONTRACT COMPLETION

Provisions for contract completion totaled 724 million euros at December 31, 2011. These expenses represent ancillary tasks yet to be performed, such as waste treatment and storage.

NOTE 25. BORROWINGS

<i>(millions of euros)</i>	Long-term borrowings	Short-term borrowings	December 31, 2011	December 31, 2010
Put options of minority shareholders	18		18	60
Debt to Siemens on exercise of the put option			-	2,117
Interest-bearing advances	86		86	83
Borrowings from lending institutions and commercial paper	465	637	1,102	753
Bond issues	4,363	57	4,420	3,803
Short-term bank facilities and non-trade current accounts (credit balances)		74	74	194
Financial instruments		134	134	139
Miscellaneous debt*	18	241	260	91
TOTAL BORROWINGS	4,949	1,144	6,094	7,240
<i>*: Including leasing obligations.</i>	12	9	21	28

The heading "Borrowings from lending institutions and commercial paper" includes commercial paper outstanding of 458 million euros at December 31, 2011 (this item was nil at December 31, 2010). The balance of this heading consists primarily of borrowings from the European Investment Bank, half contracted in 2008 and the remainder in 2009, in the total amount of 400 million euros, maturing in 2015 and 2016.

The ARC syndicated line of credit in the amount of 350 million Canadian dollars at year-end 2010 was reimbursed at year-end 2011.

DEBT TO SIEMENS ON EXERCISE OF ITS PUT OPTION

On January 27, 2009, Siemens decided to exercise the put option for its stake in AREVA NP.

In view of the uncertainty regarding the exercise price, the value of the option recognized on AREVA's balance sheet at June 30, 2010 and December 31, 2010 was identical to the amount recognized at December 31, 2007, December 31, 2008 and December 31, 2009, i.e. 2.049 billion euros (excluding interest).

The independent expert charged with valuing this interest rendered his opinion on March 14, 2011. It was estimated at 1.62 billion euros (value as of the first quarter of 2009, excluding interest); AREVA paid

this amount to Siemens in March 2011. The difference was charged to goodwill (see Note 10).

Borrowings by maturity, currency and type of interest rate are as follows:

<i>(millions of euros)</i>	December 31, 2011
Maturing in one year or less	1,144
Maturity of 1-2 years	19
Maturity of 2-3 years	20
Maturity of 3-4 years	236
Maturity of 4-5 years	1,513
Maturing of more than 5 years	3,161
TOTAL	6,094

<i>(millions of euros)</i>	December 31, 2011
Euro	5,965
US dollar	33
Canadian dollar	3
Other	93
TOTAL	6,094

<i>(millions of euros)</i>	December 31, 2011
Fixed rate borrowings	3,764
Floating rate borrowings	1,778
TOTAL	5,542
Put options held by minority shareholders	18
Other non-interest-bearing debt	400
Financial instruments	134
TOTAL	6,094

The maturities of the Group's financial assets and borrowings at December 31, 2011 are presented in Note 31.

PAYMENT SCHEDULE AT DECEMBER 31, 2011

<i>(millions of euros)</i>	Balance sheet value	Total payment flows	Less than 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	More than 5 years
Put options of minority shareholders	18	18				18		
Debt to Siemens								
Interest-bearing advances	86	86						86
Borrowings from lending institutions and commercial paper	1,102	1,102	637	13	13	217	213	8
Bond issues	4,420	4,420	57				1,300	3,063
Short-term bank facilities and non-trade current accounts (credit balances)	74	74	74					
Miscellaneous debt	260	260	241	5	7	1	1	4
Future interest on financial liabilities		1,607	190	193	190	189	182	663
Total borrowings (excluding derivatives)	5,959	7,567	1,201	212	210	425	1,695	3,824
Derivatives – assets	(14)							
Derivatives – liabilities	134							
Total net derivatives	121	121	85	11	17	5	3	
TOTAL	6,080	7,687	1,285	223	227	430	1,698	3,824

PAYMENT SCHEDULE AT DECEMBER 31, 2010

<i>(millions of euros)</i>	Balance sheet value	Total payment flows	Less than 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	More than 5 years
Put options of minority shareholders	60	60	36				24	
Debt to Siemens	2,117	2,117		2,117				
Interest-bearing advances	83	83						83
Borrowings from lending institutions and commercial paper	752	752	284	11	12	11	210	225
Bond issues	3,803	3,803	39					3,764
Short-term bank facilities and non-trade current accounts (credit balances)	194	194	194					
Miscellaneous debt	91	91	11	68	4	2	1	6
Future interest on financial liabilities		1,793	168	385	166	165	164	743
Total borrowings (excluding derivatives)	7,101	8,894	732	2,581	182	178	400	4,821
Derivatives – assets	(95)							
Derivatives – liabilities	139							
Total net derivatives	44	44	48	9	11	20	(6)	(38)
TOTAL	7,145	8,938	780	2,590	193	198	394	4,783

BOND ISSUES AFTER HEDGING

<i>(millions of euros)</i> Issue date	Par value	Balance sheet value	Currency	Nominal rate	Maturity
September 23, 2009	1,250	1,300	EUR	3.875%	2016
September 23, 2009	1,000	1,050	EUR	4.875%	2024
November 6, 2009	750	772	EUR	4.375%	2019
September 22, 2010	750	745	EUR	3.5%	2021
October 5, 2011	500	496	EUR	4.625%	2017
TOTAL	4,250	4,363			

The AREVA group raised 500 million euros with a bond issue in 2011, which followed the four bond issues completed in 2009 and 2010. A total of 4.25 billion euros was outstanding at December 31, 2011.

Of this total, 950 million euros were hedged for a variable rate in euros with rate swaps.

COVENANTS

There are no significant financial commitments with financial covenants at December 31, 2011.

GUARANTEES AND SPECIFIC CLAUSES

With the exception of the loan to Somair in the amount of 37.5 billion CFA (equivalent to 57 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).

NOTE 26. ADVANCES AND PREPAYMENTS RECEIVED

<i>(millions of euros)</i>	December 31, 2011	December 31, 2010
Advances and prepayments on orders	3,300	3,108
Customer advances and prepayments invested in non-current assets	847	815
TOTAL	4,148	3,923

This account corresponds to non-interest-bearing Capex and operating 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 uraniums, 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 comprise amounts received from customers and used to finance capital expenditures for the performance of long-term contracts to which they have subscribed.

NOTE 27. OTHER LIABILITIES**OPERATING LIABILITIES**

<i>(millions of euros)</i>	December 31, 2011	December 31, 2010
Taxes and social security liabilities (excluding income tax)	1,302	1,397
Financial instruments	199	194
Other operating liabilities	1,122	990
TOTAL	2,623	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, 2011, operating liabilities by maturity were as follows:

- Maturity < 1 year: 2,278 million euros
- Maturity 1 to 5 years: 234 million euros
- Maturity > 5 years: 110 million euros

NON-OPERATING LIABILITIES

<i>(millions of euros)</i>	December 31, 2011	December 31, 2010
TOTAL	85	73

NOTE 28. CASH FROM OPERATING ACTIVITIES**CHANGE IN WORKING CAPITAL REQUIREMENT**

<i>(millions of euros)</i>	2011	2010
Change in inventories and work-in-process	109	161
Change in accounts receivable and other receivables	(177)	(138)
Change in accounts payable and other liabilities	168	100
Change in trade advances and prepayments received	197	221
Change in advances and prepayments made	(103)	(97)
Change in Forex hedge of WCR	27	(13)
TOTAL	221	234

NOTE 29. TRANSACTIONS WITH RELATED PARTIES

Transactions between the parent company and its subsidiaries, which are related parties, were eliminated on consolidation and are not presented in this note.

Transactions between the Group and its principal shareholder, the CEA, are as follows:

<i>(millions of euros)</i>	CEA	
	December 31, 2011	December 31, 2010
Sales	522	630
Purchases	109	116
Loans to/receivables from related parties	918	900
Borrowings from related parties	146	106
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 routinely conducts business with government-owned companies, mainly EDF. Transactions with EDF include sales of uranium, enrichment services and nuclear fuel, maintenance and sales of equipment for nuclear reactors, and used fuel transportation, storage, treatment and recycling services.

In 2010, AREVA and EDF signed the treatment-recycling contract for the 2008 to 2012 period and an agreement on the terms for the operation of the Georges Besse I enrichment plant during the 2011 to 2012 period (see Note 12).

In 2011, the AREVA group signed:

- a contract with EDF valued at about 1.1 billion euros to supply 32 of the 44 steam generators needed for the 1,300 MWe nuclear power plants in France;
- a contract of more than 600 million euros with EDF to renovate the instrumentation and control systems (I&C) of its 1,300 MWe power plants;
- contracts with EDF for preliminary engineering and manufacturing of certain forgings for new reactors that the French utility plans to build in the United Kingdom, the preliminary certification of the EPR™ reactor having been received from the British nuclear safety authority in 2011.

LETTER OF INTENTION BY FSI TO ACQUIRE AREVA'S INTEREST IN ERAMET

AREVA received a letter of intention from the Fonds Stratégique d'Investissement (FSI) on December 27, 2011 concerning the acquisition of Eramet securities held by AREVA. Following the receipt of this letter, AREVA and the FSI indicated that they had entered into exclusive negotiations for that acquisition.

FSI PURCHASE OF AREVA'S INTEREST IN STMICROELECTRONICS

On December 15, 2010, the Supervisory Board had examined the firm offer from the Fonds Stratégique d'Investissement (FSI, the strategic investment fund) to acquire AREVA's indirect equity interest in STMicroelectronics and had authorized AREVA to give FSI an exclusive right to purchase that interest for a unit price of 7 euros per STMicroelectronics share, giving a total of 696 million euros.

The sale closed on March 30, 2011.

COMPENSATION PAID TO KEY EXECUTIVES

<i>(thousands of euros)</i>	2011	2010
Short-term benefits	4,666	4,453
Termination benefits	-	-
Post-employment benefits	92	61
Other long-term benefits	-	-
TOTAL	4,758	4,513

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 (515 thousand euros in 2011, compared with 498 thousand euros in 2010).

NOTE 30. GREENHOUSE GAS EMISSIONS ALLOWANCES

<i>(metric tons of CO₂)</i>	2011	2010
Allowances received by AREVA	91,978	91,978
Actual emissions	41,620	40,919
Excess of allowances over emissions	50,358	51,059
Allowances sold on the Powernext market	-	51,000

NOTE 31. MARKET RISK MANAGEMENT**GENERAL OBJECTIVES**

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

In the Finance department, the department of Financial Operations and Treasury Management (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 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.

The value of the euro compared with the US dollar increased by an average of 5% in 2011 compared with 2010. In 2011, the impact of foreign exchange variations on the Group's operating income was a gain of +73 million euros, compared with a loss of 20 million euros in 2010.

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.

20.2 Notes to the consolidated financial statements for the year ended December 31, 2011

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 department of Financial Operations and Treasury Management 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 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, 2011, derivatives used by the Group to manage foreign exchange risk were as follows:

(Notional amounts by maturity date
at December 31, 2011)

	2012	2013	2014	2015	2016	> 5 years	Total	Market value
Forwards								
JPY/EUR	45	49	56	5	-	-	155	27
USD/EUR	615	156	91	67	25	-	954	-22
JPY/USD	12	13	-	-	-	-	25	0
CAD/EUR	7	0	0	1	-	-	8	0
USD/CAD	148	74	18	5	-	-	245	0
OTHER	316	127	280	0	-	-	724	48
Total	1,143	419	445	77	25	-	2,110	52
Currency swaps								
JPY/EUR	152	70	54	25	-	-	301	32
USD/EUR	2,452	179	72	43	67	1	2,813	-54
SEK/EUR	55	-	-	-	-	-	55	0
CAD/EUR	832	-	-	-	-	-	832	-43
USD/CAD	54	23	23	-	-	-	100	-1
OTHER	78	4	-	-	-	-	83	-3
Total	3,622	276	149	68	67	1	4,183	-69
Currency options								
USD/ZAR	116	-	-	-	-	-	116	-2
JPY/EUR	10	35	51	-	-	-	96	0
USD/EUR	179	54	62	-	-	-	294	-4
USD/CAD	42	15	-	-	-	-	57	0
Total	346	104	113	-	-	-	563	-6
Cross currency swaps								
USD/EUR*	-	-	-	187	-	-	187	-0.16
INR/EUR	-	1	-	-	-	-	1	0.10
Total	-	1	-	187	-	-	187	0
GRAND TOTAL	5,112	800	707	331	92	1	7,043	-23

* Cross currency swap related to bonds. Only the foreign exchange component of the result is indicated. The interest rate component is presented in the Borrowings appendix.

Derivative financial instruments used to hedge foreign currency exposure were as follows as of December 31, 2011 and December 31, 2010:

<i>(millions of euros)</i>	2011		2010	
	Notional amounts at par value	Market value	Notional amounts at par value	Market value
Derivatives related to fair value hedging strategies (FVH)	4,508	(20)	3,509	22
Currency swaps	3,287	(77)	2,599	(47)
Forward transactions	1,035	57	808	61
Cross currency swaps	187	()	102	8
Derivatives related to net investment hedging strategies (NIH)	0	0	1,348	38
Currency swaps				
Forward transactions				
Cross currency swaps			1,348	38
Derivatives related to cash flow hedging strategies (CFH)	2,136	4	1,367	63
Currency swaps	755	11	536	24
Forward transactions	992	(2)	642	30
Options	390	(5)	189	9
Derivatives not eligible for hedge accounting	399	(7)	1,131	(5)
Currency swaps	142	(3)	621	(1)
Forward transactions	83	(3)	407	(5)
Options	174	(1)	103	0
Cross currency swaps	1	0	1	()
GRAND TOTAL	7,043	(23)	7,355	118

A significant share of undocumented financial instruments in 2011 and 2010 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 of undocumented currency hedging derivatives on consolidated income at year-end 2011 would be +8 million euros in the case of a 5% instantaneous increase in exchange rates against the euro, or -9 million euros in the case of a 5% decrease. Using these same assumptions, the impacts would have been +7 million euros and -8 million euros at year-end 2010.

Based on market data at the date of closing, the impact on the Group's consolidated equity at year-end 2011 related to currency derivatives qualified as cash flow hedges would be +28 million euros in the case of a +5% instantaneous increase in exchange rates against the euro, or -30 million euros in the case of a 5% decrease. Using these same assumptions, the impacts would have been +14 million euros and -15 million euros at year-end 2010.

In addition, taking into consideration AREVA's exposure to the following elements at year-end 2011 and 2010:

- financial assets and liabilities recognized on the balance sheet in a currency other than the functional currency of the entity holding such assets or liabilities, or assets or liabilities that are not hedged according to the criteria of IAS 39; and
- currency derivatives that do not qualify as hedges according to the criteria of IAS 39.

The sensitivity of consolidated income from continuing operations before tax to a +5% or -5% change in the exchange rates of the main foreign currencies to which AREVA is exposed against the euro is as follows:

- At December 31, 2011:
 - US dollar: -16 and +16 million euros
 - Canadian dollar: -1 and +1 million euros
- At December 31, 2010:
 - US dollar: -5 and +5 million euros
 - Australian dollar: -4 and +4 million euros
 - Japanese yen: -5 and +5 million euros
 - Canadian dollar: +2 and -2 million euros

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 nickel and copper. Most of the Group's exposure is concentrated in the Mining and Reactors & Services BGs. Hedges were set up in the Mining BG to partially hedge the gold production of its subsidiary La Mancha.

Each BG 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 BG).

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 department of Treasury Management hedges the subsidiaries' position with market counterparties without taking any speculative position.

Gold hedges were recognized under "trading" at December 31, 2011. The majority of the other hedges are eligible cash flow hedges.

<i>(millions of euros)</i>	Notional amount	Nominal amounts of hedges of future cash flows at December 31, 2011						Market value
		2011	2012	2013	2014	2015	> 5 years	
Nickel								
Forward transactions – Seller	0	-	0	-	-	-	-	0
Copper								
Forward transactions – Seller	1	-	1	-	-	-	-	0
Gold								
Option - Buyer	63	-	63	-	-	-	-	3
Option - Seller	80	-	80	-	-	-	-	(1)
Other								
Other - Buyer	1	-	1	-	-	-	-	0
TOTAL	145	-	145	-	-	-	-	2

At December 31, 2011 and December 31, 2010, derivative financial instruments used by the Group to hedge future cash flows from commodities were as follows:

<i>(millions of euros)</i>	2011		2010	
	Nominal amounts at par value	Market value	Nominal amounts at par value	Market value
Gold				
Option - Buyer	63	3	20	0
Option - Seller	80	(1)	29	0
Other				
Other forward transactions – Buyer	1	0	2	0
Other forward transactions – Seller	1	0	6	(1)
TOTAL	145	2	57	(1)

Based on market data at the date of closing, the impact of commodity derivatives qualified as cash flow hedges on the Group's consolidated equity at year-end 2011 would be +5 million euros in the case of a +20%

instantaneous increase in the price of commodities, or -6 million euros in the case of a 20% decrease. The simulation of a change of +/-20% at the end of 2010 indicated an impact of +1 or -2 million euros on equity.

INTEREST RATE RISK MANAGEMENT

Rate risk management is entirely centralized in the Financial Operations and Treasury Management Department (DOFT), 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, 2011, 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 BG.

At December 31, 2011, the following financial instruments were used to hedge interest rate exposure:

<i>(millions of euros)</i>	Notional amounts by maturity date at December 31, 2011							Market value
	Total	2012	2013	2014	2015	2016	> 5 years	
Interest rate swaps – variable lender – EUR								
Fixed borrower – EUR	250	-	-	-	200	50	-	(2)
Interest rate swaps – variable lender – EUR								
Fixed borrower – INR	1	-	1	-	-	-	-	0
Interest rate swaps – variable lender – EUR								
Variable borrower – USD	187	-	-	-	187	-	-	3
Interest rate swaps – fixed lender – EUR								
Variable borrower – EUR	1,406	456	-	-	-	800	150	70
Inflation rate swaps – variable lender – USD								
Fixed borrower – USD	135	-	-	-	-	-	135	(15)
GRAND TOTAL	1,979	456	1	-	387	850	285	55

At December 31, 2011, the Group used the following derivatives to hedge interest rate exposure:

<i>(millions of euros)</i>	Market value of contracts ⁽¹⁾				Total
	Nominal amount of contract	Cash flow hedges (CFH)	Fair value hedges (FVH)	Not formally documented (Trading)	
Interest rate swaps – variable lender – EUR					
Fixed borrower – EUR	250	0	(2)	0	(2)
Interest rate swaps – variable lender – EUR					
Fixed borrower – INR	1	0	0	0	0
Interest rate swaps – variable lender – EUR					
Variable borrower – USD	187	0	3	0	3
Interest rate swaps – fixed lender – EUR					
Variable borrower – EUR	1,406	0	70	0	70
Inflation rate swaps – variable lender – USD					
Fixed borrower – USD	135	0	0	(15)	(15)
GRAND TOTAL	1,979	0	70	(15)	55

(1) Gain/(loss)

The following tables summarize the Group's net rate risk exposure, before and after rate management transactions, at the end of 2011 and 2010.

Maturities of the Group's financial assets and borrowings at December 31, 2011 ^(I)

	Less than 1 year	1 year to 2 years	2 years to 3 years	3 years to 4 years	4 years to 5 years	More than 5 years	Total
Financial assets ^(II)	2,473	0	0	0	0	73	2,546
including fixed rate assets	0	0	0	0	0	0	0
including floating rate assets ^(III)	2,416	0	0	0	0	73	2,489
including non-interest-bearing assets	58	0	0	0	0	0	58
Borrowings	(1,144)	(19)	(20)	(236)	(1,513)	(3,161)	(6,094)
including fixed rate borrowings	(506)	(19)	(20)	(13)	(1,264)	(3,098)	(4,920)
including floating rate borrowings	(215)	0	0	(207)	(200)	0	(622)
including non-interest-bearing borrowings	(424)	0	0	(16)	(49)	(63)	(552)
Net exposure before hedging	1,329	(19)	(20)	(236)	(1,513)	(3,088)	(3,548)
share exposed to fixed rates	(507)	(19)	(20)	(13)	(1,264)	(3,098)	(4,920)
share exposed to floating rates	2,201	0	0	(207)	(200)	73	1,867
non-interest-bearing share	(366)	0	0	(16)	(49)	(63)	(494)
Off-balance sheet hedging	0	0	0	0	0	0	0
on borrowings: fixed rate swaps	456	0	0	(200)	750	150	1,156
on borrowings: floating rate swaps	(456)	0	0	200	(750)	(150)	(1,156)
Exposure after hedging	1,329	(19)	(20)	(236)	(1,513)	(3,088)	(3,548)
share exposed to fixed rates	(50)	(19)	(20)	(213)	(514)	(2,948)	(3,764)
share exposed to floating rates	1,745	0	0	(7)	(950)	(77)	711
non-interest-bearing share	(366)	0	0	(16)	(49)	(63)	(494)

(I) Nominal amounts converted into euros.

(II) Cash and other current financial assets.

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

Maturities of the Group's financial assets and borrowings at December 31, 2010^(I)

	Less than 1 year	1 year to 2 years	2 years to 3 years	3 years to 4 years	4 years to 5 years	More than 5 years	Total
Financial assets ^(II)	3,494	0	0	0	0	74	3,568
including fixed rate assets	0	0	0	0	0	0	0
including floating rate assets ^(III)	3,449	0	0	0	0	74	3,523
including non-interest-bearing assets	45	0	0	0	0	0	45
Borrowings	(703)	(2,195)	(15)	(13)	(236)	(4,078)	(7,240)
including fixed rate borrowings	(38)	(71)	(15)	(13)	(11)	(3,861)	(4,009)
including floating rate borrowings	(447)	(2,050)	0	0	(200)	(202)	(2,901)
including non-interest-bearing borrowings	(218)	(74)	0	0	(24)	(14)	(330)
Net exposure before hedging	2,791	(2,195)	(15)	(13)	(236)	(4,003)	(3,672)
share exposed to fixed rates	(39)	(71)	(15)	(13)	(11)	(3,861)	(4,010)
share exposed to floating rates	3,002	(2,050)	0	0	(200)	(128)	623
non-interest-bearing share	(172)	(74)	0	0	(24)	(14)	(285)
Off-balance sheet hedging	0	0	0	0	0	0	0
on borrowings: fixed rate swaps	0	0	0	0	0	1,461	1,461
on borrowings: floating rate swaps	0	0	0	0	0	(1,461)	(1,461)
Exposure after hedging	2,791	(2,195)	(15)	(13)	(236)	(4,003)	(3,672)
share exposed to fixed rates	(39)	(71)	(15)	(13)	(11)	(2,400)	(2,548)
share exposed to floating rates	3,002	(2,050)	0	0	(200)	(1,589)	(839)
non-interest-bearing share	(172)	(74)	0	0	(24)	(14)	(285)

(I) Nominal amounts converted into euros.

(II) Cash and other current financial assets.

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

Based on the Group's exposure at December 31, 2011, it is estimated that a 1% increase in interest rates would have an impact of +7 million euros on borrowing costs on a full-year basis and, therefore, on the Group's consolidated income. The impact of a similar increase was -8 million euros at year-end 2010.

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.

They are divided among four balance sheet headings:

- investments in associates (see Note 14);
- equities held in the portfolio of financial assets earmarked for end-of-lifecycle operations (see Note 13, *End-of-lifecycle operations*);

- other non-current financial assets: these are interests in publicly traded companies, most notably Alcatel and Japan Steel Works (see Note 15);
- non-current assets held for sale: this concerns AREVA's interest in the Eramet group at December 31, 2011, which had previously been classified under investments in associates.

The interest that AREVA held in STMicroelectronics was sold in 2011.

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 equities)

December 31, 2011 <i>(millions of euros)</i>	Available-for-sale securities	Securities recognized at fair value through profit or loss
Balance sheet position	2,030	-
Income statement impact	-	-
Impact on shareholders' equity	203	

Lower scenario (10% decrease in the value of equities)

December 31, 2011 <i>(millions of euros)</i>	Available-for-sale securities	Securities recognized at fair value through profit or loss
Balance sheet position	2,030	-
Income statement impact	(35)	-
Impact on shareholders' equity	(168)	

Upper scenario (+10% increase in the value of equities)

December 31, 2010 <i>(millions of euros)</i>	Available-for-sale securities	Securities recognized at fair value through profit or loss
Balance sheet position	2,010	7
Income statement impact	-	1
Impact on shareholders' equity	201	-

Lower scenario (10% decrease in the value of equities)

December 31, 2010 <i>(millions of euros)</i>	Available-for-sale securities	Securities recognized at fair value through profit or loss
Balance sheet position	2,010	7
Income statement impact	-	(1)
Impact on shareholders' equity	(201)	-

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 expose the Group to counterparty risk when the contracts are concluded over the counter. To minimize this risk, DOFT deals only with diversified, top quality counterparties rated A1/P1 or higher in the Standard & Poor's and Moody's rating systems for short-term maturities or A/A2 for long-term maturities. A legal framework agreement is always signed with the counterparties.

The limits allowed for each counterparty are determined based on its rating and the type and maturity of the instruments traded. Assuming the rating of the counterparty is not downgraded earlier, the limits are reviewed at least once a year and approved by the Group's Chief Financial Officer. The limits are verified in a specific report produced by the internal control team of DOFT. 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.

LIQUIDITY RISK

DOFT 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 Group's subsidiaries, regardless of AREVA's equity stake. Management is provided by DOFT chiefly through cash pooling agreements and intercompany loans, subject to local regulations. The Group's consolidated cash surpluses are managed to optimize financial returns while ensuring that the financial instruments used are liquid.

Borrowings are centralized by DOFT to optimize borrowing costs and facilitate access to the banking system.

In 2010, the Group:

- reimbursed the entire balance on the three-year syndicated loan for a total of 2.5 billion US dollars, of which 600 million US dollars had been repaid in November 2008, to refinance the acquisition of UraMin Inc. (now AREVA Resources Southern Africa);
- raised 750 million euros through a 10-year bond issue maturing on March 22, 2021, at a rate of 3.5%.

This reorganization of the long term debt allowed the Group to reduce its use of short-term credit and to replenish the liquidity capacity afforded by its back-up line of credit and the commercial paper program.

In 2011, the Group:

- acquired Siemens' interest in AREVA NP SAS in March for the total amount excluding interest of 1.679 billion euros and received 648 million euros in payment of a penalty from Siemens in May;
- sold its interest in STMicroelectronics in March for 696 million euros;
- fully reimbursed the syndicated loan in the amount of 350 million Canadian dollars from AREVA Resources Canada in October;
- raised 500 million euros in October through a six-year bond issue maturing on October 5, 2017, at a rate of 4.625%;
- reclassified its interest in Suez Environment in November to the AREVA NC fund earmarked for end-of-lifecycle operations, generating 80 million euros in cash.

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 at least A1 for Standard & Poor's and of P1 for Moody's). The Executive Management Board 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 as of the closing date, on discounted future cash flows, or on prices provided by financial institutions. The use of different market assumptions could have a significant impact on estimated market values.

FRAMÉPARGNE LIQUIDITY GUARANTEE

The Framépargne mutual fund included in the AREVA group savings plan held 910,000 shares of the company at December 31, 2011. An independent financial institution provided a guarantee of liquidity for these shares to Framépargne until December 31, 2008, as provided by the French law on employee savings plans. To allow this commitment to take effect, AREVA gave a value guarantee to the financial institution. At December 31, 2011, this guarantee covers 3,398,240 shares sold by Framépargne to the financial institution.

As authorized by the French law of December 30, 2006 (Article 23) and the decree of October 26, 2007, AREVA substituted for the financial institution as guarantor of the mutual fund invested in non-traded shares of the company effective 01/01/09, having received authorization to purchase its own shares from the General Meeting of Shareholders held on December 18, 2008 and approval of the change in the bylaws of the Framépargne fund from the French market authority AMF on January 23, 2009.

The guarantee of value given to the financial institution for the 3,398,240 AREVA shares it holds remains in effect.

In accordance with IAS 32 and 39 on financial instruments, this commitment is treated as a derivative on treasury shares and revalued to fair value at the balance sheet date. A liability of 62 million euros was recognized for this purpose under "other borrowings and similar debt" in the consolidated financial statements for the year ended December 31, 2011. Since this derivative does not qualify for hedge accounting, changes in value are recognized in profit or loss. This financial liability corresponds to the difference between the average revalued purchase price of shares held by the financial institution and the value of AREVA securities at December 31, 2011.

NOTE 32. ADDITIONAL INFORMATION ON FINANCIAL INSTRUMENTS
FINANCIAL ASSETS AND LIABILITIES BY CATEGORY
2011

Assets <i>(millions of euros)</i>	Balance sheet value	Non- financial assets and liabilities	Loans and receivables	Including		Assets available for sale	Assets held to maturity	Derivatives	Fair value of financial assets
				Liabilities at amortized cost	Fair value recognized in profit or loss				
Non-current assets	20,334	14,836	732			4,389	363	14	5,518
Goodwill on consolidated companies	4,239	4,239							
Intangible assets	2,929	2,929							
Property, plant and equipment	6,487	6,487							
End-of-lifecycle assets (third party share)	226	226							
Assets earmarked for end-of-lifecycle operations	5,287		646			4,278	363		5,307
Equity associates	205	205							
Other non-current financial assets	217	6	86			111		14	211
Pension fund assets	2	2							
Deferred tax assets	742	742							
Current assets	10,781	5,997	3,452		1,064			268	4,783
Inventories and work-in-process	2,579	2,579							
Trade accounts receivable and related accounts	2,544	915	1,629						1,629
Other operating receivables	2,136	1,566	357					213	570
Current tax assets	66	66							
Other non-operating receivables	133	93	40						40
Cash and cash equivalents	2,347	2	1,360			986			2,346
Other current financial assets	199		66			78		55	199
Assets of operations held for sale	776	776							
TOTAL ASSETS	31,115	20,833	4,183		1,064	4,389	363	282	10,301

Financial instruments at fair value recognized in profit or loss or outside profit or loss, depending on:

- 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.

<i>(millions of euros)</i>	Level 1	Level 2	Level 3	Total
Non-current assets	4,353	14	36	4,403
Assets earmarked for end-of-lifecycle operations	4,278			4,278
Other non-current financial assets	75	14	36	125
Current assets	1,064	268		1,332
Other operating receivables		213		213
Cash and cash equivalents	986			986
Other current financial assets	78	55		133
TOTAL ASSETS	5,417	282	36	5,735

<i>Liabilities and equity</i> <i>(millions of euros)</i>	Balance sheet value	Including						Fair value of financial liabilities
		Non-financial assets and liabilities	Loans and receivables	Liabilities at amortized cost	Fair value recognized in profit or loss	Assets available for sale	Derivatives	
Equity and minority interests	6,606	6,606						
Share capital	1,456	1,456						
Consolidated premiums and reserves	6,852	6,852						
Deferred unrealized gains and losses on financial instruments	71	71						
Currency translation reserves	106	106						
Net income attributable to equity owners of the parent	(2,424)	(2,424)						
Minority interests	545	545						
Non-current liabilities	12,501	7,551		4,949				4,357
Employee benefits	1,267	1,267						
Provisions for end-of-lifecycle operations	6,026	6,026						
Other non-current provisions	126	126						
Long-term borrowings	4,949			4,949				4,357
Deferred tax liabilities	131	131						
Current liabilities	12,008	7,664		4,041			303	4,344
Current provisions	2,187	2,187						
Short-term borrowings	1,144			948			197	1,144
Advances and prepayments received	4,148	4,148						
Trade accounts payable and related accounts	1,763	44		1,719				1,719
Other operating liabilities	2,623	1,221		1,296			106	1,402
Current tax liabilities	58	58						
Other non-operating liabilities	85	8		78				78
Liabilities of operations held for sale								
TOTAL LIABILITIES AND EQUITY	31,115	21,822		8,990			303	8,701

2010

<u>Assets</u> <i>(millions of euros)</i>	Balance sheet value	Non- financial assets and liabilities	Loans and receivables	Including			Assets available for sale	Assets held to maturity	Derivatives	Fair value of financial assets
				Liabilities at amortized cost	Fair value recognized in profit or loss					
Non-current assets	22,870	16,823	1,342			4,488	125	92	6,047	
Goodwill on consolidated companies	4,625	4,625								
Intangible assets	3,652	3,652								
Property, plant and equipment	6,249	6,249								
End-of-lifecycle assets (third party share)	252	252								
Assets earmarked for end-of-lifecycle operations	5,582		1,261			4,195	125		5,582	
Equity associates	988	988								
Other non-current financial assets	477	12	81			293		92	466	
Pension fund assets	2	2								
Deferred tax assets	1,044	1,044								
Current assets	11,667	5,741	3,749		1,863			314	5,927	
Inventories and work-in-process	2,599	2,599								
Trade accounts receivable and related accounts	2,267	724	1,543						1,543	
Other operating receivables	2,165	1,424	475					266	741	
Current tax assets	64	64								
Other non-operating receivables	172	98	74						74	
Cash and cash equivalents	3,358		1,579		1,779				3,358	
Other current financial assets	210		77		84			49	210	
Assets of operations held for sale	832	832								
TOTAL ASSETS	34,538	22,564	5,092		1,863	4,488	125	406	11,974	

Financial instruments at fair value recognized in profit or loss or outside profit or loss, depending on:

- 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.

<i>(millions of euros)</i>	Level 1	Level 2	Level 3	Total
Non-current assets	4,555	92	58	4,705
Assets earmarked for end-of-lifecycle operations	4,320			4,320
Other non-current financial assets	234	92	58	385
Current assets	1,863	310	4	2,177
Other operating receivables		266		266
Cash and cash equivalents	1,779			1,779
Other current financial assets	84	45	4	133
TOTAL ASSETS	6,418	402	63	6,882

<i>(millions of euros)</i>	Balance sheet value	Including						Fair value of financial liabilities
		Non-financial assets and liabilities	Loans and receivables	Liabilities at amortized cost	Fair value recognized in profit or loss	Assets available for sale	Derivatives	
Equity and minority interests	9,578	9,578						
Share capital	1,452	1,452						
Consolidated premiums and reserves	5,937	5,937						
Deferred unrealized gains and losses on financial instruments	346	346						
Currency translation reserves	46	46						
Net income attributable to equity owners of the parent	883	883						
Minority interests	915	915						
Non-current liabilities	14,210	7,673		6,537				6,335
Employee benefits	1,171	1,171						
Provisions for end-of-lifecycle operations	5,815	5,815						
Other non-current provisions	116	116						
Long-term borrowings	6,537			6,537				6,335
Deferred tax liabilities	570	570						
Current liabilities	10,749	7,047		3,469			234	3,702
Current provisions	1,777	1,777						
Short-term borrowings	703			564			139	703
Advances and prepayments received	3,923	3,923						
Trade accounts payable and related accounts	1,641	18		1,623				1,623
Other operating liabilities	2,581	1,271		1,215			95	1,310
Current tax liabilities	52	52						
Other non-operating liabilities	73	6		67				67
Liabilities of operations held for sale								
TOTAL LIABILITIES AND EQUITY	34,538	24,298		10,006			234	10,037

NET GAINS AND LOSSES ON FINANCIAL INSTRUMENTS

Available-for-sale securities

2011 <i>(millions of euros)</i>	Interest income and dividends	Other income (expenses)	Subsequent valuation		Gain (loss) from disposal
			Changes in fair value and foreign exchange impact	Impairment	
Shareholders' equity*			(177)		(129)
Net income	60			(113)	111
TOTAL	60		(177)	(113)	(18)

*: *excluding tax impact*

At December 31, 2011, the net change in fair value of available-for-sale securities recognized outside profit or loss represented an unrealized gain of 94 million euros.

2010 <i>(millions of euros)</i>	Interest income and dividends	Other income (expenses)	Subsequent valuation		Gain (loss) from disposal
			Changes in fair value and foreign exchange impact	Impairment	
Shareholders' equity *			290		(71)
Net income	70			(2)	248
TOTAL	70		290	(2)	177

*: *excluding tax impact*

At December 31, 2010, the net change in fair value of available-for-sale securities recognized outside profit or loss represented an unrealized gain of 397 million euros.

Loans and receivables**2011***(millions of euros)*

	Interest	Impairment	Debt forgiveness
Net income	159	1	-

2010*(millions of euros)*

	Interest	Impairment	Debt forgiveness
Net income	100	(4)	(2)

Financial assets and liabilities at fair value recognized through profit or loss

Income from financial assets and liabilities at fair value recognized through profit and loss at December 31, 2011 was 12 million euros, compared with 5 million euros at December 31, 2010.

Financial liabilities at amortized cost**2011***(millions of euros)*

	Interest expense and commissions	Other income (expenses)
Net income	(194)	-

2010*(millions of euros)*

	Interest expense and commissions	Other income (expenses)
Net income	(199)	1

Derivatives used for hedging

At December 31, 2011, the ineffective share of derivatives used for hedging recognized in profit or loss is as follows:

- Cash flow hedge: -
- Fair value hedge: -6 million euros
- Net investment hedge: -

Total -6 million euros

CASH FLOW HEDGES

<i>(millions of euros)</i>	Value before tax at Dec. 31, 2010	New transactions	Change in value	Recognition through profit and loss	Value before tax at Dec. 31, 2011
Cash flow hedging instruments	81	(27)	5	(40)	20

LASTING IMPAIRMENT OF AVAILABLE-FOR-SALE SECURITIES

<i>(millions of euros)</i>	Amount at Dec. 31, 2010	Charge	Reversal of depreciation on disposals	Currency translation adjustments	Amount at Dec. 31, 2011
Earmarked funds	(47)	(86)	14		(120)
Non-earmarked funds	(99)	(27)		(2)	(128)
TOTAL	(147)	(113)	14	(2)	(248)

UNREALIZED CAPITAL LOSSES ON AVAILABLE-FOR-SALE SECURITIES NOT RECOGNIZED THROUGH PROFIT AND LOSS

<i>(millions of euros)</i>	Unrealized capital losses at December 31, 2011	Including maturity in less than 1 year	Including maturity in 1-2 years
Mandate	(77)	(71)	(6)
Equity funds	(43)	(43)	
Risk funds	(2)		(2)
TOTAL	(122)	(114)	(8)

NOTE 33. COMMITMENTS GIVEN OR RECEIVED

<i>(millions of euros)</i>	Dec. 31, 2011	Less than 1 year	1 to 5 years	> 5 years	Dec. 31, 2010
Commitments given	2,021	746	830	445	2,663
Operating commitments given	1,751	544	785	422	2,229
Contract guarantees given	1,496	486	683	327	1,869
Other operating guarantees	255	58	102	95	360
Commitments given on financing	111	87	17	7	17
Other commitments given	159	115	28	16	417
Commitments received	932	338	549	45	690
Operating commitments received	881	311	533	37	648
Commitments received on collateral	11	11	0	0	1
Other commitments received	40	16	16	8	41
Reciprocal commitments	5,611	433	4,865	313	4,430

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.

Commitments at December 31, 2011 and December 31, 2010 presented above do not include commitments related to discontinued operations.

The amounts above only include commitments that the Group considers valid as of the date of closing. Accordingly, these commitments do not include construction contracts currently under negotiation.

COMMITMENTS GIVEN

Operating commitments represent 87% of all commitments given. The majority of these commitments consist of performance guarantees.

The Group gave a parent company guarantee to TVO in the full amount of the contract for construction of an EPR™ reactor in Finland. The Group

received a counter-guarantee from Siemens corresponding to its 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 amount, which is capped at the sale price of 582 million euros, is not included in the summary table.

AREVA did not give a vendor's warranty in connection with the sale of its Transportation & Distribution business to Alstom and Schneider.

RECIPROCAL COMMITMENTS

In February 2007, the Group established a 2 billion euro syndicated line of credit available in euros and US dollars over a seven year period. In January 2011, bilateral lines of credit were set up in the amount of 1.5 billion euros, maturing in January 2013. As of the end of December 2011, none of these lines of credit had been used.

Reciprocal commitments at December 31, 2011 include the future minimum payments to be made on operating leases, as follows:

<i>(millions of euros)</i>	Dec. 31, 2011	Less than 1 year	1 to 5 years	> 5 years	Dec. 31, 2010
	727	105	310	312	799

NOTE 34. DISPUTES AND CONTINGENT LIABILITIES

SIEMENS' WITHDRAWAL FROM AREVA NP

On January 27, 2009, Siemens announced its decision to exercise its option to sell its 34% interest in AREVA NP to AREVA.

The two companies mandated an independent expert to determine the value of Siemens' minority interest as of the first quarter of 2009, in accordance with the procedure provided in the shareholders' agreement signed by AREVA and Siemens in 2001. In March 2011, in his report, the independent expert put the value of Siemens' 34% interest in AREVA NP at 1.62 billion euros. The total amount of the acquisition of AREVA NP shares, excluding interest, was 1.679 billion euros, including 51 million euros corresponding to Siemens' contribution to the capital increase of AREVA NP SAS in March 2009. AREVA paid that amount plus related interest to Siemens on March 18, 2011.

In March 2009, AREVA exercised "for breach" its call option on the interest held by Siemens in AREVA NP, based on several breaches by

Siemens of its contractual obligations, as stipulated in the shareholders' agreement between the two shareholders of AREVA NP.

On April 14, 2009, AREVA initiated arbitration proceedings against Siemens before the International Chamber of Commerce (ICC) to claim damages for breach of the shareholders' agreement. In connection with this dispute, the court of arbitration confirmed that Siemens was in breach of contract in a judgment rendered on May 19, 2011 to the parties. As a result, Siemens paid 648 million euros in penalties in principal and interest to AREVA.

In parallel, in May 2010, the European Commission announced the official start of proceedings against AREVA and Siemens concerning the existence of various contractual restrictions between the parties in the civilian nuclear field, in particular a non-competition clause. The Commission's investigation is still ongoing.

NOTE 35. EVENTS SUBSEQUENT TO YEAR END

There was no event subsequent to year end likely to have a significant impact on the Group's financial statements.

NOTE 36. MAIN CONSOLIDATED COMPANIES

Name of unit or controlling entity Company name, legal form, corporate office	Country	Business reg. no. (Siren no.)	31.12.11		31.12.10	
			Method	Percentage of interest	Method	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 NP 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 – 26104 Romans-sur-Isère	France	300,521,754	FC	100	FC	100
MELOX – 30200 Chusclan	France	378,783,237	FC	100	FC	100
AREVA Resources Southern Africa	British Virgin Islands		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	FC	100
SET	France	440,252,666	FC	88	FC	88
JSPM	France	341,805,836	FC	100	FC	100
Somair	Niger		FC	63.40	FC	63.40
TN International	France	602,039,299	FC	100	FC	100
SGN	France	612,016,956	FC	100	FC	100
ETC	Great Britain		PC	50	PC	50
AREVA Mines	France	501,493,605	FC	100	See Note 2	
Renewable energies						
Koblitz	Brazil		FC	100	FC	70
AREVA Solar Inc.	United States		FC	93.46	FC	100
AREVA Wind GmbH	Germany		FC	100	FC	100
Holding company and other investments						
AREVA SA – 75009 Paris	France	712,054,923	FC	100	FC	100
Eramet	France	632,045,381	Deconsolidated		EM	25.79

FC: full consolidation

PC: proportionate consolidation

EM: equity method

→ 20.3. AREVA SA financial statements 2011

20.3.1. STATUTORY AUDITORS' REPORT ON THE FINANCIAL STATEMENTS

This is a free translation into English of the statutory auditors' report issued in French and is provided solely for the convenience of English speaking users. The statutory auditors' report includes information specifically required by French law in such reports, whether qualified or not. This information is presented below the opinion on the Company financial statements and includes an explanatory paragraph discussing the auditors' assessments of certain significant accounting and auditing matters. These assessments were considered for the purpose of issuing an audit opinion on the Company financial statements taken as a whole and not to provide separate assurance on individual account captions or on information taken outside of the Company financial statements.

This report should be read in conjunction and construed in accordance with French law and professional auditing standards applicable in France.

To the Shareholders,

In accordance with our appointment as statutory auditors at your Annual General Meeting, we hereby report to you for the year ended December 31, 2011 on:

- the audit of the accompanying financial statements of AREVA;
- the justification of our assessments;
- the specific procedures and disclosures required by law.

The 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. These standards require that we plan and perform the audit to obtain reasonable assurance as to whether the financial statements are free of material misstatement. An audit includes verifying, using sample testing techniques or other selection methods, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made, as well as evaluating the overall financial statement presentation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

In our opinion, the financial statements give a true and fair view of the financial position and the assets and liabilities of the Company as of December 31, 2011 and the results of its operations for the period then ended in accordance with accounting principles generally accepted in France.

II. JUSTIFICATION OF OUR ASSESSMENTS

In accordance with 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 3.1 to the financial statements entitled "Accounting policies, rules and methods – Long-term investments". As part of our procedures, we reviewed the appropriateness of these accounting methods and 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, litigation and contingent liabilities in the accounts. We also ascertained that the main litigations identified by the procedures implemented by your Company are described appropriately in the financial statements and specifically in Note 6.8.

These assessments were performed as part of our audit approach for the financial statements taken as a whole and therefore contributed to the expression of our opinion in the first part of this report.

III. SPECIFIC PROCEDURES AND DISCLOSURES

In accordance with professional standards applicable in France, we have also performed the specific verifications provided for by law.

We have no comment to make as to the fair presentation and consistency with the financial statements of the information given in the Executive Board's report 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 relating to remuneration and benefits received by the Directors and officers and any other commitments made in their favor, 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 that such information is accurate and fair.

Pursuant to French law, we ensured that various disclosures relating to shareholding, controlling and reciprocal interests and the identity of holders of share capital and voting rights have been disclosed in the management report.

Paris La Défense and Neuilly-sur-Seine, March 1, 2012

The Statutory Auditors

MAZARS

DELOITTE & ASSOCIES

Juliette DECOUX

Jean-Luc BARLET

Patrice CHOQUET

Pascal COLIN

20.3.2. STATEMENT OF FINANCIAL POSITION

	2011			2010
	Gross	Depreciation, amortization and provisions	Net	Net
Assets				
<i>(thousands of euros)</i>				
Subscribed capital not issued				
Non-current assets				
Start-up costs				
Research and development expenses				
Concessions, patents, licenses, software and similar rights	109,416	27,778	81,638	17,612
Leasehold				
Intangible assets in progress	121		121	17
Advances and prepayments on intangible assets				
Total intangible assets	109,538	27,778	81,759	17,628
Land	204		204	204
Buildings	114	114		172
Plant, equipment and tooling	64	47	17	20
Other property, plant and equipment	72,375	31,007	41,368	44,690
Plant, property and equipment in progress	6,296		6,296	9,597
Advances and prepayments				
Total property, plant and equipment	79,053	31,168	47,884	54,682
Equity method investments				
Equity associates	3,597,490	7,143	3,590,346	2,030,503
Loans to equity associates	6,131,115	49,124	6,081,991	4,323,352
Other long-term securities	61,201	25,293	35,908	41,380
Loans				5
Other long-term investments	78,187	41,598	36,589	68,571
Total long-term investments	9,867,992	123,158	9,744,834	6,463,811
Total non-current assets	10,056,582	182,105	9,874,478	6,536,122
Current assets				
Inventories and work-in-process				
Raw materials and other supplies				
Goods in process				
Services in process				
Intermediate and finished products				
Goods				
Advances and prepayments on orders	214		214	1,140
Accounts receivable				
Trade accounts receivable and related accounts	104,965		104,965	71,689
Other accounts receivable	493,099	749	492,350	553,293
Subscribed capital – issued and not paid				
Marketable securities				
Treasury shares				
Other securities	1,939,330		1,939,330	2,991,062
Cash instruments				66,356
Cash and cash equivalents	2,800,970	5,141	2,795,829	2,621,386
Prepaid expenses	15,609		15,609	27,109
Total current assets	5,354,187	5,891	5,348,297	6,332,035
Deferred charges	10,953		10,953	10,584
Bond redemption premiums	17,660		17,660	17,172
Unrealized foreign exchange gains	124		124	9
GRAND TOTAL	15,439,507	187,995	15,251,511	12,895,922

Equity and liabilities	2011	2010
<i>(thousands of euros)</i>	Net	Net
Share capital (including capital issued and paid: 1,456,178)	1,456,178	1,452,053
Additional paid-in capital, merger premiums, share premiums	1,148,130	1,119,769
Revaluation adjustments (including equity method adjustment)		
Revaluation adjustments		
Equity method adjustment		
Reserves:		
• Legal reserve	145,205	134,682
• Reserves provided in the by-laws or by contract		
• Regulated reserves	3,304	3,304
• Other reserves	6,403	6,403
Retained earnings	2,652,618	1,047,408
Net income for the year	1,182,443	1,615,734
Investment subsidies	2,143	2,509
Tax-driven provisions	1,301	13
Total Shareholders' equity	6,597,725	5,381,876
Other Shareholders' equity		
Proceeds from issues of equity securities		
Advances subject to covenants		
Total other Shareholders' equity		
Provisions for contingencies and expenses		
Provisions for contingencies	93,975	112,816
Provisions for losses	125,827	142,602
Total provisions for contingencies and losses	219,803	255,419
Liabilities		
Convertible bond issues		
Other bond issues	4,307,085	3,788,497
Bank borrowings	414,783	456,657
Miscellaneous loans and borrowings	2,604,757	2,248,779
Trade advances and prepayments on orders in progress		
Trade accounts payable and related accounts	177,135	240,949
Taxes and employee-related liabilities	37,074	45,760
Accounts payable on non-current assets and related accounts	995	1,486
Other liabilities	728,577	465,585
Cash instruments	91,946	10,915
Unearned income	71,632	
Total liabilities	8,433,983	7,258,628
Unrealized foreign exchange losses		
TOTAL SHAREHOLDERS' EQUITY AND LIABILITIES	15,251,511	12,895,922

20.3.3. STATEMENT OF INCOME

<i>(thousands of euros)</i>	2011			2010
	France	Export	Total	Total
Operating income				
Sales of goods				
Sales of products				
Sales of services	392,453	58,152	450,606	395,168
Net sales	392,453	58,152	450,606	395,168
Production in inventory				
Self-constructed assets				
Operating subsidies			10	
Reversal of provisions and transfer of expenses			5,947	15,155
Other income			1,553	1,799
Total operating income			458,115	412,122
Operating expenses				
Purchases of goods (including customs duties)				
Change in inventory (goods)				
Purchases of raw materials and other supplies (including customs duties)			-1,374	-760
Change in inventory (raw materials and supplies)				
Other purchases and expenses			554,804	559,899
Taxes and related expenses			3,895	5,234
Salaries and other compensation			33,669	26,801
Social security taxes			13,845	14,984
Amortization, depreciation and provisions				
On non-current assets: amortization			26,068	14,056
On non-current assets: impairment				
On current assets: impairment				
Charges to provisions			10,648	224
Other expenses			5,731	2,371
Total operating expenses			647,285	622,810
Current operating income			-189,170	-210,688
Share of net income from joint operations				
Profit allocated or loss transferred			127	
Loss allocated or profit transferred			150	

STATEMENT OF INCOME (CONTINUED)

<i>(thousands of euros)</i>	2011			2010
	France	Export	Total	Total
Financial income				
From equity associates			263,809	176,141
From other marketable securities and capitalized receivables			633	833
Other interest and related income			239,648	245,850
Reversal of provisions and transfer of expenses			184,350	2,397
Foreign exchange gains			770,212	1,988,166
Net income from disposals of marketable securities			13,175	2,704
Total financial income			1,471,827	2,416,091
Financial expenses				
Amortization and provisions			185,531	161,789
Interest and related expenses			340,722	356,032
Foreign exchange losses			849,285	1,987,157
Net loss on disposals of marketable securities				
Total financial expenses			1,375,539	2,504,979
NET FINANCIAL INCOME			96,288	-88,888
INCOME BEFORE EXCEPTIONAL ITEMS AND TAX			-92,905	-299,576
Exceptional items				
From financial management transactions			2,847	158
From capital or non-current asset transactions			1,431,303	2,299,436
Reversal of provisions and transfer of expenses			1,845	98,123
Total exceptional items			1,435,995	2,397,716
Exceptional expenses				
From financial management transactions			2,128	18,846
From capital or non-current asset transactions			126,951	503,294
Amortization, depreciation and provisions			66,109	4
Total exceptional expenses			195,188	522,144
Exceptional items			1,240,807	1,875,572
Employee profit-sharing				
Income tax			-34,541	-39,737
Total income			3,366,063	5,225,929
Total expenses			2,183,621	3,610,195
NET INCOME			1,182,443	1,615,734

20.3.4. STATEMENT OF CASH FLOWS

<i>(millions of euros)</i>	2011	2010
Net cash from operating activities		
Net income for the year	1,182	1,616
Net depreciation and amortization	24	16
Net provisions	73	56
Gain on disposals of non-current assets and investment securities	-654	-1,796
Change in trade advances and prepayments	1	0
Change in trade accounts receivable and other receivables	38	-324
Change in trade accounts payable and other operating liabilities	262	497
Other		
Total cash flow from operating activities (I)	927	65
Cash flow from investing activities		
Investment in PP&E and intangible assets	-86	-21
Investment in long-term notes and investments	-15,976	-1,594
Repayment of loans to equity associates	12,468	1,529
Security deposits		
Disposals of PP&E and intangible assets	1	1
Disposals and reduction of long-term investments	779	2,298
Net change in non-current asset receivables and debt	0	
Other		
Total cash flow used in investing activities (II)	-2,815	2,213
Net cash from financing activities		
Dividends paid by AREVA		-250
Capital increase in cash	32	900
Change in borrowings	809	-1,142
Total cash flow from financing activities (III)	841	-492
Change in investment securities		
Change in net cash (I + II + III)	-1,047	1,786
Net cash at the beginning of the year (a)	3,667	1,881
Net cash at the end of the year (b)	2,620	3,667
Change in net cash (b - a)	-1,047	1,786
Change in investment securities		
Net change in cash position	-1,047	1,786

→ 20.4. Notes to the parent company financial statements 2011

The notes hereunder supplement the balance sheet, before appropriation of earnings for the year ended December 31, 2011, showing total assets of 15,251,511 thousand euros, and the income statement, showing net income of 1,182,443 thousand euros. These statements are for the 12-month period beginning January 1 and ending December 31, 2011.

The notes include:

Highlights of the year and:

- accounting policies, rules and methods;

- notes to the balance sheet;
- notes to the income statement; and
- additional information.

These notes and tables are an integral component of the annual financial statements approved by AREVA Executive Board on February 29, 2012 and examined by the Supervisory Board on March 1, 2012. The financial statements will be presented to the Annual General Meeting of Shareholders for approval on May 10, 2012.

20.4.1. SCOPE OF BUSINESS

AREVA is a services and financial holding company. Services provided include centralized cash management and consulting and support services for the Group.

20.4.2. HIGHLIGHTS OF THE YEAR

20.4.2.1. SALE OF FT1CI SECURITIES

AREVA sold its interest in FT1CI to the Fonds Stratégique d'Investissement (FSI, the strategic investment fund) for the selling price of 696 million euros.

20.4.2.2. BOND ISSUES

AREVA launched a 6-year, 500-million-euro bond issue maturing on October 05, 2017 with an annual coupon of 4.625%.

This bond issue comes in addition to the first issues, with maturities of 7 and 15 years, launched on September 23, 2009, the 10-year issue launched on November 6, 2009, and the 10.5-year issued launched on September 22, 2010 for a total of 4.25 billion euros.

20.4.2.3. CAPITAL INCREASE

In January 2011, AREVA undertook a capital increase reserved for investment certificate holders in the amount of 35 million euros by issuing 1,085,535 new shares (ADPCI).

AREVA also converted the investment certificates and ADPCI into common shares on May 30, 2011.

20.4.2.4. BUY-BACK OF AREVA NP SHARES FROM SIEMENS

On January 27, 2009, Siemens had announced its decision to exercise its option to sell its 34% interest in AREVA NP to AREVA.

The two companies mandated an independent expert to determine the value of Siemens' minority interest as of the first quarter of 2009, in accordance with the procedure provided in the Shareholders' agreement signed by AREVA and Siemens in 2001. In March 2011, in his report, the

independent expert put the value of Siemens' 34% interest in AREVA NP at 1.62 billion euros. The total amount of the acquisition of AREVA NP shares was 1.679 billion euros excluding interest, including 51 million euros corresponding to Siemens' contribution to the capital increase of AREVA NP SAS in March 2009. AREVA paid that amount plus related interest to Siemens on March 18, 2011.

In addition, in the first half of 2011, Siemens paid a 648-million-euro penalty to AREVA in connection with the dispute between AREVA and Siemens concerning the violation of the Shareholders' agreement pertaining to AREVA NP.

20.4.2.5. SUBSIDIARIZING OF THE MINING OPERATIONS

Pursuant to the request of the Conseil de Politique Nucléaire (French nuclear policy board) on February 21, 2011, the mining operations initially held by AREVA NC were spun off as the AREVA Mines company, in which AREVA SA holds a 99.99% interest. With this operation, the mining operations are attached to a single, dedicated legal entity.

20.4.2.6. ERAMET

AREVA and the Fonds Stratégique d'Investissement (FSI) entered into exclusive negotiations on December 27, 2011 concerning the sale of AREVA's 25.93% interest in the mining group Eramet. The sale should close in 2012. The sale price agreed upon is 776 million euros.

20.4.2.7. TUP COGERAP

The assets and liabilities of the COGERAP company were completely transferred to the accounts of AREVA SA as of December 31, 2011, producing a net surplus of 41,410 thousand euros.

20.4.3. ACCOUNTING POLICIES, RULES AND METHODS

20.4.3.1. RULES AND METHODS CONCERNING BALANCE SHEET ACCOUNTS

The financial statements of AREVA SA for the year ended December 31, 2011 were prepared in accordance with French accounting standards as defined and amended by regulation 99-03 of April 29, 1999 published by the French accounting board.

Property, plant and equipment and intangible assets

Property, plant and equipment and intangible assets appear on the balance sheet at cost, in accordance with regulation 2004-06 of the French accounting board.

These assets are depreciated based on the method considered the most appropriate.

The maximum depreciation periods are as follows:

- 3 years for off-the-shelf software;
- 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 provision may be recorded when a specific asset's book value exceeds its net carrying amount.

Long-term investments

Long-term investments are recognized on the balance sheet at cost on the day of contribution or acquisition. The acquisition cost includes the purchase price plus costs directly related to the purchase, such as commissions paid to acquire securities.

A provision for impairment of equity associates is recorded when their original cost exceeds their value in use, determined security by security.

Impairment is computed based on the Group's interest in each associate's equity (or consolidated equity for first-tier companies of the Group) at year end. However, this valuation also takes into account events or positions subsequent to year end, when they are known before closing, as well as each subsidiary's estimated profitability or market value.

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.

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.

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.

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.

Provisions for contingencies and expenses

AREVA SA records provisions for contingencies and losses, for instance to cover restructuring or litigation expenses.

Contingent liabilities represent obligations that are neither probable nor certain at the date of closing, or obligations that are probable but where no resource is likely to be expended. Contingent liabilities are not recognized in provisions, but rather disclosed in the notes (see section 20.4.4.4).

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 20.4.3.4).

AREVA's provisions for contingencies and losses are consistent with French accounting board rules on liabilities dated December 7, 2000 (CRC 2000-06).

Pension commitments

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.

20.4.3.2. FINANCIAL INSTRUMENTS

AREVA SA uses derivative instruments to hedge foreign exchange risks, interest rate risks and the price of commodities, both for its own account and for transactions carried out by its subsidiaries. The derivatives used are mainly forward exchange contracts, currency and interest rate swaps, currency options and commodity futures.

The risks hedged relate to receivables, borrowings and firm commitments in foreign currencies, planned transactions in foreign currencies, and planned sales and purchases of commodities. Derivative instruments traded to hedge subsidiaries' exposure are issued by banking counterparties. Thus, AREVA SA's exposure to its subsidiaries is strictly offset by AREVA SA's positions with the banks.

Accounting principles:

- Gains and losses on derivatives traded to hedge the subsidiaries' exposure are recognized through profit and loss at maturity, thus matching the gains and losses recognized on the symmetrical derivative transactions between AREVA SA and the banks.
- Interest rate derivatives traded by AREVA SA are qualified as hedging instruments. Interest is recognized as accrued.

20.4.3.3. CASH FLOW STATEMENT

AREVA has adopted the indirect method of presentation, which starts with net income for the period. Cash consists of the following items: cash and cash equivalents, bank debit balances, short-term investments with initial maturities of less than three months, non-trade current accounts, and short-term non-trade receivables or liabilities.

20.4.3.4. TAX DATA

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, 2011.

The relations between AREVA SA and its integrated subsidiaries are governed by a tax integration agreement based on the principle of tax neutrality. This agreement defines in particular the conditions for distributing tax liabilities among integrated companies and the rules applicable upon termination of the integration.

As provided in Article 39-1-2 of the French Tax Code, depreciation is deductible for tax purposes only if properly recognized in the company's accounting records. To encourage capital spending, tax law may allow companies to recognize amortization that would not otherwise be required under reporting standards. Due to discrepancies between tax and accounting rules, AREVA recognizes accelerated depreciation in a manner that is consistent with accounting rules providing for minimum cumulative straight-line amortization (see section 20.4.10).

20.4.4. NOTES TO THE BALANCE SHEET

20.4.4.1. NON-CURRENT ASSETS

Box A	Gross value at beginning of year	Increases	
		Revaluations	Additions
Intangible assets			
Start-up costs and R&D expenses	Total I		
Other intangible assets	Total II	30,416	81,026
Property, plant and equipment			
Land		206	
Buildings erected on owned land		114	
Buildings erected on third party land			
Building facilities, fixtures and improvements		282	
Plant, equipment and tooling		285	3
Miscellaneous facilities, fixtures and improvements		53,590	8,201
Transportation equipment		91	
Office equipment, computer equipment and furniture		15,646	190
Recyclable packaging and miscellaneous			
Plant, property and equipment in progress		9,597	111,937
Advances and prepayments			
	Total III	79,810	31,195
Long-term investments			
Equity associates		2,037,354	1,864,399
Other long-term securities		53,753	7,447
Loans and other long-term investments		4,391,928	14,284,936
	Total IV	6,483,035	16,156,783
GRAND TOTAL	(I + II + III + IV)	6,593,261	16,269,004

BOX B		Decreases		Gross value at year end
		Reclassifications	Disposals	
Intangible assets				
	Start-up costs and R&D expenses	Total I		
	Other intangible assets	Total II	343	1,562
				109,538
Property, plant and equipment				
	Land		2	204
	Buildings erected on owned land			114
	Buildings erected on third party land			
	Building facilities, fixtures and improvements		282	
	Plant, equipment and tooling		224	64
	Miscellaneous facilities, fixtures and improvements		4,627	57,164
	Transportation equipment		39	52
	Office equipment, computer equipment and furniture		676	15,160
	Plant, property and equipment in progress	115,238		6,296
	Advances and prepayments			
		Total III	26,102	79,053
Long-term investments				
	Equity associates	180,637	123,626	3,597,490
	Other long-term securities			61,201
	Loans and other long-term investments		12,467,562	6,209,302
		Total IV	180,637	12,591,188
				9,867,992
GRAND TOTAL		(I + II + III + IV)	207,082	12,598,601
				10,056,582

Property, plant and equipment and intangible assets

The increase in intangible assets is essentially due to the acquisition and capitalization of software and management applications related to projects of the Engineering & Projects organization and to the purchase of the SAP core model (called Ambition) of its subsidiaries AREVA NP SAS, AREVA NP Inc. and AREVA NP GmbH.

The increase in property, plant and equipment is mainly due to furnishings and fixtures for the emergency response management room at the La Fayette site and to the access control system of the Courbevoie site.

The decrease in property, plant and equipment is due to the sale of Building B assets at the Colombes site to Génégis.

Long-term investments

Equity associates in the amount of 3,597,490 thousand euros. It primarily comprises the following securities:

- AREVA NP 2,055,853 thousand euros
- AREVA NC 523,292 thousand euros
- ERAMET 303,856 thousand euros

- CERE 251,541 thousand euros
- AREVA RENEWABLES 188,234 thousand euros
- AREVA MINES 180,637 thousand euros
- In 2011, AREVA sold its interest in FT1CI SA, which was recognized at a book value of 54,889 thousand euros at December 31, 2010.
- AREVA's interest in AREVA NP SAS increased by 1,671,000 thousand euros after the acquisition of 34% of the latter's shares.
- Pursuant to the request of the Conseil de Politique Nucléaire (French nuclear policy board) on February 21, 2011, the mining operations initially held by AREVA NC were spun off as the AREVA Mines company, in which AREVA SA holds a 99.99% interest.

The heading "Loans to equity associates" in the amount of 6,131,115 thousand euros concern medium-term loans made to Group companies. At December 31, 2011, these companies were mainly:

- URAMIN HOLDING SAS 1,917,351 thousand euros
- SET HOLDING 904,253 thousand euros

● CRI CANADA (1,035,246 thousand CAD)	783,387 thousand euros	● URAMIN NAMIBIA (284,043 thousand USD)	219,525 thousand euros
● AREVA PROCESSING NAMIBIA (720,231 thousand USD)	556,636 thousand euros	● AREVA RENEWABLES Inc. (244,726 thousand USD)	189,139 thousand euros
● URANGESELLSCHAFT FRANKFURT (463,555 thousand USD)	358,262 thousand euros	● AREVA ENR SERVICES LLC	167,570 thousand euros
● SOCIÉTÉ ENRICHISSEMENT TRICASTIN	307,921 thousand euros	● AREVA MINES	130,015 thousand euros

Other long-term securities and other long-term investments

	December 31, 2010	Increases	Decreases	December 31, 2011
Other long-term securities	53,753	7,447		61,201
Loans	5		5	
Other long-term investments	68,571	16,250	6,663	78,187

“Other long-term securities” chiefly include Japan Steel securities in the amount of 43,305 thousand euros and Amundi Clean Planet securities in the amount of 7,387 thousand euros.

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 6,064 thousand euros at December 31, 2011;
- 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, 2011, and in the mutual BlueRE in the amount of 320 thousand euros;
- treasury shares acquired from the Framépargne employee savings plan under a liquidity agreement, including 14,898 thousand euros for acquisitions in 2011. Impairment of these treasury shares in the amount of 41,598 thousand euros was recognized based on the market price of the AREVA share at December 31, 2011.

20.4.4.2. AMORTIZATION

	Gross value at beginning of year	Increases	Decreases	Gross value at end of year
Depreciable assets				
Intangible assets				
Start-up costs and R&D expenses	Total I			
Other intangible assets	Total II	12,787	16,553	1,562
				27,778
Property, plant and equipment				
Land	2		2	
Buildings erected on owned land	114			114
Buildings erected on third party land				
Building facilities, fixtures and improvements	110	12	123	
Plant, equipment and tooling	265	6	224	47
Miscellaneous facilities, fixtures and improvements	16,189	6,051	1,303	20,937
Transportation equipment	84	7	39	52
Office equipment, computer equipment and furniture	8,363	2,186	530	10,018
Recyclable packaging and miscellaneous				
	Total III	25,128	8,261	2,221
GRAND TOTAL	(I + II + III)	37,915	24,814	3,783
				58,946

20.4.4.3. CASH AND MARKETABLE SECURITIES

	December 31, 2011	December 31, 2010
Investment securities – equities (gross book value)	200	200
Investment securities – equities (impairment)		
Other marketable securities (gross book value)	1,939,130	2,990,862
Other marketable securities (impairment)		
Cash instruments		66,356
Cash and cash equivalents	2,800,970	2,625,067
TOTAL	4,740,301	5,682,484

Other marketable securities consist primarily of certificates of deposit in the amount of 903,608 thousand euros and money market funds and treasury bonds in the amount of 1,035,050 thousand euros.

“Cash and cash equivalents” consist of non-trade current accounts in the amount of 2,793,042 thousand euros and bank balances and cash in the amount of 7,929 thousand euros.

20.4.4.4. PROVISIONS RECORDED ON THE BALANCE SHEET

	Gross value at beginning of year	Increase	Decrease (utilized)	Decrease (not utilized)	Gross value at year end	
Tax-driven provisions						
Provisions for capital investment						
Accelerated depreciation subject to favored tax status	13	1,301		13	1,301	
Other tax-driven provisions						
Total I	13	1,301		13	1,301	
Provisions for contingencies and expenses						
Provisions for litigation						
Provisions for foreign exchange losses	9	124		9	124	
Provisions for pension and similar benefits	2,289	330			2,619	
Provisions for taxes	58,678	59,267			117,944	
Other provisions for contingencies and losses	194,443	93,439	76,371	112,396	99,116	
Total II	255,419	153,160	76,371	112,404	219,803	
Provisions for impairment						
Intangible assets						
Property, plant and equipment						
Equity investments						
Equity associates	6,851	373		80	7,143	
Other long-term investments	12,373	104,197		555	116,015	
Inventories and work-in-process						
Trade accounts receivable						
Other provisions for impairment	4,430	1,515		55	5,891	
Total III	23,654	106,084		690	129,049	
GRAND TOTAL	(I+II+III)	279,086	260,545	76,371	113,107	350,153
Including charges/reversals:						
• Operating		10,648	3,284			
• Financial		183,789	73,087	111,262		
• Exceptional		66,109		1,845		

Provisions for contingencies and losses

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, 2011, this provision was increased to 117,944 thousand euros after a provision of 59,267 thousand euros for potential tax.

The other provisions for contingencies and losses consist primarily of the 62,228-thousand-euro increase in the provision for the unrealized loss at December 31, 2011 connected with the liquidity agreement with the Framépargne employee savings plan, and the 15,229-thousand-euro increase related to the unrealized loss on inflation swaps.

Provisions for impairment

The increase in the provisions for equity securities corresponds in particular to the impairment of AREVADELFI securities in the amount of 294 thousand euros.

The provisions for other long-term investments consist primarily of 49,124 thousand euros related to the provision for loans to equity associates at December 31, 2011 of UraMin Lukisa, 41,598 thousand euros for treasury shares of AREVA SA, and 11,909 thousand euros for impairment of Japan Steel Works securities.

20.4.4.5. STATEMENT OF RECEIVABLES AND LIABILITIES

	Gross amount	Maturing in < 1 year	Maturing in > 1 year
Non-current assets			
Loans to equity associates	6,131,115	1,722,441	4,408,674
Loans			
Other long-term investments	78,187		78,187
Current assets			
Doubtful trade accounts			
Other trade accounts receivable	104,965	104,965	
Loans of securities			
Accounts payable to employees and related accounts	1,772	1,772	
Social security administration and other social institutions	7	7	
French State, local governments: Income tax	41,820	41,820	
French State, local governments: Value added tax	107,669	107,669	
French State, local governments: Other taxes and similar payments	195	195	
French State, local governments: Miscellaneous	459	459	
Group and associates	1,525	1,525	
Miscellaneous accounts receivable	339,652	339,652	
Accruals	44,222	19,106	25,116
TOTAL	6,851,588	2,339,611	4,511,977

	Gross amount	Maturing in < 1 year	Maturing in 1 to 5 years	Maturing in > 5 years
Convertible bond issues				
Other bond issues	4,307,085	57,085	1,250,000	3,000,000
Bank borrowings, maturity at inception: one year or less	14,027	14,027		
Bank borrowings, maturity at inception: more than one year	400,756	756	400,000	
Miscellaneous loans and borrowings	590,546	502,397	87,709	440
Cash instruments	91,946	91,946		
Group and associates	2,014,211	2,014,211		
Trade accounts payable and related accounts	177,135	177,135		
Other operating liabilities				
Accounts payable to employees and related accounts	16,373	16,373		
Social security administration and other social institutions	5,616	5,616		
Value added tax	12,583	12,583		
Covered bonds				
Other taxes and similar payments	2,475	2,475		
Other liabilities	728,577	728,577		
Miscellaneous liabilities				
Accounts payable on non-current assets and related accounts	995	995		
Income tax	27	27		
Unearned income	71,632	6,098	24,340	41,195
TOTAL	8,433,983	3,630,299	1,762,049	3,041,634

Bond issues

(millions of euros)

Issue date	Par value	Currency	Nominal rate	Due date
September 23, 2009	1,250	EUR	3.875%	2016
September 23, 2009	1,000	EUR	4.875%	2024
November 6, 2009	750	EUR	4.375%	2019
September 22, 2010	750	EUR	3.500%	2021
October 5, 2011	500	EUR	4.625%	2017
TOTAL	4,250			

The AREVA group made one bond issue in 2011 in the nominal amount of 500 million euros with a maturity date of October 5, 2017 at the annual rate of 4.625%.

The total drawn on the bond issues comes to 4.25 billion euros in nominal value. Of this total, 950 million euros were hedged for a variable rate in euros with rate swaps.

Loans and borrowings

Loans and borrowings came to 1,005,329 thousand euros at December 31, 2011, mainly including:

- bank account credit balances of 14,027 thousand euros;

- two European Investment Bank facilities for 400,000 thousand euros;
- commercial paper in the amount of 457,500 thousand euros; and
- debt related to associates in the amount of 132,606 thousand euros.

Group and associates

At December 31, 2011, this heading mainly includes intercompany non-trade accounts in the amount of 2,014,211 thousand euros.

20.4.4.6. ACCRUED INCOME

(French decree 83-1020 of November 29, 1983, Article 23)

	December 31, 2011	December 31, 2010
Loans to equity associates	18,042	6,321
Accounts receivable and related accounts	20,052	7,227
Other accounts receivable	314,165	405,600
<i>French State – other accounts receivable</i>	459	5,654
Marketable securities	472	23
TOTAL	352,731	419,171

20.4.4.7. ACCRUED EXPENSES

(French decree 83-1020 of November 29, 1983, Article 23)

	December 31, 2011	December 31, 2010
Other bond issues	57,085	38,497
Bank borrowings	756	676
Miscellaneous loans and borrowings	317	576
Trade accounts payable and related accounts	134,463	181,137
Taxes and employee-related liabilities	21,084	15,579
Accounts payable on non-current assets and related accounts	794	1,343
Other liabilities	431,473	400,332
TOTAL	645,972	638,140

20.4.4.8. UNEARNED INCOME

(French decree 83-1020 of November 29, 1983, Article 23)

	December 31, 2011	December 31, 2010
Unearned financial income	71,632	
TOTAL	71,632	

Cross currency swaps were set up to cover the bond issue (fixed-rate receiver/variable-rate payer). The cross currency swap contracts were unwinded in December 2011 to take advantage of an attractive fixed

rate. Unearned financial income defers recognition of the gain over the remaining term of the bond issue, resulting in a net effective rate over said term.

20.4.4.9. SHARE CAPITAL

(French decree 83-1020 of November 29, 1983, Article 24-12)

Since May 30, 2011, the AREVA share is traded on compartment A of the NYSE Euronext stock exchange in Paris under ISIN code FR0011027143.

Class of security	Par value	Beginning of year	Number of shares		At year end
			Issued during the year	Redeemed during the year	
Shares	3.8 euros	367,828,237	15,376,615*	0	383,204,852

* including 14,291,080 investment certificates converted into common shares following the simplified public offering carried out on May 30, 2011 including 1,085,535 new shares (ADPC) following the capital increase carried out on January 25, 2011, which were converted into ordinary shares following the simplified public offering carried out on May 30, 2011

The share capital of AREVA SA at December 31, 2011 was as follows:

	2011	2010	2009
CEA	73.0%	73.2%	78.9%
French State	10.2%	10.2%	8.4%
Kuwait Investment Authority (KIA)	4.8%	4.8%	-
Caisse des dépôts et consignations	3.3%	3.3%	3.6%
Total	1.0%	1.0%	1.0%
Calyon and employee Shareholders	1.2%	1.3%	1.4%
EDF	2.2%	2.3%	2.5%
Public	4.0%	3.7%	4.0%
Treasury shares	0.3%	0.2%	0.2%
TOTAL	100.0%	100.0%	100.0%

20.4.4.10. SHAREHOLDERS' EQUITY EXCLUDING SHARE CAPITAL

	December 31, 2010	Appropriation of earnings	Net income for the year	Change for the year	December 31, 2011
Issue premiums	975,837			28,360	1,004,198
Consolidation goodwill	143,932				143,932
Legal reserve	134,682	10,523			145,205
Regulated reserves	2				2
Blocked reserves	3,302				3,302
Other reserves	6,403				6,403
Retained earnings	1,047,408	1,605,211			2,652,618
Net income for the year	1,615,734	-1,615,734	1,182,443		1,182,443
Investment subsidies	2,509			-366	2,143
Tax-driven provisions	13			1,288	1,301
TOTAL EQUITY EXCLUDING SHARE CAPITAL	3,929,822	-	1,182,443	29,282	5,141,547

20.4.4.11. DATA ON RELATED PARTIES

(French decree 83-1020 of November 29, 1983 – articles 24-15)

Balance sheet account	Net transactions with		Debt or receivables evidenced by an instrument
	related parties	equity associates	
Long-term investments			
Equity associates	3,594,831		
Loans to equity associates	6,130,446		
Loans			
Other long-term securities			
Other long-term investments	18		
TOTAL LONG-TERM INVESTMENTS	9,725,295		
Accounts receivable			
Accounts receivable and related accounts	98,479		
Other accounts receivable	135,461		
TOTAL ACCOUNTS RECEIVABLE	233,490		
Cash and marketable securities			
Marketable securities			
Non-trade current accounts	2,773,654		
TOTAL CASH AND MARKETABLE SECURITIES	2,773,654		
Miscellaneous loans and borrowings			
Miscellaneous debt	372		
Loans to equity associates	132,606		
Non-trade current accounts	2,010,012		
TOTAL MISCELLANEOUS LOANS AND BORROWINGS	2,142,990		
Liabilities			
Trade accounts payable and related accounts	110,735		
Other liabilities	226,222		
TOTAL LIABILITIES	336,957		
Income statement account			
Financial income			
Financial income	749,164		
Financial expenses			
Financial expenses	407,394		
NET FINANCIAL INCOME	341,770		

20.4.4.12. TRANSACTIONS WITH RELATED PARTIES

(French decree no. 2009-267 of March 9, 2009)

The transactions with related parties listed in this paragraph are considered significant and were not concluded at normal market conditions based on the criteria indicated below.

A transaction is deemed significant if a lack of disclosure or an erroneous disclosure may have an influence on economic decisions by third parties who rely on the financial statements. Whether a transaction is significant or not depends on the nature and/or the amount of the transaction.

Conditions may be considered "normal" when they are customarily employed by the company in its dealings with third parties, such that the beneficiary of the transaction does not receive a more favorable treatment than other third parties dealing with the company, taking into account the practices of other companies in the same sector.

AREVA and the Fonds Stratégique d'Investissement (FSI) entered into exclusive negotiations on December 27, 2011 concerning the sale of AREVA's 25.93% interest in the mining group Eramet. The sale should close in 2012. The sale price agreed upon is 776 million euros.

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 369,082 thousand euros;
- The trademark license fee is charged to all Group entities at the rate of 0.9% of contributions to consolidated revenue;
- proceeds from real estate operations (52,124 thousand euros);
- charge allocation for personnel expenses (559 thousand euros);

Operating expenses reflect holding company activities and services provided to subsidiaries. The operating loss thus came to 189,170 thousand euros.

20.4.5.2. NET FINANCIAL INCOME

Net financial income includes, in particular:

● dividends from equity interests	154,136 thousand euros
● dividends from other securities (including Suez)	5,122 thousand euros
● investment income	7,362 thousand euros
● net income on non-trade accounts and loans to equity associates	44,485 thousand euros
● net income on financial instruments	85,955 thousand euros
● net surplus on merger of assets and liabilities	41,410 thousand euros
● interest expense on borrowings	-175,101 thousand euros
● foreign exchange gain	-79,073 thousand euros
● net provisions	-1,182 thousand euros
● a net gain from disposals of securities	13,175 thousand euros

20.4.5.3. EXCEPTIONAL ITEMS

Exceptional items primarily include:

- the gain on the disposal of FT1CI securities in the amount of 641,014 thousand euros;
- the gain on the disposal of Suez Environment securities in the amount of 14,601 thousand euros;
- the payment of damages in the amount of 648,000 thousand euros by Siemens in connection with the dispute between AREVA and Siemens concerning breach of the Shareholders' agreement related to AREVA NP;
- the decrease in the provision for potential tax of 59,267 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 2011, AREVA SA and its integrated subsidiaries generated a combined tax loss of 42,587 thousand euros.

The tax expense recognized for 2011 came to 24,725 thousand euros.

It is broken down as follows:

- tax savings generated by the tax integration regime: 33,411 thousand euros;
- change in provision for potential tax: 59,267 thousand euros;
- tax credits: 1,131 thousand euros, including 690 thousand euros generated by the research tax credit.

20.4.6. ADDITIONAL INFORMATION

20.4.6.1. EMPLOYEES

The company employed 120 people on December 31, 2011, as indicated in the following table:

	2011	2010	2009
Management personnel	94	94	98
Supervisors	26	27	30
Support staff	0	0	0
TOTAL	120	121	128

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 20.4.3.1. Each year, independent actuaries determine AREVA's commitments at year end.

<i>Balance sheet reconciliation (thousands of euros)</i>	2011	2010	2009
TOTAL PROVISIONS FOR PENSION OBLIGATIONS AND OTHER EMPLOYEE BENEFITS	2,619	2,289	2,181

The main actuarial assumptions used in determining the Group's obligations are as follows:

	2011	2010	2009
Inflation	2.00%	2.00%	2.00%
Discount rate	4.75%	5.00%	5.50%

- Mortality tables used: INSEE 2000-2002 Men/Women;
- Retirement age: 64 for management personnel, 62 for non-management personnel;
- Average attrition:

- Assumed rate of salary increase, net of inflation:

	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%

	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 benefit obligations

<i>(thousands of euros)</i>	2011	2010	2009
Benefit obligation	2,840	2,525	2,865
Fair value of plan assets			
Unrecognized actuarial losses	-89	-142	-830
Unrecognized past service gains	-132	-94	146
NET BENEFIT OBLIGATION	2,619	2,289	2,181

Change in the provision

<i>(thousands of euros)</i>	2011	2010	2009
Change in the provision:			
Restated opening balance	2,289	2,181	1,965
Total expense	330	372	269
Contributions collected/benefits paid		-264	-53
BENEFIT OBLIGATION AT DECEMBER 31	2,619	2,289	2,181

Total expense for the year

<i>(thousands of euros)</i>	2011	2010	2009
Current service cost	201	194	162
Interest expense	124	148	120
Expected return on plan assets			
Amortization of actuarial gains or losses	5	45	2
Past service cost		-15	-15
Plan creation, curtailment or liquidation			
TOTAL EXPENSE FOR THE YEAR	330	372	269

20.4.6.3. INFORMATION ON LEASE ARRANGEMENTS

No lease arrangements were recorded in 2011.

20.4.6.4. COMPANY EXPOSURE TO MARKET RISK**General objectives**

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

In the Finance department, the department of Financial Operations and Treasury Management (DOFT) makes transactions on financial markets and acts as a central desk that provides services and manages the Group's financial exposure. This department is organized with a front, middle and back office 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 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.

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

To limit the currency risk for long-term investments generating future cash flows in foreign currencies, the Group uses a liability in the same currency to offset the asset.

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 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 department of Financial Operations and Treasury Management 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 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, 2011, derivatives used by the Group to manage foreign exchange risk were as follows:

Foreign exchange instruments (millions of euros)	(Notional amounts by maturity date at 12/31/11, at par value)						Total	Market value
	2012	2013	2014	2015	2016	> 5 years		
Forwards								
JPY/EUR	196	135	177	24	-	-	533	(35)
USD/EUR	1,179	457	254	177	118	1	2,185	26
JPY/USD	26	25	-	-	-	-	51	0
CAD/EUR	11	0	1	1	-	-	13	0
USD/CAD	319	172	59	9	-	-	559	1
OTHER	249	99	561	-	-	-	908	1
Total	1,980	888	1,052	211	118	1	4,249	(8)
Currency swaps								
JPY/EUR	152	70	54	25	-	-	301	32
USD/EUR	2,528	179	72	43	67	1	2,889	(51)
SEK/EUR	55	-	-	-	-	-	55	(1)
CAD/EUR	832	-	-	-	-	-	832	(43)
USD/CAD	54	23	23	-	-	-	100	(1)
OTHER	85	4	-	-	-	-	89	(1)
Total	3,706	276	149	68	67	1	4,266	(66)
Currency options								
USD/ZAR	232	-	-	-	-	-	232	0
JPY/EUR	20	70	102	-	-	-	191	0
USD/EUR	356	108	124	-	-	-	588	0
USD/CAD	83	31	-	-	-	-	114	0
Total	691	209	225	-	-	-	1,126	0
Cross currency swaps								
USD/EUR	-	-	-	187	-	-	187	(0)
Total	-	-	-	187	-	-	187	(0)
GRAND TOTAL	6,376	1,373	1,427	465	184	1	9,827	(74)

Interest rate risk management

The Group is exposed to the fluctuations of interest rates on its external floating rate borrowings and on its financial investments. Rate risk management is entirely centralized in the department of Financial Operations and Treasury Management, which consolidates the subsidiaries' current or stable cash surpluses or requirements and arranges external financing as appropriate, except as otherwise required by regulations or specific circumstances.

The Group uses several types of derivative instruments, as required by market conditions, to allocate its borrowings between fixed rates and

floating rates and to manage its investment portfolio, with the goal being mainly to reduce its borrowing costs while optimizing the management of its cash surpluses.

At December 31, 2011, interest rate swaps were the main financial instruments used in the management of external debt. Inflation rate swaps receiver in US dollars were set up to cover a specific and isolated commercial risk on behalf of the Mining BG.

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, 2011, the following financial instruments were used to hedge interest rate exposure:

Interest rate instruments (millions of euros)	Total	Notional amounts of the contracts by maturity date at 12/31/11						Market value
		2012	2013	2014	2015	2016	> 5 years	
Interest rate swaps – variable lender – EUR								
Fixed borrower – EUR	250	-	-	-	200	50	-	(2)
Interest rate swaps – variable lender – EUR								
Fixed borrower – INR	-	-	-	-	-	-	-	0
Interest rate swaps – variable lender – EUR								
Variable borrower – USD	187	-	-	-	187	-	-	3
Interest rate swaps – fixed lender								
Variable borrower – EUR	1,406	456	-	-	-	800	150	70
Inflation rate swaps – variable lender – USD								
Fixed borrower – USD	-	-	-	-	-	-	-	-
GRAND TOTAL	1 843	456	-	-	387	850	150	70

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, nickel and gold. Most of the Group's exposure is concentrated in the Mining and Reactors & Services BGs.

Each BG 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 BG).

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 department of Treasury Management hedges the subsidiaries' position with market counterparties without taking any speculative position.

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

At December 31, 2011, derivative financial instruments used by the Group to hedge future cash flows from commodities were as follows:

Commodity risk management

<i>(millions of euros)</i>	Notional amount	Notional amounts of cash flow hedges by maturity date at 12/31/11 (at par value)						Market value
		2012	2013	2014	2015	2016	> 5 years	
Nickel								
Forward transactions – Buyer	0	0	-	-	-	-	-	0
Forward transactions – Seller	0	0	-	-	-	-	-	0
Copper								
Forward transactions – Buyer	1	1	-	-	-	-	-	0
Forward transactions – Seller	1	1	-	-	-	-	-	(0)
Gold								
Option - Buyer	144	144	-	-	-	-	-	4
Option - Seller	144	144	-	-	-	-	-	(4)
Energy								
Forward transactions – Buyer	1	1	-	-	-	-	-	0
Forward transactions – Seller	1	1	-	-	-	-	-	0
TOTAL	291	291	-	-	-	-	-	0

Equity risk

To manage its long-term investment positions, the Group may elect to use puts and calls backed by portfolio equities. No such transaction was pending at the end of the year.

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 and publicly traded equities. The Group primarily uses forward buy/sell currency and commodity contracts and rate derivative products such as swaps, futures or options to cover these types of risk. These transactions involve exposure to counterparty risk when the contracts are concluded over the counter.

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

The limits allowed for each counterparty are determined based on its rating and the type and maturity of the instruments traded. Assuming the rating of the counterparty is not downgraded earlier, the limits are reviewed at least once a year and approved by the Chief Financial Officer. The limits are verified in a specific report produced by the internal control team of the department of Treasury Management. During periods of

significant financial instability that may involve an increased risk of bank default, which may be underestimated by ratings agencies, the Group 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 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

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. OFF-BALANCE SHEET COMMITMENTS, EXCLUDING LEASES

The Group has established a procedure to identify and confirm off-balance sheet items disclosed in these notes. This procedure includes a definition of the main categories of commitments and their valuation methods. It also includes a method to collect and control the data, relying largely on confirmations from third parties.

(thousands of euros)	Total	< 1 year	1 to 5 years	> 5 years
Commitments given				
Bid guarantees	-	-	-	-
Performance warranties	-	-	-	-
Down payment guarantees	-	-	-	-
After-sales warranties	-	-	-	-
Other contract guarantees	-	-	-	-
Guarantees for waivers of warranty retentions	-	-	-	-
Environmental guarantees	-	-	-	-
Total operating commitments given	-	-	-	-
Guarantees and surety	667,064	174,850	424,428	66,786
Total commitments and collateral given on financing	667,064	174,850	424,428	66,786
Guarantees of assets and liabilities	-	-	-	-
Guarantees pertaining to rental obligations	6,702	-	-	6,702
Other commitments given	-	-	-	-
Total other commitments given	6,702	-	-	6,702
TOTAL	673,766	174,850	424,428	73,488
Commitments received				
Vendor warranties received	-	-	-	-
Other commitments received	677	677	-	-
TOTAL	677	677	-	-
Reciprocal commitments				
Unused lines of credit	3,500,000	-	3,500,000	-
Future minimum payments on operating leases	326,474	56,191	177,852	92,431
Other reciprocal commitments	5,000	5,000	-	-
TOTAL	3,831,474	61,191	3,677,852	92,431

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 guarantee in respect of ownership of FCI shares sold to Bain Capital. This amount, which is capped at the sale price of 582 million euros, is not included in the summary table.

AREVA gave its subsidiary AREVA Mines a commitment to recapitalize AREVA Mines up to the amount of AREVA Mines' net equity on the date of contribution of assets, for an amount not to exceed debt owed to AREVA by AREVA Mines and its subsidiaries.

Reciprocal commitments

Unused lines of credit

In February 2007, the Group established a 2-billion-euro syndicated line of credit available in euros and US dollars over a seven year period. At year-end 2011, this line had not been used.

In 2011, the Group established a 1.5-billion-euro bilateral line of credit available in euros over a two year period. At year-end 2011, this line had not been used.

20.4.6.6. 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 801 thousand euros.

20.4.6.7. EVENTS SUBSEQUENT TO YEAR END

None.

20.4.6.8. DISPUTES AND POTENTIAL LIABILITIES

Siemens' withdrawal from AREVA NP

On January 27, 2009, Siemens announced its decision to exercise its option to sell its 34% interest in AREVA NP to AREVA.

The two companies mandated an independent expert to determine the value of Siemens' minority interest as of the first quarter of 2009, in accordance with the procedure provided in the Shareholders' agreement signed by AREVA and Siemens in 2001. In March 2011, in his report, the independent expert put the value of Siemens' 34% interest in AREVA NP at 1.62 billion euros. AREVA paid that amount to Siemens on March 18, 2011.

In March 2009, AREVA exercised "for breach" its call option on the interest held by Siemens in AREVA NP, based on several breaches by Siemens of its contractual obligations, as stipulated in the Shareholders' agreement between the two Shareholders of AREVA NP.

On April 14, 2009, AREVA initiated arbitration proceedings against Siemens before the International Chamber of Commerce (ICC) to claim damages for breach of the Shareholders' agreement.

In connection with this dispute, the court of arbitration confirmed that Siemens was in breach of contract in a judgment rendered on May 19, 2011 to the parties. As a result, Siemens paid 648 million euros in penalties in principal and interest to AREVA.

In parallel, in May 2010, the European Commission announced the official start of proceedings against AREVA and Siemens concerning the existence of various contractual restrictions between the parties in the civilian nuclear field, in particular a non-competition clause. The start of these proceedings does not mean that the non-competition clause is illegal, but simply that the Commission is examining it more closely. The Commission's investigation is still ongoing.

20.4.6.9. SUBSIDIARIES AND EQUITY INTERESTS

(thousands of euros unless other indicated)

Subsidiaries and associates	Share capital	Premiums, reserves and retained earnings	Interest held in share capital (percentage)	Gross carrying amount of shares held	Net carrying amount of shares held	Unpaid loans and advances	Revenue (before tax) of last fiscal year	Income (loss) from last accounting period	Dividends received in fiscal year 2011
A - Detailed financial information on subsidiaries and associates (net carrying amount exceeds 1% of AREVA's share capital)									
1 - Subsidiaries (AREVA holds more than 50% of the share capital)									
. AREVA NP s.a.s.									
Tour AREVA - 92084 Paris La Défense Cedex – France	400,000	-507,432	100.00	2,055,853	2,055,853		2,021,249	-478,880	
. AREVA NC									
33, rue La Fayette - 75009 Paris – France	100,259	223,164	100.00	523,292	523,292		2,108,736	-635,452	100,259
. Compagnie d'Etude et de Recherche pour l'Energie (CERE)									
33, rue La Fayette - 75009 Paris – France	247,500	8,668	100.00	251,541	251,541			-420	
. AREVA Renouvelables									
Tour AREVA - 92084 Paris La Défense Cedex – France	188,081	-45,367	100.00	188,234	188,234	95,199	13,874	-61,804	
. AREVA MINES									
33, rue La Fayette - 75009 Paris – France	252,073		99.99	180,674	180,674	130,015	1,191,266	-1,292,269	
. Cédec									
33, rue La Fayette - 75009 Paris – France	36,532	4,882	90.14	33,466	33,466			51	5,488
. AREVA Insurance et Réassurance (AREVA IR)									
33, rue La Fayette - 75009 Paris – France	6,375	94,150	100.00	30,940	30,940			-354	
2 - Associates (AREVA holds 10% to 50% of the share capital)									
Eramet	81,000	2,760,000	25.93	303,856	303,856		3,603,000	195,000	23,386
B. - Summary information on other subsidiaries and associates									
1 - Subsidiaries not included in section A above									
a) French subsidiaries (combined)				16,043	14,995				
b) Foreign subsidiaries (combined)				4,808	3,836	2,496			
2 - Associates not included in section A above									
a) French companies (combined)				7,318	2,321				2,841
b) Foreign companies (combined)				1,465	1,339				

→ 20.5. Five-year financial summary of AREVA S.A.

<i>(thousands of euros)</i>					
Type of indicator	2007	2008	2009	2010	2011
I - Share capital at year end					
a) Share capital	1,346,823	1,346,823	1,346,823	1,452,053	1,456,178
b) Number of common shares outstanding	34,013,593	34,013,593	34,013,593	367,828,237	383,204,852
c) Number of shares with preferred dividend rights	1,429,108	1,429,108	1,429,108	14,291,080	0
II - Operations and income for the year					
a) Revenue before tax	143,647	174,309	230,919	395,168	450,606
b) Income before tax, employee profit-sharing and amortization, depreciation and provisions (including reversals)	368,091	1,026,182	-107,930	1,648,375	1,246,778
c) Income tax	476,333	53,518	72,360	39,737	34,541
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)	726,612	1,036,002	-138,672	1,615,734	1,182,443
f) Net income distributed	239,947	249,871	249,730	0	0 ^(*)
III - Earnings per share (in euros)					
a) Income after tax and employee profit-sharing, before amortization, depreciation and provisions (increases-decreases)	17.00	30.00	-5.00	4.00	3.00
b) Income after tax, employee profit-sharing and amortization, depreciation and provisions (increases-decreases)	21.00	29.00	-4.00	4.00	3.00
c) Dividend per share (rounded to one eurocent)	6.80	7.05	7.06	0.00	0.00
IV - Personnel					
a) Average number of salaried employees during the year	139	128	128	123	119
b) Total payroll for the year	19,922	17,792	23,269	28,496	25,243
c) Payroll taxes and other benefit expenses (social security, benefits programs, etc.)	9,718	8,939	11,231	11,119	10,431

(*) Preliminary data pending approval by the Annual General Meeting of Shareholders

→ 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:

<i>(thousands of euros)</i>	2011	2010
Matured	6,314	17,743
0 to 30 days	35,695	40,400
31 to 45 days	465	1,600
More than 45 days	73	42
TOTAL	42,547	59,785

→ 20.7. Dividends

20.7.1. DIVIDENDS – EXCERPT FROM THE MANAGEMENT REPORT OF FEBRUARY 29, 2012

20.7.1.1. 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.

20.7.1.2. DIVIDEND DATA

<i>(in euros)</i>	Dividend	Tax credit	Gross dividend
2000	22.85	11.42	34.27
2001	6.20	3.10	9.30
2001 (exceptional dividend)	12.28	6.14	18.48
2002	6.20	3.10	9.30
2003	6.20	3.10	9.30
2004	9.59	-	9.59
2005	9.87	-	9.87
2006	8.46	-	8.46
2007	6.77	-	6.77
2008	7.05	-	7.05
2009	7.06	-	7.06
2010	-	-	-
2011	-	-	-

20.7.1.3. DIVIDEND POLICY

On June 30, 2009, the Supervisory Board approved a dividend policy supported by the French State as Shareholder and incorporated into the Group's development plan. Thus, starting with the dividend paid in 2011 based on the financial statements for the year ended December 31, 2010, and for a three-year period, the distribution rate for dividends will be equal to 25% of the net income attributable to owners of the parent.

The annual dividend amount is set with representatives of the French State and the CEA, which together hold a majority of the Group's share capital. For 2011, in view of the net loss recognized for the year, the Supervisory Board will propose to the Annual General Meeting of Shareholders to be held May 10, 2012 that no dividend payment be made.

→ 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 and financial position.

Appropriate provisions are recorded to cover expenses that could result from these disputes, based on case-by-case analysis. At December 31, 2011, provisions for disputes, excluding other provisions for contingencies, totaled 21 million euros. Some of the subjects discussed in this section are not subject to formal litigation per se and the corresponding provisions are recognized in provisions for contract performance (see section 20.2. *Notes to the consolidated financial statements, Note 24, Other provisions*).

In addition, some disputes involving damages or injury are covered under Group insurance policies or other forms of guarantee.

Except as described below, and to the knowledge of the Group, there is no other governmental, legal or arbitration proceeding, including any pending or threatened proceeding known to the company, which had or could have a significant impact on the financial position or profitability of the company and/or the Group in the last twelve months.

SIEMENS' WITHDRAWAL AS AREVA NP SHAREHOLDER (DISPUTE CONCERNING AREVA SA)

On April 14, 2009, AREVA initiated arbitration proceedings against Siemens in connection with the latter's withdrawal from AREVA NP.

In the sentence it handed down on May 19, 2011, an arbitration court found that Siemens was in breach of its obligations and ordered it to pay 648 million euros in damages to AREVA in principal and interest. This amount is the maximum penalty provided for breach of the Shareholders' agreement entered into by AREVA and Siemens in 2001, i.e. 40% of the value of Siemens' holding in AREVA NP. On March 18, 2011, an

independent expert appointed by the two parties had valued the shares at 1.62 billion euros.

In addition, the court limited the validity of the non-compete clause in the Shareholders' agreement to four (4) years. Moreover, this period is under review by the European Commission. To bring this proceeding to a close, and without it being held to be recognition of a violation, the parties could further reduce the term of this commitment.

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").

The customer, TVO, filed a counterclaim against the consortium. This claim, based on allegations which the consortium and its counsel

consider to be unfounded and without merit under the contract terms and Finnish law, will be adjudicated as part of the D&D Claim.

The consortium and/or the customer could initiate a certain number of other arbitration proceedings on specific matters related to contract performance.

AREVA NC/ENVIRONMENTAL ASSOCIATION (SHIPMENTS)

An environmental association asked to be provided a copy of contracts between AREVA NC and its customers, covering in particular several shipments of used fuel from abroad for treatment at La Hague.

SHIPMENT OF USED FUEL FROM THE NETHERLANDS

On March 3, 2006, the presiding judge of the Court of First Instance of Cherbourg (*Tribunal de grande instance*, a civil court) ordered AREVA NC to provide the association with certified copies of the fuel reprocessing agreements between AREVA NC and its customer, together with a detailed schedule for the return of the waste separated during fuel treatment. The Court of Appeals of Caen confirmed this order on September 4, 2007.

At the same time, the association continued the proceeding on the merits by pleading that the used fuel should be qualified as waste under the meaning of French Law no. 91-1381 of December 30, 1991 related to research on radioactive waste management and is seeking 200,000 euros as compensation for alleged non-material damage.

On November 7, 2011, the Court of First Instance of Cherbourg ruled against Greenpeace France on all counts and decided as follows:

- Article 3 of the law of December 30, 1991 does not apply to deliveries of used fuel made by virtue of a contract of 1978, which was concluded before the law became effective;
- used fuel delivered to France from the Netherlands in the framework of the 1978 contract and the amendments signed in 1993 and 2004 is expressly subject to the intergovernmental agreement (IGA) of February 9, 2009 between France and the Netherlands and the French program law no. 2006-739 of June 28, 2006 on the sustainable management of radioactive materials and waste;
- “the existence of concrete prospects for the future use” of uranium and plutonium from used Dutch fuel after treatment, as provided in the IGA, “classifies these radioactive substances as radioactive materials rather than as radioactive waste”;

- “so-called technological waste [...] does not come from used fuel and is therefore not waste imported from a foreign country”; appropriately, the judge cites the ruling of the Conseil d’Etat on June 30, 2010;
- claims for damages filed by Greenpeace are also without merit, for the judge ruled that “irrespective of their relevance, general considerations on French energy policy are insufficient to establish the existence of environmental damages allegedly caused by the storage of used fuel from December 2005 to November 2006.”

The Court of First Instance of Cherbourg also held Greenpeace liable for court costs.

SHIPMENT OF PLUTONIUM BETWEEN GREAT BRITAIN AND LA HAGUE

By an order dated May 19, 2008, the Court of First Instance of Cherbourg granted AREVA’s request for an injunction prohibiting an association from preventing and disrupting a plutonium shipment, subject to damages. The association appealed the injunction with the Court of Appeals of Caen and filed a counterclaim to receive a copy of all contracts and documents related to the shipments. On October 18, 2011, the Court of Appeals of Caen confirmed the injunction of the Court of First Instance of Cherbourg, both on the prohibition of disruption and on damages, considering that “Greenpeace France and Stichting Greenpeace have demonstrated very clearly their intention of preventing the arrival of the ship in Cherbourg [...] and the transportation of plutonium.”

The Court considered that there is no legitimate reason to rule in favor of Greenpeace as regards its counterclaim for the communication of documents and that Greenpeace is prohibited from confusing nuclear waste and nuclear material, considering the documents filed by AREVA with the Court of First Instance. Greenpeace France and Stichting Greenpeace were also ordered to pay 10,000 euros to each of the two AREVA companies involved, i.e. AREVA NC and TN International, in addition to court costs.

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. A neighboring town requested that the court intervene by appointing a court expert to determine the event’s consequences. A court-ordered appraisal is in progress.

The Criminal Court of Carpentras in the Vaucluse department returned its decision on October 14, 2010. Concerning the criminal charges, the Court ruled in favor of Socatri on the accusation of water pollution. The Court specified that “the case does not carry any indication of damages of any kind to the health of individuals or to the condition of plants or animals,” thus exonerating Socatri as a corporate entity in the accusation

of water pollution under Article L. 216.6 of the French Environmental Code. However, Socatri was ordered to pay a fine in the amount of 40,000 euros for late reporting of the incident under Article 54 of the Transparency and Nuclear Security law. Regarding civil damages, the Court ordered the payment of 8,000 euros to only two associations, CRIIRAD and Réseau Sortir du Nucléaire. Non-pecuniary damages were also granted to certain individuals who had filed a claim as plaintiffs (1,000 euros per plaintiff, for a total of 19,000 euros). The public prosecutor and all of the plaintiffs (associations and individuals) have appealed the decision. The case will be heard by the Court of Appeal of Nîmes in the coming months.

On September 30, 2011, the Court of Appeals of Nimes ruled on the appeal of the judgment of the Criminal Court of Carpentras. In a post-Fukushima environment, the Court reversed the decision of the Criminal Court and modified the charges. In criminal matters, the Court 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 (Article 54 of the TSN law), whereas the Criminal Court of Carpentras had fully exonerated Socatri on the count of water pollution. While the Court of Appeals confirmed that there had been no impact on health and the environment and considered, as the Criminal Court had ruled previously, that "indeed no harm had been done to fauna or flora by the spill of uranium-bearing

effluents, considering the findings of the environmental monitoring carried out by IRSN [the French radiation protection agency] on August 27, 2008, which notes the absence of markers in the environment related to this incident (surface water, sediments, aquatic vegetation, fish and aquifers)," the Court nonetheless ruled that Socatri did not comply with prefectorial orders limiting the uses of water. In civil matters, the Court granted damages in the amount of 20,000 euros to each of the eight associations and 10,000 euros to each of the seven individuals who had filed a claim as plaintiffs. Socatri has decided to file an appeal with the Court de Cassation.

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

ONGOING INVESTIGATIONS

In January 2004, as part of the acquisition contract for the T&D business, Alstom's representations and warranties to AREVA included specific warranties, in particular for disputes listed in the acquisition contract and for the environmental aspects. Subsequently, and based on these representations and warranties, AREVA served a certain number of claims against Alstom.

Pursuant to the closing of the sale of AREVA's T&D operations to Alstom and Schneider on June 7, 2010, all investigations and/or actions by national competition authorities in which only AREVA T&D companies are parties were transferred to Alstom/Schneider, without any warranties on AREVA's part; these concern Brazil, the Czech and Slovak republics, and the European Union antitrust proceedings related to the power transformer cartel.

Thus, the only cases remaining are those that involve AREVA SA by name as the parent company of AREVA T&D entities involved in the proceedings at the time, as indicated below.

On January 24, 2007, the European Commission ordered 11 companies to pay a fine of more than 750 million euros pursuant to a European Commission investigation of anti-competitive practices in the gas-insulated switchgear (GIS) market. Alstom and AREVA were jointly fined 54 million euros. Both companies appealed the European Commission decision before the Court of First Instance of Luxembourg. On March 3, 2011, the Court partially annulled the 2007 ruling of the European Commission by reducing the fines, but confirmed that Alstom and AREVA were jointly liable. On May 18, 2011, AREVA SA filed an appeal against this ruling with the Court of Justice of the European Communities.

Other claims for damages were filed jointly against AREVA SA and all of the defendant companies before the court pursuant to the abovementioned decision of the European Commission on gas-insulated switchgear.

For example, National Grid filed a claim on November 17, 2008 with the High Court of Justice of London against the companies named in the European Commission's decision, in particular AREVA SA. In a decision dated June 12, 2009, a stay was granted to the defendant companies until the expiration of appeals of the decision of the European Commission in the GIS case pending an initial stage of document disclosure, now being finalized.

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. AREVA SA presented its defense to the High Court of Justice of London on September 10, 2010. The plaintiffs have not yet asserted the amount of their claims.

Lastly, AREVA SA was served notice on October 5, 2010 of a third claim for damages filed in the Netherlands by Tennet TSO BV. On February 23, 2011, Tennet TSO BV withdrew its claim against AREVA SA.

All of these proceedings are still covered by the warranties in the agreement entered into 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.

→ 20.9. Significant change in the issuer's financial or trading position

Significant events between year-end closing for 2011 (December 31, 2011) 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, 2011* for events occurring before March 1,

2012, which is the date the Supervisory Board approved the financial statements, and in Section 9.5, *Events subsequent to year-end closing for 2011* of this Reference Document for events subsequent to March 1, 2012.

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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, 2011 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
Service aux Émetteurs

32, rue du Champ de Tir - BP 81236
44312 Nantes Cedex 3

France
Tel.: +33 2 51 85 67 89
www.nominet.socgen.com
www.sg-securities-services.com

21.1. Share capital21.1.2. *Shares not representative of capital***21.1.2. SHARES NOT REPRESENTATIVE OF CAPITAL**

None.

21.1.3. TREASURY SHARES

In application of the authorization of the General Meeting of Shareholders of April 29, 2010, AREVA purchased some of its own shares with a view to ensuring the liquidity of shares held by the Framépargne FUND. No voting rights attach to the shares bought under this program; these shares come in addition to the shares already purchased by AREVA in previous years. The General Meeting of Shareholders of April 27, 2011

renewed the authorization to purchase treasury shares, but this did not give rise to the buyback of shares insofar as AREVA shares were listed for trading on Euronext Paris on May 30, 2011. The liquidity of shares held by the Framépargne employee savings plan is provided by the market since then.

AREVA held 1,205,250 of its own shares at December 31, 2011.

21.1.4. CONVERTIBLE SECURITIES AND WARRANTS

None.

21.1.5. 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.

21.1.6. 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 concluded between the French State, the Commissariat à l'énergie atomique et aux énergies alternatives and Kuwait Investment Authority (KIA)⁽¹⁾ for a term of ten years as from December 28, 2010, the French State and KIA mutually grant a put option and a call option in the event of breach of certain of their commitments under the Shareholders' agreement. Thus, the French State shall have an option to purchase if KIA breaches its commitment regarding the stability of its shareholding or the preemptive right, and KIA shall have an option to sell if the French State or Commissariat à

l'énergie atomique breach their commitments not to sell AREVA shares at a price lower than KIA's subscription price or to ensure that AREVA does not issue shares at a price lower than that price. The exercise price for the put option or 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. The put option granted by the French State to KIA in the event that AREVA shares are not listed on the Euronext market on or before June 30, 2011, became moot when the shares were listed for trading on May 30, 2011.

(1) 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 203 billion dollars of assets under management, it is the seventh largest fund in the world in terms of managed assets at year-end 2009.

21.1.7. HISTORY OF THE SHARE CAPITAL

→ CHANGES IN SHARE CAPITAL FOR THE PERIOD COVERED IN THE FINANCIAL STATEMENTS

Transaction date	Transaction	Number of capital securities issued/canceled				Number of capital securities after transaction				Par value		Amount of share capital after transaction
		Shares	IC	NVPS*	Total	Shares	IC	NVPS*	Total	Shares	IC	
December 28, 2010	Capital increase reserved for KIA and the French State	27,692,307	0	0	27,692,307	367,828,237	14,291,080	0	382,119,317	3.8	3.8	1,452,053,404.60
January 25, 2011	Capital increase reserved for IC holders	0	0	1,085,535	1,085,535	367,828,237	14,291,080	1,085,535	383,204,852	3.8	3.8	1,456,178,437.60
May 30, 2011	Recombination of ICs and Voting Right certificates and conversion of NVPS* into common shares	NA	NA	NA	NA	383,204,852	0	0	383,204,852	3.8	NA	1,456,178,437.60

* NVPS: Non-voting preferred share

21.1.8. DELEGATION OF AUTHORITY AND AUTHORIZATIONS GRANTED TO THE EXECUTIVE BOARD BY THE ANNUAL MEETING FOR CAPITAL INCREASES

Description	Date of authorization	Period of validity of the authorization / Expiration date	Maximum amount	Amount issued as of Dec. 31, 2011
Issue of new common shares reserved for the French State, with cancellation of the shareholders' preemptive subscription right	December 23, 2010 (3 rd resolution)	18 months June 23, 2012	Capital increase: 299,999,992.50 euros	Maximum amount
Issue of new common shares reserved for the Kuwait Investment Authority, with cancellation of the shareholders' preemptive subscription right	December 23, 2010 (4 th resolution)	18 months June 23, 2012	Capital increase: 599,999,985.00 euros	Maximum amount
Issue of non-voting preferred shares reserved for holders of Investment Certificates	December 23, 2010 (5 th resolution)	18 months June 23, 2012	Capital increase for a maximum of: 38,312,025.08 euros	34,921,660.95 euros
Issue of common shares reserved for the participants of a company savings plan sponsored by the Company or its group	April 27, 2011 (20 th resolution)	18 months October 27, 2012	Capital increase for a maximum of: 22,990,000.00 euros (par value)	Nil

21.2. Certificate of incorporation and by-laws

21.2.1. Corporate purpose

→ 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. ESTABLISHING DECREE

The French decree no. 83-1116 of December 21, 1983 establishes the Société des Participations du Commissariat à l'énergie atomique. This decree was amended, mainly by decree no. 2001-342 of April 19, 2001, by decree no. 2003-94 of February 4, 2003 and by decree no. 2011-1883 of December 15, 2011. The decree provides as follows:

- changes to the by-laws are approved by decree; however, capital increases are subject to joint approval by the minister of Industry and the minister of the Economy (Article 2, paragraphs 2 and 3);
- the Commissariat à l'énergie atomique et aux énergies alternatives (CEA) shall retain the majority of the share capital (Article 2, paragraph 1);
- the sale or exchange of any AREVA shares held by the Commissariat à l'énergie atomique is subject to the same conditions as for capital increases (Article 2, paragraph 2).

The decree no. 2010-1613 of December 23, 2010 approved the modifications to the by-laws proposed by the General Meeting of Shareholders of December 23, 2010, in particular those aimed at introducing into the by-laws, first, the split of the par value of the shares and investment certificates and, second, the issuance of non-voting preferred shares.

Decree no. 2011-593 of May 27, 2011 approved the modifications to the bylaws proposed by the Combined General Meeting of Shareholders on April 27, 2011 and in particular those aimed at removing any reference to investment certificates, voting right certificates and non-voting preferred shares, and to include customary provisions applicable to companies whose shares are listed for trading on a regulated market.

21.2.3. RESTRICTIONS ON SALES OF AREVA 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 rights and obligations attached to the share remain attached to the securities, regardless of owner.

The Commissariat à l'énergie atomique et aux énergies 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. The shares are registered in an account and transferred from account to account upon sale.

21.2. Certificate of incorporation and by-laws

21.2.5. Provision having the effect of delaying, deferring or preventing a change of control of AREVA

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 via 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 via 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 via videoconference or a telecommunications medium allowing them to be identified, in accordance with applicable laws and regulations. The quorum required after the second notice of meeting is one fifth of all shares 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 via 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 OF 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 sale or exchange of AREVA shares held by the Commissariat à l'Énergie Atomique (CEA) is subject to the same conditions as for capital increases by the minister(s) concerned (Article 2, paragraph 2).

21.2. Certificate of incorporation and by-laws*21.2.6. Breaching shareholding thresholds***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

Please refer to Section 21.2.2.

Major contracts

Except for the contracts described in Chapters 6 and 9 of this Reference Document and of the 2010 Reference Document, AREVA did not enter into major contracts in 2010 and 2011 other than those entered into in the normal course of its business.

Third party information, statements by experts and declarations of interest

Not applicable.

Documents on display

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→ 24.1. Availability of documents

The following documents, or copies thereof, may be viewed at AREVA's corporate office, 33, rue La Fayette, 75009 Paris, France, during the period of validity of this Reference Document:

- the establishing decree no. 83-1116 of December 21, 1983 and its amendments, the decree no. 2007-1140 of July 27, 2007 published in the *Journal Officiel* on July 28, 2007, the decree 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.

Appendix 6 of this Reference Document includes all of the information published by AREVA over the past 12 months, pursuant to Article 222-7 of the General Regulations of the French market authority AMF.

→ 24.2. Persons responsible for financial information

The persons responsible for financial information are:

- Pierre Aubouin, Chief Financial Executive Officer and member of the Executive Board
- Marie de Scorbiac, Vice President Financial Communications and Investor Relations

The team is also composed of:

- Angélique Charlin, Marketing and Retail Shareholding Manager
- Benoît Desforges, Research, Analysis and Benchmarking Manager
- Philippine du Repaire, Investor Relations Manager

The Shareholders department can be reached at our toll-free number (calls in France only), 0810 699 756, or by e-mail to actionnaires@areva.com

The entire team is based at AREVA's head office, 33 rue La Fayette, 75009 Paris.

→ 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 via press releases. All information provided to the financial markets (press releases, audio and video presentations of a financial or strategic nature) is available in the "Finance" section of the Group's website at www.areva.com.

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.

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.

→ 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 26, 2012	2011 revenue and related information (press release)
March 2, 2012	2011 results (press release, telephone conference and webcast)
April 26, 2012	First quarter 2012 revenue and related information (press release)
May 10, 2012	Annual General Meeting of Shareholders
July 26, 2012	First half 2012 results (press release, telephone conference and webcast)
End of October 2012	Third quarter 2012 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, analysts and investors are invited to learn about the Group's operations throughout the year by touring the plant sites. Four plants tours were conducted in 2011.

Information on holdings

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→ 25.1. Significant equity interests of the AREVA group

ERAMET

- Percentage owned: 25.69% of the share capital and 30.61% of the voting rights.
- Head office: 33, avenue du Maine, Tour Maine-Montparnasse, 75015 Paris, France.
- Business: Eramet is a mining and metallurgy group that produces non-ferrous metals, high-performance specialty steels and alloys.
- Share capital outstanding: 80,866,071.30 euros.

- Trading exchange: Compartment A of Euronext Paris.

On March 16, 2012, AREVA and the Fonds Stratégique d'Investissement (FSI) signed a share purchase agreement for the disposal of AREVA's stake in Eramet to FSI in the amount of 776 million euros. The conclusion of this agreement and the closing of the transaction remain subject to confirmation by the *Autorité des marchés financiers* that it is not necessary for the parties to file a takeover bid on Eramet shares, and to the necessary authorizations related to competition law.

STMICROELECTRONICS NV

Since March 30, 2011, AREVA has held no interest in the share capital of STMicroelectronics NV.

SUEZ ENVIRONNEMENT COMPANY

- Percentage owned: 1.42% of the share of capital and voting rights.
- Head office: 1, rue d'Astorg, 75008 Paris, France.
- 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: 1 958 796 240 euros.
- Trading exchange: Compartment A of Euronext Paris and Euronext Brussels.

→ 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 Commissariat à l'énergie atomique and Kuwait Investment Authority* (KIA) concluded a ten-year Shareholders' agreement effective December 28, 2010, whose key provisions are as follows:

- stability of KIA's equity stake for a period of 18 months (ban on selling or acquiring shares in the company, except in limited cases);
- commitment of the French State and the Commissariat à l'énergie atomique not to sell AREVA shares at a price lower than Kuwait Investment Authority's subscription price for a period of 18 months, except for sales of shares on the market and sales to a government-owned institution or a subsidiary held in its entirety by the French State;
- commitment of the French State to ensure that AREVA does not issue securities for a period of 18 months at a price lower than Kuwait Investment Authority's subscription price (except for capital increases reserved for AREVA group employees and issues of non-voting preferred shares to investment certificate holders), except in connection with a capital increase made necessary by exceptional economic or financial conditions, with the Shareholders' preemptive right upheld and fully underwritten by the French State;
- at the expiration of the period of inalienability, the French State has a preemptive right in the event that Kuwait Investment Authority sells all or part of its equity interest, except for sales of shares made on the market;
- Kuwait Investment Authority 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);
- Kuwait Investment Authority has a full exit right in the event of a change of control of AREVA, under the meaning of Article L. 233-3 of the French Commercial Code, and a proportional exit right in the event that AREVA shares are sold by the French State in connection with an admission to trading of AREVA shares.

In addition, the French State granted a put option to Kuwait Investment Authority and Kuwait Investment Authority granted a purchase option to

the French State in the event of a breach of certain of their commitments under the Shareholders' agreement. Thus, the French State shall have an option to purchase if KIA breaches its commitment regarding the stability of its shareholding or the preemptive right, and KIA shall have an option to sell if the French State or Commissariat à l'énergie atomique breach their commitments not to sell AREVA shares at a price lower than KIA's subscription price or to ensure that AREVA does not issue shares at a price lower than that price. The exercise price for the put option or 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.

The put option granted by the French State to KIA in the event that AREVA shares are not listed on the Euronext market on or before June 30, 2011, became moot when the shares were listed for trading on May 30, 2011.

MEMORANDUM OF UNDERSTANDING BETWEEN THE CAISSE DES DÉPÔTS ET CONSIGNATIONS (CDC) AND THE COMMISSARIAT À L'ÉNERGIE ATOMIQUE ET AUX ÉNERGIES ALTERNATIVES (CEA)

Under the terms of an agreement between the CDC and the CEA dated December 20, 2001, the parties agreed in particular that, in the event that AREVA shares are admitted for public trading on a regulated market through the sale of AREVA shares owned by the CEA, CDC may, if it chooses, sell as many AREVA shares in the public offering as those offered for sale by the CEA. The CEA further agreed to undertake its best efforts to allow CDC to sell its shares in the event that the latter wishes to relinquish all of its AREVA shares under certain specific circumstances, and particularly in the event that (i) the shares of a company in which AREVA holds more than half of the share capital and voting rights were to be admitted for public trading in France, (ii) the CEA should no longer hold a majority interest in the share capital or voting rights of AREVA. CDC did not choose to dispose of its equity interest in AREVA, and continues to hold 3.32% of the company's share capital.

MEMORANDUM OF UNDERSTANDING BETWEEN TOTAL CHIMIE, TOTAL NUCLÉAIRE, AREVA AND AREVA NC

Under the terms of a memorandum of agreement dated June 27, 2011, 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. If admission to a regulated market does not take

* Kuwait Investment Authority is an autonomous government institution established in 1953 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.

25.2. Shareholders' agreements

25.2.2. *Main Shareholders' agreements concerning AREVA's equity interests*

place by September 30, 2004 at the latest, and assuming that Total Chimie or Total Nucléaire wish to sell all of their AREVA shares, then Total Chimie, Total Nucléaire and AREVA had agreed to make their best efforts to ensure that the sale of the equity interest of Total Chimie or

Total Nucléaire is carried out promptly and under mutually acceptable terms and conditions for all parties. 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

ERAMET

AREVA's equity interest in Eramet is subject to a Shareholders' agreement dated June 17, 1999, originally concluded by Sorame, Ceir, Erap and the Shareholders in Sorame. Erap's equity interest in Eramet was transferred to AREVA NC on December 1, 1999 and then to AREVA on September 4, 2001, substituting for AREVA NC by amendment dated July 27, 2001. The initial term of this Shareholders' agreement was set to expire on June 30, 2006, with tacit renewal thereafter for one-year periods. It was amended on May 29, 2008 and is now renewable in periods of six months.

The Shareholders' agreement specifies in particular the allocation of the fifteen seats of the board of directors of Eramet, with AREVA being allowed to designate five directors.

The amendment of May 29, 2008 modifies the reciprocal right of first refusal, which applies henceforth to: (i) on-exchange sales of shares to unidentified third parties, either occasionally or through accelerated book building or a fully marketed offering; (ii) sales of a block of shares to identified third parties, on the exchange or off-market; and (iii) an exchange for shares issued by the recipient company.

Under the terms of this Shareholders' agreement, AREVA, Sorame and Ceir act jointly and jointly control Eramet. The parties agreed to maintain the current hierarchy of shareholdings, with Sorame/CEIR agreeing to remain the main Shareholder as long as AREVA does not increase its equity interest in Eramet by more than 2%, unless sales of Eramet shares (including Eramet shares sold since May 29, 2008, if any) represent at least 80% of its equity interest in Eramet.

This agreement has been the subject of several decisions by the Financial Market Board (Conseil des marchés financiers, CMF, decisions no. 199C1045 of August 3, 1999, no. 199C2064 of December 29, 1999, no. 201C0921 of July 25, 2001, and no. 201C1140 of September 12, 2001) and by the French market authority AMF (decision no. 208C1042 of May 30, 2008).

SUEZ ENVIRONNEMENT COMPANY

AREVA's interest in Suez Environnement Company is governed by a Shareholders' agreement signed June 5, 2008, among Suez (whose rights and obligations were transferred in their entirety to GDF SUEZ as a result of the merger between Gaz de France and Suez), AREVA, Caisse des dépôts et consignations, CNP Assurances, Groupe Bruxelles Lambert, and Sofina, for a five-year period renewed by tacit agreement.

The Shareholders' agreement forms a cooperation among the parties in which GDF SUEZ plays a dominant role and has operating control over the company.

The Shareholders' agreement stipulates, in particular, (i) the composition of the Board of Directors (18 members, including one appointed by AREVA); (ii) a reciprocal right of first refusal; (iii) the prohibition to acquire shares if such action involves the obligation for the Shareholders acting jointly to submit a public offer or to guarantee the share price of Suez Environnement Company; and (iv) a right to sell shares jointly with GDF SUEZ, should the latter decide to sell more than half of its equity interest in Suez Environnement Company.

This Shareholders' agreement was the subject of an opinion by the Autorité des marchés financiers (AMF) on June 20, 2008 (decision no. 208C1189).

EURODIF

AREVA NC holds, directly or indirectly through Sofidif, 60% of Eurodif's capital at present.

As part of a bilateral agreement for cooperation in the field of enrichment, France and Iran signed an agreement in 1974. This agreement led to the establishment of Sofidif.

Under the agreements in force, the Iranian Shareholder, the Atomic Energy Organization of Iran (AEOI), holds 40% of Sofidif's share capital. AREVA NC holds the remaining 60% of the company's share capital.

Sofidif's sole asset is a 25% equity interest in Eurodif. Sofidif's business is limited to taking part in meetings of Eurodif's Supervisory Board, collecting its share of Eurodif's dividends and redistributing those dividends to its own Shareholders. Due to national and international sanctions, the 2007, 2008, 2009 and 2010 dividends were not paid to AEIO.

AREVA TA

Agreement of December 28, 1993 relating to Cedec

On December 28, 1993, CEA-Industrie, which later became AREVA, entered into an agreement with DCN International (DCN-I) to create a joint company called Cedec for the purpose of holding a 65.1% equity interest in AREVA TA. AREVA TA's principal business is to design nuclear propulsion systems and to provide services to customers in the fields of defense, transportation, research and industry.

25.2. Shareholders' agreements*25.2.2. Main Shareholders' agreements concerning AREVA's equity interests*

AREVA currently controls 90.14% of Cedec's share capital, while DCN-I holds a 9.86% share.

The agreement of December 28, 1993 contemplates, in particular, that each party shall have a preemptive subscription right to acquire the other party's shares if those shares are sold. If this preemptive right is not exercised, any sale of shares to a third party shall be subject to prior approval by the Board of Directors, voting with a two-thirds majority. The agreement also stipulates that Cedec's Board of Directors shall consist of seven members, of which four shall be appointed on AREVA's recommendation, and three on DCN-I's recommendation.

Agreement of March 12, 1993 relating to AREVA TA

AREVA holds a 24.90% interest in AREVA TA, while Cedec holds a 65.10% interest and the EDF group holds the remaining shares, i.e. 10%.

A memorandum of agreement on changes in the share ownership of AREVA TA was reached between AREVA (formerly CEA-Industrie), Framatome SA (subsequently absorbed by AREVA) and DCN-I on March 12, 1993. This agreement was amended by letter in March 1993 and by an amendment signed by Cedec (assuming the rights and obligations of DCN-I and CEA-Industrie) and Framatome SA (subsequently absorbed by AREVA) on October 5, 2000.

The memorandum of agreement stipulates in particular that AREVA TA's Board of Directors shall consist of 15 directors, 5 of whom are elected by the employees, with the remaining directors appointed on the recommendation of Cedec (6 directors), AREVA (3 directors), and EDF (1 director). Certain decisions and operations may be submitted for approval by the General Meeting of Shareholders only after the approval of a two-thirds majority of the directors and with the express approval of the directors appointed on the recommendation of Cedec and AREVA.

In the event that EDF group were to wish 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).

It is also stipulated that if the CEA were to hold less than 51% of AREVA, it would substitute for AREVA with respect to all rights and obligations arising from the agreement.

ETC

With a view to cooperation in the field of uranium centrifuge enrichment, AREVA signed an agreement on November 24, 2003 with URENCO and its Shareholders under which AREVA acquires 50% of the share capital of Enrichment Technology Company Ltd (ETC), which combines all of URENCO's activities in the design and construction of equipment and facilities for uranium centrifuge enrichment, as well related research and development activities.

The quadripartite treaty among Germany, the Netherlands, the United Kingdom and France was ratified on July 3, 2006, allowing this acquisition to take place. On that same day, AREVA NC replaced AREVA in the share capital of ETC.

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

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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 this Code 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 such as double voting rights or statutory limits on the voting rights of shareholders. Shareholder rights at AREVA are therefore exercised according to common law, as noted in Chapter 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 Chapter 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 March 1, 2012, in accordance with the abovementioned provisions.

Concerning the organization and functioning of the Audit Committee set up by the Supervisory Board, the AREVA group already relies heavily on the principles and provisions of French governmental order no. 2008-1278 of December 8, 2008 transposing the European Community directive 2006/43/EC of May 17, 2006 concerning Statutory Auditors, which order shall be fully applicable in the particular case of AREVA beginning in fiscal year 2012, in accordance with the provisions of Article 21 of said order.

1.2. THE AFEP-MEDEF CODE OF CORPORATE GOVERNANCE, REFERENCE CODE FOR THE AREVA GROUP ⁽¹⁾

As mentioned above, AREVA defers to the “Code of Corporate Governance for Publicly Traded Companies” developed jointly by the AFEP and the MEDEF on April 2010, with certain adjustments.

The adjustments to the Afep-Medef Code of Corporate Governance are warranted by the distribution of the company’s share capital. Given the very strong concentration of share ownership, the Supervisory Board has not yet performed a self-assessment. Likewise, the provision pertaining to members of the Supervisory Board holding “a relatively significant number of shares” is irrelevant in this case.

The five-year length of service of the members of the Supervisory Board and 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.

During the renewal of members of the Supervisory Board in April 2011, with Madams Boissard and Lemarchand newly appointed and Mrs. Saucier renewed as members of the Supervisory Board, AREVA anticipated the application of the provisions of the law of January 27, 2011 related to the balanced representation of men and women in the Boards of Directors and Supervisory Boards and to gender equality, which will impose a proportion of members of each sex in the boards equal to or greater than 20% as from January 1, 2014 and 40% as from January 1, 2017.

→ 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.

(1) The Code is available on the Medef website (www.medef.fr).

3. Preparation and organization of the Supervisory Board's activities
3.1. Composition of the Supervisory Board

→ 3. Preparation and organization of the Supervisory Board's activities

3.1. COMPOSITION OF THE SUPERVISORY BOARD

The members of the Supervisory Board are appointed by the shareholders, except for employee members who are elected by company personnel, and representatives of the French State, who are appointed by decree.

The Supervisory Board consists of at least ten and no more than eighteen members, including three members elected by company personnel in the conditions described below and, as appropriate, representatives of the French State appointed in application of 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).

In application of Article 1 of the decree no. 2011-1883 of December 15, 2011, the following persons also attend 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 the Commissariat à l'énergie atomique et aux énergies alternatives (French atomic and alternative energies commission, CEA), as a member of the Economic and Financial Control Board for the company.

The Government Commissioner may also attend in the meetings of the committees attached to the Supervisory Board.

Subject to the laws and regulations pertaining to the Government's supervision or control of government corporations and their subsidiaries, the decisions of the Supervisory Board are final and enforceable if the Government Commissioner or the member of the Economic and Financial Control Board object do not object in the five days following a) the meeting of the Supervisory Board if he or she attended it, or b) the receipt of the minutes of the meeting.

The Statutory Auditors are invited to the meetings of the Supervisory Board called to examine annual or interim financial statements, and to any other session when their presence is deemed 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 the representatives of the French State and the 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.

As of December 31, 2011, the Supervisory Board consists of 14 members, of whom 5 – Mr. Jean-Cyril Spinetta, Mrs. Sophie Boissard, Mr. François David, Mrs. Agnès Lemarchand and Mrs. Guylaine Saucier – are considered independent by the Supervisory Board. The Supervisory Board had 15 members until December 15, 2011. In application of article 1 of decree no. 2011-1883 of December 15, 2011, Mr. Pierre-Franck Chevet holds the position of Government Commissioner to AREVA. As a consequence of these new functions, Mr. Chevet is no longer a member of the Supervisory Board.

MEMBERS APPOINTED BY THE SHAREHOLDERS

Jean-Cyril Spinetta (age 68)

Initially appointed in 2009, Mr Jean-Cyril Spinetta's term as a member of the Supervisory Board was renewed by the Annual General Meeting of Shareholders on April 27, 2011; his term as Chairman of the Supervisory Board was renewed by 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 ended December 31, 2015.

Jean-Cyril Spinetta, Chief Executive Officer of Air France-KLM, holds an advanced degree in public law and is a graduate of Institut des sciences politiques de Paris. He is an alumnus of École nationale d'administration.

Other offices held

- Director of Alcatel Lucent;
- Director of Saint Gobain;
- Director of Alitalia CAI (Italy);
- Member of the Advisory Board of Paris Europlace;
- Member of the Board of Governors of the International Air Transport Association (IATA) (Canada).

Other offices held during the past five years

- Chairman and CEO of Société Air France, from October 17, 2011 to November 16, 2011;

3. Preparation and organization of the Supervisory Board's activities

3.1. Composition of the Supervisory Board

- Chairman of the Board of Directors of Société Air France until October 17, 2011;
- Chairman of the Board of Directors of Air France-KLM until October 17, 2011;
- Director (representing the French State) of GDF-Suez until April 2009;
- Director (representing the French State) of La Poste until April 2009;
- Chairman and CEO of Air France-KLM and of Société Air France until December 2008;
- Director of Unilever (United Kingdom) until July 2007;
- Director of Alitalia (Italy) until January 2007.

Bernard Bigot (age 61)

Initially appointed in 2009, Mr Bernard Bigot's term as a member of the Supervisory Board was renewed by the Annual General Meeting of Shareholders on April 27, 2001; 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 ended December 31, 2015.

Bernard Bigot is Administrator General and Chairman of the Board of Directors of the Commissariat à l'énergie atomique. He is a graduate of École normale supérieure de Saint-Cloud, holder of the agrégation in physical sciences and 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;
- Vice Chairman of the Fondation Jean Dausset – CEPH.

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 54)

Initially appointed in 2010, 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 ended December 31, 2015.

Christophe Béhar is Director of Nuclear Energy at the Commissariat à l'énergie atomique. He is an engineer and graduate of École centrale of Paris.

Other offices held

- Permanent representative of the Commissariat à l'énergie atomique 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).

Commissariat à l'énergie atomique et aux énergies alternatives (CEA), represented by Christophe Gégout

Initially appointed in 2001, the CEA'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 ended December 31, 2015.

The Commissariat à l'énergie atomique is represented by Mr Christophe Gégout (age 35), who is a graduate of Institut d'Études Politiques de 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 Commissariat à l'énergie atomique.

Other offices held by the CEA

- Director of CEA Investissement, of AREVA TA, of La Route des Lasers and of Minatec Entreprise.

Other offices held during the past five years

None.

Other offices held by Mr Gégout

- Chairman and Director of CEA Investissement;
- Director of Co-Courtage Nucléaire (CCN);
- Permanent representative of the CEA to the Board of Directors of FT1CI and GIP DFT Minatec.

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 70)

Mr François David was appointed to the Supervisory Board by the Annual General Meeting of Shareholders on April 17, 2008. His term will expire at the end of the Annual General Meeting of Shareholders convened in 2013 to approve the financial statements for the year ended December 31, 2012.

Mr François David is a graduate of Institut d'études politiques de Paris and École nationale d'administration. His duties as Chairman of Coface were renewed in 2007.

Other offices held

- Member of the Supervisory Board of Lagardère SCA;
- Director of Vinci and of Rexel;
- Member of the Board of the Order of the Legion of Honor.

Other offices held during the past five years

- Director of EADS until April 2007.

Agnès Lemarchand (age 57)

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 ended December 31, 2015.

Agnès Lemarchand is a graduate of the École nationale supérieure de chimie de Paris, of the Massachusetts Institute of Technology, and of

3. Preparation and organization of the Supervisory Board's activities
3.1. Composition of the Supervisory Board

INSEAD. After having directed Industrie biologique française and Lafarge Chaux (a division of the Lafarge group), she held the position of Executive Chairman of Steetley Dolomite Ltd (UK), a former subsidiary of Lafarge in the United Kingdom that was taken over by management.

Other offices held

- Member of the Supervisory Board of Mersen;
- Member of the Supervisory Board of Siclae, representing the Fonds Stratégique d'investissement (FSI);
- Member of the Economic, Social and Environmental Board, Economic Activities Section;
- Member of ADREG (entrepreneurship research and promotion).

Other offices held during the past five years

None.

Sophie Boissard (age 41)

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 ended December 31, 2015.

Mrs. Boissard is the Chief Executive Officer of Gares & Connexions (SNCF).

An alumnus of École Normale Supérieure and of École Nationale d'Administration, Mrs. Boissard is also a member of the Council of State of France.

Other offices held

- Director of GIAT Industries;
- Director of AREP;
- Chairman and Chief Executive Officer of A2C.

Other offices held during the past five years

None.

Guyline Saucier (age 65)

Initially appointed in 2006, Mrs. Guyline 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 ended December 31, 2015.

Guyline Saucier is a chartered accountant and a graduate of HEC Montreal.

Other offices held

- Director of the Danone group, of the Bank of Montreal and of Wendel;
- Director of AREVA Canada Inc.;
- Director of SCOR SE.

Other offices held during the past five years

- Director of Axa Canada until 2011;

- Director of Petro-Canada until 2009;
- Director of CHC Helicopter Corp until 2008;
- Director of Altran Technologies until February 2007.

MEMBERS REPRESENTING THE FRENCH STATE, APPOINTED BY MINISTERIAL ORDER
Jean-Dominique Comolli (age 63)

Initially appointed in 2010, Mr Jean-Dominique Comolli's term as a member of the Supervisory Board of AREVA representing the French State was renewed by ministerial order on April 27, 2011 (*Journal Officiel* of 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 ended December 31, 2015.

Jean-Dominique Comolli, Commissioner with the Agence des Participations de l'État, is a graduate of École nationale d'administration.

Other offices held

- Member of the Boards of Directors, representing the French State, of Air France-KLM, EDF, France Télécom, the Fonds stratégique d'investissement and SNCF.

Other offices held during the past five years

- Chairman of the Board of Directors of Altadis until August 2010;
- Chairman of the Supervisory Board of Altadis Maroc until September 2010;
- Director of Calyon (now Crédit Agricole Corporate & Investment Bank) until August 2010;
- Director of Casino until September 2010;
- Vice Chairman of Imperial Tobacco until September 2010;
- Director of Pernod Ricard until September 2010;
- Chairman of the Board of Directors of Seita until September 2010;
- Director of Logista until October 2008;
- Director of Aldeasa until April 2008.

Pierre-Franck Chevet (age 50)

Initially appointed in 2007, Mr Pierre-Franck Chevet's term as a member of AREVA's Supervisory Board representing the French State was renewed for a period of five by ministerial order on April 27, 2011 (*Journal Officiel* of May 8, 2011). Since December 15, 2011 and in application of Article 1 of the decree no. 2011-1883 of that same day, Mr Pierre-Franck Chevet serves as Government Commissioner to the company instead of his term as member of the Supervisory Board.

Pierre-Franck Chevet is a graduate of École polytechnique and of the Paris Graduate School of Economics, Statistics and Finance (ENSAE), and holds the rank of *Ingénieur général* in the Corps des Mines. He is Director General of Energy and Climate reporting to the Ministry of the Environment, Sustainable Development, Transportation and Housing, and the Ministry of the Economy, Finance and Industry.

3. Preparation and organization of the Supervisory Board's activities

3.1. Composition of the Supervisory Board

Other offices held

- Director representing the French State to the Boards of Directors of GDF-Suez, La Poste and the Institut Français du Pétrole;
- Government Commissioner to the Commission de régulation de l'énergie (French energy regulation commission);
- Government Commissioner to Andra;
- Director of the French Environment and Energy Management Agency (ADEME);
- Member of the Steering Committee of the International Energy Agency (IEA) and of the Comité de l'énergie atomique (French atomic energy board).

Other offices held during the past five years

None.

Luc Rousseau (age 54)

Initially appointed in 2005, Mr Luc Rousseau's term as a member of the AREVA Supervisory Board representing the French State was renewed by ministerial order on April 27, 2011 (*Journal Officiel* of 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 ended December 31, 2015.

Luc Rousseau is a graduate of École polytechnique and holds the rank of *Ingénieur* in the Corps des Mines.

Mr Rousseau is Director General of Competitiveness, Industry and Services at the Ministry of the Economy, Finance and Industry.

Other offices held

- Member of the Comité de l'énergie atomique (French atomic energy board);
- Government Commissioner to La Poste and FT1CI;
- Representative of the French State to the Boards of Directors of the Palais de la Découverte and of the Cité des Sciences et de l'Industrie;
- Representative of the French State to the Board of Directors of AFII;
- Member of the Board of Directors of ANR;
- Member of the Board of Directors of the Fonds stratégique d'investissement;
- Member of the Board of Directors of Renault.

Other offices held during the past five years

- Member of the Board of Directors of OSEO EPIC until January 2011;
- Government Commissioner to Oseo Innovation until April 2009;
- Government Commissioner to the Supervisory Board of the Agence de l'innovation industrielle (All) until December 2007.

Pierre Sellal (age 59)

Initially appointed in 2009, the term of Mr Pierre Sellal, Ambassador of France, as a member of AREVA's Supervisory Board representing the French State was renewed by ministerial order on April 27, 2011 (*Journal Officiel* of 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 ended December 31, 2015.

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 and European Affairs.

Other offices held

- Director of EDF, of École nationale d'administration, of Audiovisuel Extérieur de la France (Audiovisual Outside France), of Cultures France, of the Agence nationale des titres sécurisés (French national agency of secure shares), of the Commission de Récolement des dépôts d'œuvres d'art (commission of verification of registered works of art), and of the Établissement de préparation et de réponse aux urgences sanitaires (institution of planning and response to health emergencies);
- Member of the Comité de l'énergie atomique (French atomic energy board);
- Member of the Board of the l'Institut du monde arabe (Arab World Institute).

Other offices held during the past five years

- None.

MEMBERS ELECTED BY AND REPRESENTING THE EMPLOYEES

Jean-Claude Bertrand (age 60)

Elected by the electoral college consisting of company personnel on May 28, 2002 in elections validated by the Work Council on July 12, 2002, he took office at the Supervisory Board meeting of July 25, 2002. His term was renewed following elections held on May 24, 2007 and will expire following elections to be held in 2012.

Mr Bertrand is a program officer with the management team of the Tricastin site.

Other offices held

- None.

Other offices held during the past five years

- Director of Alexis junior high school in Montélimar until September 2010.

Gérard Melet (age 54)

Elected by the electoral college consisting of company personnel on May 28, 2002 in elections validated by the Work Council on July 12, 2002, he took office at the Supervisory Board meeting of July 25, 2002. His term was renewed following elections held on May 24, 2007 and will expire following elections to be held in 2012.

Mr Melet is in charge of business development with the local economic development management team of AREVA NC.

Other offices held

None.

Other offices held during the past five years

None.

3. Preparation and organization of the Supervisory Board's activities
3.2. Functioning of the Supervisory Board
Alain Vivier-Merle (age 63)

Elected by the electoral college consisting of engineers and managers on June 20, 2002 in elections validated by the Work Council on July 12, 2002, he took office at the Supervisory Board Meeting of July 25, 2002. His term was renewed following elections held on June 19, 2007 and will expire following elections to be held in 2012.

Mr Vivier-Merle is a marketing program officer for AREVA NP in Lyon.

Other offices held

- Chairman of the Supervisory Board of the Framépargne balanced fund;
- Member of the Supervisory Board of the AREVA diversified balanced fund;
- Member of the Supervisory Board of the AREVA socially responsible balanced fund.

Other offices held during the past five years

None.

In 2011, Mr Marcel Otterbein, representing AREVA's Work Council, attended the meetings of the Supervisory Board in an advisory capacity.

Economic and Financial Controller 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 SA and attends meetings of the Supervisory Board and of its specialized committees.

Government Commissioner

Effective December 15, 2011, and in application of Article 1 of the decree no. 2011-1883 of December 15, 2011, the Director General for Energy and Climate serves as Government Commissioner for the company. In this capacity, **Mr Pierre-Franck Chevet** attends the meetings of the Supervisory Board and may also attend the meetings of the committees attached to the Supervisory Board.

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. Claire Terrazas, Legal Director Corporate Governance & Finance, serves as Deputy Secretary of the Supervisory Board.

The members of the Supervisory Board may be contacted at the company's corporate office at 33, rue La Fayette, 75009 Paris, France.

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 is not limited to a supervisory function; it also authorizes the Executive Board to conclude transactions that the latter cannot accomplish without such authorization. It reviews the overall strategy of AREVA and the Group; annual budgets and multiyear plans for AREVA, its direct subsidiaries and the Group are submitted for its approval, as are any transactions at the subsidiary level when their purpose is covered by Article 22-2 of the above-mentioned by-laws.

(1) The rules of procedure of the Supervisory Board may be reviewed at the company's corporate office at 33, rue La Fayette, 75009 Paris, France.

3. Preparation and organization of the Supervisory Board's activities

3.3. Activities of the Supervisory Board

PARTICULAR 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.

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.

Lastly, it shall be proposed to the Annual General Meetings of Shareholders of May 10, 2012 that the Company by-laws be modified so that investment decisions related to the creation of a site or the increase in capacity of an existing site, to acquisitions, and to acquisitions of equity interests in an amount exceeding 20 million euros be subject to the prior authorization of the Supervisory Board. The Strategy Committee shall be charged with examining the projects considered.

The Supervisory Board regularly updates its rules of procedure, which stipulate in particular:

- the establishment and functioning of the four committees described below;
- rules for preparing Supervisory Board deliberations;
- conditions for establishing the schedule of Supervisory Board meetings; and
- resources at the disposal of Supervisory Board members elected by the company personnel.

3.3. ACTIVITIES OF THE SUPERVISORY BOARD

In 2011, the Supervisory Board met twelve times (attendance rate: 87%). During these meetings, the Supervisory Board expressed its opinion on the matters described below:

• **March 3, 2011:** The Executive Board submitted its report on the Group's fourth quarter 2010 operations and highlights of the early part of 2011. The conclusions of the Nuclear Policy Council meeting of February 21, 2011 were noted: reaffirmation of the EPR™ reactor as the standard, designation of EDF as the leader when architect-assembler skills are required, construction of an ATMEA reactor in France taken into consideration and continuation of its certification with the participation of EDF and GDF-Suez, request to finalize the strategic cooperation between AREVA and EDF, and request to form a subsidiary of the Mining business and to conclude long-term uranium supply contracts with EDF. At the conclusion of the Executive Board's presentation of the 2010 financial results and the corporate and consolidated financial statements, the Supervisory Board approved the proposal to allocate all income to shareholders' equity. After having heard the findings of the Audit Committee, the Supervisory Board approved the 2011 budget. In addition, the Supervisory Board examined the Executive Board's management report and, on the advice of its Audit Committee, approved the report of the Chairman of the Supervisory Board on the Board's activities and internal control procedures. The Supervisory Board also heard the Compensation and Nominating Committee's presentation of its work and decided to recommend to the upcoming Annual General Meeting

of Shareholders that the total amount of directors' fees allocated to the Supervisory Board in 2011 be maintained at 500 thousand euros. Lastly, in connection with the listing of the AREVA share and the public exchange offer transaction between the CEA and the investment certificate holders, the Supervisory Board appointed an independent expert in accordance with the provisions of Article 261-1, I of the AMF's General Regulations.

- **March 15, 2011:** The Supervisory Board met in a special meeting to review the situation following the earthquake and tsunami in Japan.
- **March 28, 2011:** Being familiarized with the report of the independent expert, the Supervisory Board approved the proposed offer initiated by the CEA aimed at proposing to AREVA investment certificate holders that they exchange their certificates for common shares held by the CEA. The Supervisory Board examined the additional documentation in preparation for the Annual General Meeting of Shareholders of April 27, 2011. The Supervisory Board then authorized the signature of a related-party agreement by the CEA, EDF and AREVA whose principal purpose is to define organizational procedures for the Group constituted by the parties to carry out a program of audits of assessment tools for the parties' end-of-lifecycle obligations, at the initiative of the General Director of Energy and the Climate.
- **April 15, 2011:** In view of the upcoming expiration of the terms of some members of the Supervisory Board, the Board was favorable to proposing to the shareholders the candidacies of Madams Boissard

3. Preparation and organization of the Supervisory Board's activities
3.4. Activities of the four committees of the Supervisory Board

and Lemarchand and the renewal of the terms of Mrs. Saucier and Mr Spinetta.

- **April 27, 2011:** Following the recomposition of the Supervisory Board by the General Meeting of Shareholders of April 27, 2011, the Supervisory Board proceeded to nominate the Chairman and Vice Chairman of the Supervisory Board in the persons of Messrs. Spinetta and Bigot respectively, and the Chairmen and members of the Supervisory Board's four Committees. Lastly, the Executive Board submitted its report on the Group's first quarter 2011 operations.
- **May 26, 2011:** The Supervisory Board received information on the dispute with Siemens and more particularly on the judgment in AREVA's favor rendered on May 11, 2011. The Supervisory Board was informed of the impact of Fukushima on the commercial and financial outlook for 2011-2012 and examined the competitive advantage of the EPR™ reactor in the post-Fukushima context. The Supervisory Board was informed of the procedure for forming a subsidiary of the mining business. It approved the renewal and increase of the amount of the Euro Medium Term Note program (EMTN) and authorized the issue of bonds in connection with that program. Lastly, the Supervisory Board heard the meeting report of the work of the Audit Committee, in particular on the provision related to the OL3 project. On the advice of the End-of-Lifecycle Obligations Monitoring Committee, the Board also approved Appendix 1 of the annual update memorandum entitled "Report on Internal Controls", pursuant to Article 7 of the decree of February 23, 2007 related to the securement of funding for nuclear expenses.
- **June 21, 2011:** On the advice of the Compensation and Nominating Committee, the Supervisory Board appointed Messrs. Luc Oursel and Philippe Knoche to the Executive Board, in application of articles 16 and 17 of the by-laws, as from the first Supervisory Board meeting after June 29, 2011, at which time the terms of the sitting Executive Board will expire. In this regard, the Supervisory Board decided to make Mr Oursel President and Chief Executive Officer.
- **June 30, 2011:** The Supervisory Board took cognizance of the end of the terms of Executive Board members Mrs. Anne Lauvergeon, Gérald Arbola and Didier Benedetti in accordance with Article 17 of the by-laws and, on the advice of the Compensation and Nominating Committee, appointed Messrs. Sébastien de Montessus and Olivier Wantz to the Executive Board for the term stipulated in Article 17 of the by-laws. The Supervisory Board approved the respective roles of the members of the Executive Board. Lastly, on the recommendation of the Compensation and Nominating Committee, the Supervisory Board set the annual fixed and variable compensation of Messrs. Oursel and Knoche.
- **July 27, 2011:** The Supervisory Board was given a presentation of the consolidated half-year financial statements on June 30, 2011 and heard the meeting report of the Audit Committee and the observations

of the Joint Statutory Auditors. The Supervisory Board was informed of the progress of the spin-off of the mining business. On the recommendation of the Compensation and Nominating Committee, the Supervisory Board appointed Mr Pierre Aubouin to the Executive Board and named him Chief Financial Officer. The Supervisory Board also set the variable component of compensation of the members of the Executive Board for company year 2010 and the first half of 2011, severance payments for members of the Executive Board whose term was not renewed upon expiration, and compensation of the newly appointed members of the Executive Board. Lastly, the Executive Board submitted its report to the Supervisory Board on the Group's operations and highlights of the second quarter of 2011.

- **October 21, 2011:** The Executive Board informed the Supervisory Board of the Group's operations for the third quarter and the services proposed by the Group to its customers in the aftermath of the events in Japan. The Supervisory Board heard a progress report on the OL3 dispute. It was also given a presentation on the work of the Audit Committee, in particular on the risk map, the review of major projects, and the Group's ethical standards. The Supervisory Board heard a meeting report of the preliminary review of the Strategic Action Plan by the Strategy Committee. In application of article L. 225-90-1 of the French Commercial Code, on the recommendation of the Compensation and Nominating Committee, the Supervisory Board determined the conditions for the severance payments that might be made to the members of the Executive Board due to their cessation or change of duties. The Chairman of the End-of-Lifecycle Obligations Monitoring Committee reviewed the Group's end-of-lifecycle liabilities for the Supervisory Board. Lastly, the General Inspectorate's 2010 report on the status of safety in the nuclear facilities was presented to the Supervisory Board.
- **December 12, 2011:** On the recommendation of the Strategy Committee, the Supervisory Board approved the Group's "Action 2016" Strategic Action Plan. On the recommendation of the Audit Committee, the Supervisory Board approved the 2012 budget. On the proposal of the Audit Committee, the Supervisory Board determined the constitution of a temporary committee composed of three independent members of the Supervisory Board to examine the conditions of the acquisition and operation of UraMin and to draw conclusions therefrom for the Group. The Supervisory Board provided clarifications on the system of severance payments to members of the Executive Board.
- **December 27, 2011:** The Supervisory Board met in a special session to receive information on the methods contemplated for AREVA's sale of its shareholding in Eramet to the Fonds stratégique d'investissement and authorize the acquisition of Danone and Air Liquide shares from that same Fonds stratégique d'investissement.

3.4. ACTIVITIES OF THE FOUR 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 four committees whose role is to provide it with additional information, recommendations and advice to facilitate decision-making on matters

subject to its control. In this respect, each meeting of the Supervisory Board may be preceded by in-depth work by the specialized committees, whose report is systematically distributed to the members of the Board.

3. Preparation and organization of the Supervisory Board's activities

3.4. Activities of the four committees of the Supervisory Board

The four committees are the Strategy Committee, the Audit Committee, the Compensation and Nominating Committee, and the End-of-Lifecycle Obligations Monitoring Committee. Each committee met throughout 2011 to delve deeper into the matters reviewed hereunder.

Moreover, it is planned to create an Ethics Committee charged with watching over the proper application of rules of ethics; an amendment to the by-laws in this direction will be proposed to the Annual General Meeting of Shareholders of May 10, 2012.

3.4.1. STRATEGY COMMITTEE

As of December 31, 2011, the Strategy Committee was composed of seven members, chosen from among the members of the Supervisory Board. Jean-Cyril Spinetta⁽¹⁾, its Chairman, Bernard Bigot, Jean-Dominique Comolli, Agnès Lemarchand⁽¹⁾, Luc Rousseau, Pierre Sellal and Alain Vivier-Merle. Pierre Charreton serves as secretary to this Committee.

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 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.

In 2011, the Supervisory Board met twice, with an attendance rate of 100%.

- **October 20, 2011:** The Committee met for a preliminary review of the Strategic Action Plan. It also reviewed the forming of a subsidiary of the mining business.
- **December 8, 2011:** The Committee reviewed the report of the Strategy Committee's work of December 20, 2011, examined the 2012-2016 Strategic Action Plan and approved all of the lines of action presented by the Executive Board.

3.4.2. AUDIT COMMITTEE

As of December 31, 2011, the Audit Committee is composed of six members, chosen from among the members of the Supervisory Board: Guylaine Saucier⁽¹⁾, its Chairman, Jean-Claude Bertrand, Sophie Boissard⁽¹⁾, Jean-Dominique Comolli, François David⁽¹⁾, and Christophe Gégout. Jean-Pierre Kaminski serves as secretary to the Committee.

The Committee meets at least once quarterly and as often as necessary to fulfill its duties. It is convened by its Chairman or at least two of its members.

The role of the Committee, which has no formal authority, is to assist the Supervisory Board in exercising its authority and attributions in the following fields: the integrity of the financial data published by the company, internal controls, the execution of the internal audit function,

the independence and performance of the Statutory Auditors, risk management, financial planning, monitoring of major projects, and business ethics standards.

The Supervisory Board may also expand the scope of work of the Audit Committee by entrusting other fields to it as necessary. To discharge its duties, the Audit Committee may study specific points on its own initiative as it deems relevant to its mission. In particular, the Audit Committee examines the draft financial statements, draft budgets, internal and external audit plans, risk maps, internal control plans, the Values Charter and other relevant reports. It interviews the members of the Executive Board and the company manager designated by it, as well as the Statutory Auditors, the head of internal audit, and the business ethics advisor. The Committee makes recommendations to the Supervisory Board based on its findings and may suggest modifications or additional investigations 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.

The Audit Committee met 10 times in 2011, with an attendance rate of 82%.

- **January 26, 2011:** The Committee reviewed the draft press release related to the Group's revenue for 2010.
- **February 16, 2011:** The Committee examined the status of the OL3 project, both in terms of the general progress of technical operations at the site and in financial terms. The Committee was then informed about the conditions of civil liability for nuclear damage in India and the status of the Group's mineral resources. The Committee examined the financial statements for the year ended December 31, 2010 and heard the observations and conclusions of the Statutory Auditors. It reviewed the 2011 budget and the 2012 outlook. The Committee also reviewed the Supervisory Board Chairman's report on internal controls.
- **March 3, 2011:** The Committee reviewed the draft press release related to the annual results for 2010.
- **April 29, 2011:** After reviewing the draft press release on financial information for the first quarter of 2011, the Committee meeting was devoted to examining progress on the OL3 project, the quarterly report on the Group's major projects, and the profitability of AREVA's integrated model. The Committee also heard presentations on the risk map and cash forecasts, and on the reports of the Statutory Auditors and the Internal Audit Department on the Group's internal controls. The Committee undertook a review of the Statutory Auditors' fees.
- **July 18, 2011:** The Committee reviewed the OL3 project in detail, going over in particular the progress on construction, the financial analysis, relations with the customer, the project schedule, the status of disputes between the AREVA/Siemens consortium and the customer TVO, and the Statutory Auditors' position on the matter of project-related provisions. Having heard the assumptions used

(1) Independent members of the Supervisory Board.

3. Preparation and organization of the Supervisory Board's activities
3.4. Activities of the four committees of the Supervisory Board

to carry out mining asset impairment tests, the Committee issued a recommendation of caution. The Committee was given a presentation of estimated half-year 2011 results and heard the observations of the Statutory Auditors on these financial statements.

- **July 25, 2011:** The Committee undertook the quarterly review of major projects, examined the half-year financial statements, heard the comments of the Statutory Auditors, and reviewed the draft press release. A review of the process of forming a subsidiary of the mining business was presented to the Committee, as was the quarterly report of the Internal Audit Department.
- **October 18, 2011:** The Committee was given a presentation on the half-year risk map, the major projects review, progress on the OL3 project, and a review of cash forecasts. The Committee also went over the ethics reports put out by management and was informed of the change of the values charter which, in addition to stressing the concepts of nuclear safety, industrial safety, transparency and the Universal Declaration of Human Rights, introduces the concept of biodiversity and "zero tolerance" for corruption. Lastly, the Committee was informed about the new accounting consolidation standards.
- **October 26, 2011:** The Committee reviewed the draft press release related to financial information for the third quarter of 2011.
- **December 8, 2011:** Review of the year-end 2011 forecast and in particular impairment of mining assets and industrial assets in the Front End; review of the status of major projects; proposal to create a temporary committee charged with examining the conditions of UraMin's acquisition and operation and to draw conclusions for the Group.
- **December 9, 2011:** Review of the draft 2012 budget and the draft press release on the Group's financial outlook.

3.4.3. COMPENSATION AND NOMINATING COMMITTEE

As of December 31, 2011, the Compensation and Nominating Committee is composed of three members, chosen from among the members of the Supervisory Board; François David⁽¹⁾, its Chairman, Jean-Dominique Comolli and Agnès Lemarchand⁽¹⁾. Pierre Charreton serves as secretary to this Committee.

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 2011, the Compensation and Nominating Committee met five times, with an attendance rate of 95%:

- **February 8, February 18 and March 25, 2011:** The Committee recommended that the variable component to be paid to members of the Executive Board in 2011 for 2010, in percentage of fixed compensation, be 100% for Mrs. Lauvergeon, 80% for Messrs. Arbola and Benedetti and 70% for Mr Oursel. Of these variable shares, 60% are subject to quantitative objectives and 40% are subject to qualitative objectives. The Committee recommended not increasing the fixed compensation of the Executive Board members in 2011.
- **June 30, 2011:** The Committee examined the severance payments for members of the Executive Board whose terms have expired. The Committee issued a favorable opinion on the appointments of Messrs. de Montessus and Wantz to the Executive Board and recommended the amount of compensation of Mr Oursel as President and Chief Executive Officer and Mr Knoche as member of the Executive Board.
- **July 25, 2011:** The Committee supported the appointment of Mr Aubouin to the Executive Board. The Committee made a recommendation on the compensation of Messrs. de Montessus, Wantz and Aubouin and reexamined all compensation (fixed and variable components) of the members of the Executive Board to ensure overall consistency. The Committee discussed the provisions related to the benefit package of the new members of the Executive Board. Lastly, the Committee examined the conditions for attributing a severance payment at the end of a term and the determination of objectives and methods for calculating the variable component of compensation of new members of the Executive Board in the second half of 2011.
- **October 19, 2011:** The Committee reviewed the procedures for departure of officers whose terms were not renewed, i.e. Mrs. Lauvergeon and Messrs. Benedetti and Arbola. The Committee also proposed a revision to the rules concerning severance payments at the end of the terms of new members of the Executive Board.
- **December 5, 2011:** The Committee reviewed the status of non-renewed members of the Executive Board, the procedures for severance payments of members of the Executive Board, and the waiver of the variable component for the second half of 2011 by members of the Executive Board. The Committee examined the total amount and the individual amount of directors' fees.

3.4.4. END-OF-LIFECYCLE OBLIGATIONS MONITORING COMMITTEE

As of December 31, 2011, the End-of-Lifecycle Obligations Monitoring Committee is composed of five members, chosen from among the members of the Supervisory Board: Christophe Gégout, its Chairman, Christophe Behar, Sophie Boissard⁽¹⁾, Pierre-Franck Chevet and Gérard Melet. Patrick Herbin-Leduc serves as secretary to the Committee.

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

(1) Independent members of the Supervisory Board.

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 2011, with an attendance rate of 74%.

- **May 11, 2011:** The Committee examined the annual update memorandum to the report related to Article 20 of the French law of June 28, 2006 related to the sustainable management of radioactive waste and materials as well as the status of managed dismantling assets and liabilities at year-end 2010; the coverage ratio is slightly above 102%. The Committee also reviewed the audits conducted by the General Directorate of Energy and the Climate (DGEC).
- **October 18, 2011:** AREVA's Financial Department presented a review of the markets and their impact on the coverage ratio to the Committee.
- **December 9, 2011:** The Committee took cognizance of the principle developments expected at the end of 2011 in end-of-lifecycle liabilities and of the estimated coverage ratio. The proposal for changes in the management of earmarked assets received a favorable opinion from the Committee.

→ 4. System of internal controls

4.1. INTRODUCTION

This section is organized according to the frame of reference for internal controls published by the Autorité des marchés financiers (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.

Following the meeting of AREVA's Supervisory Board on June 30, 2011, a new Executive Board took up its functions at the head of the Group. On this occasion, the Supervisory Board noted the success of the integrated model that enables the Group to cover nuclear power plant design and construction, related services, and all the stages of the fuel cycle, and to offer its customers a service tailored to each of their needs. At the same time, the Group has developed a portfolio of solutions in renewable energies. With this as a backdrop, the Executive Board's activities go towards the continuity of the Group's strategic positioning plan.

4.1.1. AREVA GROUP COMMITMENTS

The AREVA group defined and implements a number of fundamental commitments regarding the conduct and development of its operations. The environment for internal controls is based on these commitments, among other things.

The **Values Charter** is the reflection of the Group's business culture and the expression of its commitments, in particular those concerning sustainable development. The AREVA group's values are integrity, an acute sense of professionalism, responsibility, sincerity, partnership, profitability and customer satisfaction. The Values Charter sets forth values, action principles and rules of conduct that apply to all of the Group's executives and employees as well as to the members of the Supervisory Board.

In accordance with the Values Charter, the AREVA group intends to focus its main efforts on:

- improving its performance and the satisfaction of its customers;
- its development, relying on the integrated model;
- maintaining a high quality of social dialogue;
- being exemplary in the fields of nuclear safety, industrial safety and transparency.

AREVA University's programs to sensitize management to the Values Charter continued. The Business Ethics Advisor also led sessions in Germany and in the United Kingdom in connection with the implementation in mid-2011 of Britain's new anti-corruption law (the Bribery Act 2010), in a repeat of the program led in 2010 during passage of this law, to recall its extraterritorial nature and its distinctive features in relation to the US anti-corruption law (the Foreign Corrupt Practices Act), which had been the international standard up until then. With respect to human rights in business, programs to raise management awareness were held 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 sensitized management of the units concerned to the Nuclear Power Plant Exporters' Principles of Conduct, an industry initiative announced in September 2011 by the Carnegie Endowment for International Peace, to which AREVA actively contributed.

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. In 2011, the department distributed a series of practical guidelines aimed in particular at enabling

4. System of internal controls

4.2. Organization, governance, resources, information systems and operating procedures

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 destined to be supplemented with training of the operating teams, which will continue throughout 2012.

4.1.2. INTERNAL CONTROL STANDARDS

The AREVA group defers to the definition of internal control of the Autorité des marchés financiers (AMF, France's stock market regulator). According to the AMF's "frame of reference for internal control", the internal control system is characterized by:

- an organization with a clear definition of responsibilities, sufficient resources and expertise, and appropriate information systems, procedures, tools and practices;
- the internal dissemination of relevant and reliable information enabling each person to discharge his or her responsibilities;
- a system to identify, analyze and manage risk;
- control activities designed to reduce this risk; and
- continuous monitoring of the internal control system.

The Group ensured that the approach taken is consistent with the standards of the AMF. In particular, it verified the consistency between:

- the "implementing guidelines for the internal control of accounting and financial data reported by issuers" included in the AMF frame of reference, and
- the system for self-assessment of internal controls within the Group (self-audit), which was carried out to ensure that all the standards are met (see Section 4.6., *Continuous oversight of the internal control system*).

4.1.3. INTERNAL CONTROL OBJECTIVES

Internal controls contribute to operational control in terms of effectiveness, the protection of assets, compliance with legislation and regulations, the reliability and quality of information produced and reported, and implementation of instructions and guidance from the Executive Board.

They provide reasonable assurance that the Group's objectives will be met. However, no matter how well designed and implemented, internal control mechanisms are not sufficient 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 operational organization of the Group set up in 2010 was confirmed in July 2011. Under the direction of the Executive Board and its Executive Management Board, the organization is built on:

- five Business Groups (BG);
- an Engineering & Projects organization (E&P);
- Functional Departments, and
- two Regions (Germany and North America).

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 Executive Board is constituted by its Chairman, Luc Oursel, and four other members who report to him:

- Philippe Knoche, Chief Operating Officer;
- Pierre Aubouin, Chief Financial Executive Officer;
- Sébastien de Montessus, Senior Executive Vice President, Mining Business Group; and
- Olivier Wantz, Senior Executive Vice President, Operations Support.

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 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;
- defining organizational principles and processes to serve customers and build talent.

The Operating Departments – the Business Groups and Engineering & Projects organization – together with the Marketing & Sales Department,

4. System of internal controls

4.2. Organization, governance, resources, information systems and operating procedures

the Functional Departments and the Regions (Germany and North America) report as follows:

- to Luc Oursel: the Marketing & Sales Department, the Communications Department, the Executives Career and Organization Department, the Human Resources Department, the Chief Administrative Officer, the Strategy, Mergers & Acquisitions Department, and the Renewable Energies Business Group;
- to Philippe Knoche: the Front End Business Group, the Reactors & Services Business Group, the Back End Business Group, the Engineering & Projects organization, the Research & Development Department and the North America Region;
- to Pierre Aubouin: the Finance Department and the Audit Department⁽¹⁾;
- to Sébastien de Montessus: the Mining Business Group;
- to Olivier Wantz: the Operations Support Departments (the Purchasing Department, the Sustainable Development and Continuous Improvement Department, the Process Optimization and Cost Reduction Department, the Protection Department, the Quality and Performance Department, the Information Systems and Services Department, and the Safety, Health, Security and Environment Department) and the Germany Region.

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:

- the Chief Commercial Officer;
- the Senior Executive Vice President of Communications;
- the Senior Executive Vice President of Executives Career and Organization;
- the Senior Executive Vice President of Human Resources;
- the Senior Executive Vice President of Strategy, Mergers and Acquisitions;
- the Chief Administrative Officer.

The Executive Board relies on five coordination and steering committees which have broad delegation of authority:

- the Operations Committee is chaired by the Chief Operating Office or the Senior Executive Vice President of Operations Support. It examines and arbitrates between operational matters across the Operating Departments (Business Groups and Engineering & Projects organization), the Operations Support Departments and the Regions. This Committee meets bimonthly;
- the Major Offers Committee is chaired by the Chief Executive Officer or the Chief Commercial Officer. This Committee meets weekly;
- the Major Projects Committee is chaired by the Chief Executive Officer or the Chief Operating Officer. This Committee meets bimonthly;

- the Human Resources Committee is chaired by the Senior Executive Vice President of Human Resources. As a minimum, this Committee meets bimonthly;
- the Risk Committee, chaired by the Chief Administrative Officer, is charged with coordinating the analysis of the Group's principal risks and setting up the necessary action plans to manage them.

The missions and rules of procedure of these five committees are the subject of specific organizational notes. The Risk Committee was created on December 1, 2011 and will be operational as from the year of 2012. The four other committees were created and operational upon the change in governance in July 2011.

The following committees are eliminated: the Major Customer Projects Committee, the Engineering Management Committee, the Operational Coordination Committee and the Investment Committee. Their powers and duties are assumed by the four coordination and steering committees on which the Executive Board relies, except for capital spending, which lies directly within the province of the Executive Board and its Executive Management Board.

The other existing committees of the organization – Sales Compliance Committee, Mergers & Acquisitions Panel, Strategic Purchases Committee and Dismantling Operations Monitoring Committee – are not affected by these changes.

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.

(1) The measures taken to ensure the independence of the Audit Department in exercising its missions are explained in the Audit Charter.

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4.2.3. HUMAN RESOURCES MANAGEMENT POLICY

The Executive Management Board approves the Group's Human Resources management policy, which is implemented by the Group's Human Resources Department in agreement with the other departments involved. 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 of high-performance, cost-effective and secure information systems and to oversee the overall consistency of the Group's information systems. To accomplish this, the department is organized to meet two major goals:

- 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 both economic and geographic 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, and in particular the Audit Department and the Department of the Chief Administrative Officer, which covers in particular Business Ethics, the Internal Control and the Risk and Insurance Department.

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 lifecycle;

- 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 two operational levels: the operating entities (level 1 information production) and the business unit (base unit for management and performance analysis throughout the Group), subsequently consolidated by Business Group.

Instructions for consolidation are issued by the Group's Financial Control department for all half-year and annual financial statements. These instructions set forth:

- the schedule for preparing accounting and financial information for reporting purposes;
- the process for validating this information;
- items requiring particular attention, such as complex issues, changes in 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 launched an initiative to model the Group's main financial processes and establish a complete, up-to-date database shared by all stakeholders involved in these processes (Corporate Departments and 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 Financial Controls department.

These principles are supplemented by procedures and instructions issued and reviewed on a regular basis by the other units of the Finance department (Financial Operations and Cash Management department, Financial Communications department, Tax department) and by the Business Groups, and include procedures and instructions dealing specifically with internal controls and fraud.

The "standards and procedures" function of the Financial Controls department defines and distributes information relating to implementation of the financial and accounting standards, procedures, principles and rules. It also monitors changes in regulations to ensure that the financial statements are prepared in accordance with IFRS rules adopted by the European Union.

4.2.6. SOFTWARE

In addition to office equipment used by employees, the Group has specific software customized for the management of its operations.

A wide variety of tools are used, including facility control systems, integrated management systems, methods and scorecards, and contribute to the operational control of each business.

In particular, the Group has 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 information systems. 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 July 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 led by the Chief Administrative Officer 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 Advisor in charge of Internal Control in the Office of the Chief Administrative Officer:

- working closely with the Audit Department, provides follow-up of measurement indicators and the performance of the Internal Control system for the Group's governance bodies, particularly through the self-assessment exercise;
- provides support and advice (preventive and remedial actions), in liaison with the Audit Department, operational management and the functional departments.

The person responsible for "accounting and finance" Internal Control is tasked more specifically with issues related to accounting and finance internal control.

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.

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4.3. Dissemination of information
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);
 - a common software program is used to measure the progress of action plans, indicative of the achievement of strategic objectives, and serves as an additional channel for bottom-up reporting.

- Top-down information:

- the relevant departments and the Group's entities are informed of resolutions by the corporate decision-making bodies; 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 established organizational 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 operational objectives. AREVA's Risk and Insurance Department, working with the Risk Managers of the five Business Groups (which themselves have a network of Risk Managers in their operating entities), carries out an annual update. The risk map is submitted to the Supervisory Board's Audit Committee, with the Audit Director attending. In particular:

- the management teams of the business units have approved the assessment of risk in their operations. For example, the Group's entities have collected, analyzed and measured the risk factors of their respective operations. They have also prepared 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 and the procedures for managing risk are identified and described in the Reference Document in the section regarding risk management and insurance (see Chapter 4, *Risk factors*). In particular, matters pertaining to nuclear and industrial safety, which are an absolute priority for the Group, are discussed in that section.

In addition, the Industrial department is tasked with supervising industrial risk management and, on a practical level, working with the relevant business units to ensure the implementation and effectiveness of action plans used to control and ultimately reduce risk.

Moreover, the 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 self-assessment questionnaire (see Section 4.6., *Continuous monitoring of the internal control system*). This identification, along with the Group's tools and procedures, is used to manage the risk by implementing the corresponding action plans. The Finance department matches the Group's tools to the risk associated with each balance sheet item.

The Finance department regularly reports to the Audit Committee on the Group's major investment and commercial projects. This report is used to monitor projected profitability and changes in the risks associated with those projects.

4.4.2. SETTING OBJECTIVES

The process of setting the Group's objectives takes place within the framework of deployment of the new "Action 2016" strategic action plan approved by AREVA's Supervisory Board.

This action plan targets performance improvement by relying on the values of safety, security and transparency.

It is based on decisive strategic choices:

- **commercial 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, modernization and extension of the life in service of existing reactors worldwide, and used fuel management solutions) and the construction of new reactors meeting the most demanding criteria for nuclear and industrial safety;
- **selectivity in capital spending**, which means focusing operating Capex through 2016 on ongoing nuclear safety, industrial safety and maintenance programs and projects already launched; several capital projects having been suspended due market uncertainties;
- **strengthening of our balance sheet** based on performance improvement, an appropriate level of liquidity and a program of asset sales for more than 1.2 billion euros.

From now to 2015, **performance improvement** is underpinned by five pillars: nuclear and industrial safety, economic competitiveness, operations and customers, technologies and human resources.

Concerning economic competitiveness, the Group identified and implemented a set of initiatives formalized through a performance improvement plan aimed at reducing operating costs (with total savings targeted at 1 billion euros on an annual basis by 2015, or 10% of the cost base) and improving working capital requirement by 500 million euros (a reduction of more than 15 days of revenue) by 2015.

All of these objectives will be broken down in a consistent manner in the Business Groups and support functions and their implementation and achievement will be regularly monitored by the Executive Management Board.

4.5. CONTROL ACTIVITIES

The Functional Departments are responsible to the Executive Board for the correct implementation of their policies. In particular, the Financial 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.

In particular, it is the Chief Administrative Officer's mission to deploy an annual compliance letter process that applies to all senior executives of the subsidiaries, Senior Executive Vice Presidents of the Business Groups, Directors of the business units, Regional Directors, and Senior and Executive Vice Presidents of the Group's Functional Departments confirming compliance with the principles of the Group's Values Charter and protecting the identity of whistleblowers to prevent any subsequent retribution or discrimination in their regard;

The Internal Audit department, which, in performing its duties, verifies compliance with internal controls and the effectiveness of established internal control procedures within the Group. Audit missions are implemented in accordance with an annual audit plan approved by the Executive Board and reviewed by the Audit Committee. The plan is based on an independent assessment of risk performed by the Audit department. In particular, this assessment takes into account the risks

identified using the full range of the Group's tools (risk map of the Risk and Insurance department, but also the risk identification carried out by the Environment department, the Safety, Health, Security and Environment department, and others).

The Audit department may intervene in any area related to internal controls. Its activities are carried out in accordance with an Audit Charter according to the standards of the profession defined by the Institute of Internal Auditors (Institut français de l'audit et du contrôle interne, IIA-IFACI – IFACI certification renewed in 2009 and maintained in 2010 and 2011 without any indication of non-compliance of any sort) and a Code of Business Ethics.

The resulting recommendations 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

4. System of internal controls
4.6. Continuous oversight of the internal control system

since 2007 following a standard questionnaire (the "Income Self Audit"), 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 2011 across the entire consolidation scope of the Group, representing 130 entities in some 20 countries. For each entity, it covered some 200 control points divided into 14 business cycles, and it ensured that continuous improvement applies to internal controls, particularly by the entities' development and gradual deployment of action plans addressing the weaknesses brought to light (9% of the control points tested had not been achieved without being formalized, and opportunities for improvement in the management of information systems, particularly as concerns access management and conflicting tasks, were identified).

The entities' results from this questionnaire, reviewed by the Audit Department to ensure oversight of the overall system, were presented to the relevant organizational levels (business units, Business Groups and Functional Departments), and the key findings were included in the Audit Director's annual internal controls review report.

The "Internal accounting and financial controls" function and the deployment of new tools and processes in Group projects are important drivers for strengthening internal accounting and financial controls.

* * *

In the special session of December 12, 2011 devoted among other things to a review of the 2011 closing forecasts, AREVA's Executive Board indicated that it planned to set up a provision in the company's financial statements for the year ended 2011 in the amount of 1.46 billion euros (2,025 billion dollars) for impairment of assets from the reporting entity UraMin, a mining company acquired by AREVA in 2007, which, considering the provision of 426 million euros set up in 2010, brings the value of these assets on AREVA's balance sheet to approximately 410 million euros.

Given the extent of these provisions, the Supervisory Board decided to task three of its members, meeting as an ad hoc committee, with analyzing the conditions of the acquisition of this company as well as the principal decisions made in this reporting entity up through 2011, and to recommend, in light of these analyses, all useful measures in AREVA's interest.

This committee reported on its work during the Supervisory Board session of February 14, 2012.

Given the malfunctionings brought to light, the Supervisory Board considers it appropriate to thoroughly review AREVA's governance to ensure that decisions touching on acquisitions or substantial investments be reviewed and validated in the future in conditions ensuring better legal and financial security and permitting more transparent dialogue between management and the Supervisory Board.

The Executive Board was thus asked to add a revision of AREVA's by-laws to the agenda for the upcoming Annual General Meeting of Shareholders that:

- amends Article 22.2, making the Supervisory Board's approval mandatory for any project or binding decision concerning the creation of a site or increase of an existing site's capacity, as well as for any

organizational transaction (acquisition and shareholding) above the threshold of 20 million euros; and

- amend Article 22.1, instituting an Ethics Committee which will be responsible for managing recourse to business intelligence studies and the Group's compliance with best practices in matters of business ethics.

It was decided to amend the rules of procedure of the Supervisory Board to broaden the purview of the Strategy Committee by making it responsible for examining projects and binding decisions as well as organizational transactions pursuant to Article 22.2 of the by-laws. This committee shall henceforth be called the "Strategy and Investments Committee" and shall meet at least four times per year. Each year, during the annual budget review, it will examine 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.

It requested that a Resources and Reserves Committee be set up by June 30, 2010 under the authority of the Executive Board and made responsible for validating, each year, resource and reserve estimates appearing in the Reference Document based on the work led by the Reserves Department. This Committee, which will involve one or several recognized experts from outside the Group, shall indicate the methods and schedule for updating resources and reserves. Its work shall be the subject of an annual report to AREVA's Audit Committee.

It noted that the deliberations of the Executive Board and of the bodies or authorities to which it has delegated authority must systematically be formalized in writing and asks the Executive Board to ensure that this rule is scrupulously applied.

It also noted the absolute necessity for the Group's executives to express themselves in a rigorous and coordinated manner on the company's financial and operational position to ensure the consistency of information given to the shareholders and the market, in accordance with the recommendations of the Afep-Medef Code.

It took note of the measures already undertaken by the new Executive Board to improve the internal procedure for project reviews, validation and follow-up, and recommends that the latter be brought to a successful conclusion in the shortest time possible, in liaison with the Audit Committee.

Lastly, it asked the Executive Board to study the transformation of the company's legal form into a limited liability company with a board of directors.

In light of this report, the Supervisory Board noted that the regularity and fairness of the financial statements for previous years was not in doubt.

The Group decided to take into account the recommendations which constitute avenues for improvement of AREVA's governance.

* * *

This year's report does not contain an analytical section. This is consistent with practices in France and the recommendations of the Autorité des marchés financiers, as described in its 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

BOARD MEMBERS

Mr Jean-Cyril Spinetta

Chief Executive Officer of Air France-KLM

Air France-KLM
Esplanade des Invalides
2 rue Robert Esnault Pelterie
75007 Paris, France

Mr Bernard Bigot

*Administrator General of the Commissariat à l'Énergie atomique
et aux Énergies alternatives*

CEA/SACLAY
CAB/AG
Bâtiment Siège (n° 447)
91191 Gif-sur-Yvette Cedex, France

Mr Christophe Behard

Director of Nuclear Energy

CEA SACLAY
Bâtiment 121
91191 Gif-sur-Yvette Cedex, France

COMMISSARIAT À L'ÉNERGIE ATOMIQUE ET AUX ÉNERGIES ALTERNATIVES

Permanent representative:

Mr Christophe Gégout

*Chief Financial Officer and Director of the Management and Information
Systems Division*

CEA/SACLAY
GSI/DF/DIR
Bâtiment Siège (n° 447)
91191 Gif-sur-Yvette Cedex, France

Mr François David

Chairman

COFACE
12 cours Michelet
92065 Paris-La Défense Cedex, France

Mrs. Sophie Boissard

General Manager, Gares & Connexions

SNCF
Direction Générale
16 avenue d'Ivry
75634 Paris Cedex 13, France

Mrs. Agnès Lemarchand

Executive Chairman

Steetley Dolomite Limited
19 place de la Résistance
92446 Issy-les-Moulineaux Cedex, France

Mrs. Guylaine Saucier

2158-4933 Québec Inc.
1000, rue de La Gauchetière Ouest
Bureau 2500
Montréal, Quebec H3B 0A2, Canada

MEMBERS REPRESENTING THE FRENCH STATE

Mr Jean-Dominique Comolli

Commissioner of State Holdings

Agence des participations de l'état
Direction Générale du Trésor
Ministère de l'Economie, des Finances et de l'Industrie
Teledoc 228
139, rue de Bercy
75572 Paris Cedex 12, France

Mr Pierre Sellal

Secretary General

Ministère des Affaires Etrangères et Européennes
37, Quai d'Orsay
75007 Paris, France

Mr Luc Rousseau

Director General of Competition, Industry and Services

Ministère de l'Economie, des Finances et de l'Industrie
12, rue Villiot – Le Bervil
75572 Paris Cedex 12, France

MEMBERS ELECTED BY THE EMPLOYEES**Mr Jean-Claude Bertrand**

AREVA NC Pierrelatte
Direction Tricastin (Bât. 53)
B.P. n° 16
26701 Pierrelatte Cedex, France

Mr Gérard Melet

AREVA DELFI
25 avenue de Tourville
BP 69
50120 Equeurdreville, France

Mr Alain Vivier-Merle

AREVA NP
IBGSF
10, rue Juliette Récamier
69456 Lyon Cedex 06, France

**OTHER PARTICIPANTS ATTENDING THE BOARD IN AN
ADVISORY CAPACITY ONLY****Mr. Pierre-Franck Chevet**

*Director General of Energy and Climate,
Government Commissioner*
Direction Générale
Ministère de l'Écologie, du Développement durable, des Transports et
du Logement*

MEDDTL/DGEC
Grande Arche de La Défense-Paroi Nord
92055 La Défense Cedex, France

Mr Toni Cavatorta

General Economic and Financial Control Mission of the CEA
3 boulevard Diderot
75572 Paris Cedex 12, France

Mr Marcel Otterbein

Representative of the Employee Work Council to the Supervisory Board
AREVA Finance Gestion
33 rue La Fayette
75009 Paris, France

* effective December 15, 2011

Appendix 2

Statutory Auditors' reports

→ 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	357
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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

This is a free translation into English of the statutory auditors' report issued in French prepared in accordance with Article L.225-235 of the French Commercial Code on the report prepared by the Chairman of the Supervisory Board on the internal control and risk management procedures relating to the preparation and processing of accounting and financial information issued in French and is provided solely for the convenience of English speaking users. This report should be read in conjunction and construed in accordance with French law and the relevant professional standards applicable in France.

To the Shareholders,

In our capacity as Statutory Auditors of AREVA and in accordance with Article L. 225-235 of the French Commercial Code, we hereby report to you on the report prepared by the Chairman of your Company's Supervisory Board in accordance with Article L. 225-68 of the French Commercial Code for the year ended December 31, 2011.

It is the Chairman's responsibility to prepare, and submit to the Supervisory Board for approval, a report on the internal control and risk management procedures implemented by the Company and containing the other disclosures required by Article L. 225-68 of the French Commercial Code, particularly in terms of corporate governance.

It is our responsibility:

- to report to you on the information contained in the Chairman's report in respect of the internal control and risk management procedures relating to the preparation and processing of accounting and financial information, and
- to attest that this report contains the other disclosures required by Article L. 225-68 of the French Commercial Code, it being specified that we are not responsible for verifying the fairness of these disclosures.

We conducted our work in accordance with professional standards applicable in France.

INFORMATION ON THE INTERNAL CONTROL AND RISK MANAGEMENT PROCEDURES RELATING TO THE PREPARATION AND PROCESSING OF ACCOUNTING AND FINANCIAL INFORMATION

The professional standards require that we perform the necessary procedures to assess the fairness of the information provided in the Chairman's report in respect of the internal control and risk management procedures relating to the preparation and processing of accounting and financial information. These procedures mainly consisted in:

- obtaining an understanding of the internal control and risk management procedures relating to the preparation and processing of accounting and financial information on which the information presented in the Chairman's report is based and the existing documentation;
- obtaining an understanding of the work involved in the preparation of this information and the existing documentation;
- determining whether any significant weaknesses in the internal control procedures relating to the preparation and processing of accounting and financial information that we would have noted in the course of our engagement are properly disclosed in the Chairman's report.

On the basis of our work, we have nothing to report on the information in respect of the Company's internal control and risk management procedures relating to the preparation and processing of accounting and financial information contained in the report prepared by the Chairman of the Supervisory Board in accordance with Article L. 225-68 of the French Commercial Code.

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.

Neuilly-sur-Seine and Paris-La-Défense, March 1, 2012

The Statutory Auditors

MAZARS

DELOITTE & ASSOCIES

Juliette DECOUX

Jean-Luc BARLET

Patrice CHOQUET

Pascal COLIN

→ 2. Statutory Auditors' special report on regulated agreements and commitments

This is a free translation into English of the statutory auditors' special report on regulated agreements and commitments with third parties that is issued in the French language and is provided solely for the convenience of English speaking readers. This report on regulated agreements and commitments should be read in conjunction and construed in accordance with French law and professional auditing standards applicable in France. It should be understood that the agreements reported on are only those provided by the French Commercial Code and that the report does not apply to those related party transactions described in IAS 24 or other equivalent accounting standards.

To the Shareholders,

In our capacity as Statutory Auditors of your Company, we hereby report to you on regulated agreements and commitments.

The terms of our engagement require us to communicate to you, based on information provided to us, the principal terms and conditions of those agreements and commitments brought to our attention or which we may have discovered during the course of our audit, without expressing an opinion on their usefulness and appropriateness or identifying such other agreements and commitments, if any. It is your responsibility, pursuant to Article R. 225-58 of the French commercial code (*Code de Commerce*), to assess the interest involved in respect of the conclusion of these agreements for the purpose of approving them.

Our role is also to provide you with the information stipulated for in Article R. 225-58 of the French commercial code in respect of the performance of the agreements and commitments previously approved by the Shareholders' Meeting and having continuing effect during the year, if any.

We conducted the procedures we deemed necessary in accordance with the professional guidelines of the French National Institute of Statutory Auditors (*Compagnie Nationale des Commissaires aux Comptes*) relating to this engagement. These procedures consisted in agreeing the information provided to us with the relevant source documents.

AGREEMENTS AND COMMITMENTS AUTHORIZED DURING THE YEAR

Pursuant to Article L. 225-88 of the French commercial code, the following agreements and commitments, previously authorized by your Supervisory Board, have been brought to our attention.

AGREEMENTS GOVERNED BY ARTICLE L.225-86 OF THE FRENCH COMMERCIAL CODE

With EDF and CEA

The March 28, 2011 Supervisory Board meeting 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 "Direction Générale de l'Energie et du Climat"'s initiative, an audit program of the valuation tools used by the parties to assess their end-of cycle obligations.

Members of the Supervisory Board concerned:

- The State representatives: Messrs Comolli, Chevet, Rousseau and Sellal.
- On behalf of CEA: Mr. Bigot, Member of the Supervisory Board of AREVA, Chairman of the Board of Directors of CEA, and Mr. Gegout, Chief Financial Officer of CEA and CEA's Permanent Representative on the Supervisory Board of AREVA.

With *Fonds Stratégique d'Investissement* – FSI (strategic investment fund)

The December 27, 2011 Supervisory Board meeting authorized AREVA to acquire Danone and Air Liquide shares held by the FSI for an amount of €225 million on the basis of the December 27, 2011 closing price of these shares on the NYSE-Euronext stock exchange, it being specified that AREVA will receive an undertaking to purchase the shares from FSI. This put option can be exercised by AREVA on July 16, 2012 at the latest should AREVA's project to sell its holdings in Eramet to FSI fail to materialize by June 30, 2012.

Member of the Supervisory Board concerned:

Mr. Comolli by reason of his membership of FSI's Board of Directors.

AREVA'S COMMITMENTS UNDER ARTICLE L.225-90-01**With Ms. Anne Lauvergeon, Messrs. Gérald Arbola and Didier Benedetti whose mandates as Executive Board members ended on June 30, 2011**

Pursuant to the rules governing severance payments as defined by the October 16, 2008 Supervisory Board meeting, the July 27, 2011 Supervisory Board meeting approved the following payments:

- to Mr. Benedetti, a severance payment equivalent to two years of his total annual remuneration, the variable portion thereof over the previous three fiscal years having exceeded 60%. Mr. Benedetti has waived this severance payment and the variable portion of the remuneration he was entitled to in respect of the first half-year of 2011;
- to Mr. Arbola, a lump sum severance payment in the amount of €760,000;
- to Ms Lauvergeon:
 - a lump sum severance payment in the amount of €1,060,000 to which €440,000 have been added as a non-compete compensation, by way of an exception to the procedure decided at the October 16, 2008 Supervisory Board meeting,
 - the provision of a secretary, a chauffeured car and a security officer for a period of one year amounting to €409,310 for the second half-year of 2011.

Since the State Ministers concerned had not approved the severance payments of Ms. Lauvergeon and Mr. Arbola's pursuant to Decree 53-707 of August 9, 1953, no payments had been made as of December 31, 2011.

With the members of the new Executive Board (Messrs. Luc Oursel, Philippe Knoche, Sébastien de Montessus, Olivier Wantz and Pierre Aubouin)

The October 21, 2011 and December 12, 2011 Supervisory Board meetings approved the AREVA undertakings on compensation or benefits payable or likely to be payable to Executive Board members due to a termination or change in duties under the following terms and conditions, which comply with the recommendations of the Afep-Medef code on listed company corporate governance, as revised in April 2010.

- Executive Board members who are not under employment contracts may claim a termination payment in a maximum amount fixed at twice the aggregate of the latest annual fixed portion of their remuneration on the date their term of office come to an end and the average annual variable portion of their remuneration over the previous three years.
 - Messrs. Oursel, Knoche and Aubouin are not under employment contracts.
 - Messrs Wantz and Montessus are under employment contracts which are suspended for the duration of their terms of office. No severance payment in respect of their term of office as Executive Board members shall be paid.
- Executive Board members wishing to receive their retirement benefits shortly after the end of their terms of office, irrespective of the reasons therefor, be it involuntary, or whose terms of office end early due to the transformation of the Company into company with a Board of Directors or who are moved to another position within the Group shall not claim any severance payment.
- The above-mentioned severance payments shall only be paid in the event an Executive Board member is removed, unless for cause, including a change in control or strategy, and shall be subject to performance requirements under the following terms and conditions:
 - if two out of the three previous fiscal years gave rise to the payment of more than 70% of the maximum variable portion of the remuneration, such variable portion being based on both quantitative and qualitative objectives, the termination payment shall be automatically paid;
 - if two out of the three previous fiscal years gave rise to the payment of less than 60% of the maximum variable portion of the remuneration, no termination payment shall be paid;

2. Statutory Auditors' special report on regulated agreements and commitments

- If two out of the three previous fiscal years gave rise to a payment below or equivalent to 70% of the maximum variable portion of the remuneration, but this percentage has been between 60% and 70% for at least one fiscal year, the decision to pay all or part of the termination payment remains with the Supervisory Board.
- Should an Executive Board member be removed from or constrained to leave office before having discharged his duties for three fiscal years, the termination payment shall be subject to the following performance requirements:
 - If the officer's average variable portion during his term of office (on a time-apportioned basis for incomplete years) is higher than 70% of the maximum variable portion of his fixed remuneration, compensation shall be automatically paid;
 - If the officer's average variable portion during his term of office (on a time-apportioned basis for incomplete years) is below 60% of the maximum variable portion of his fixed remuneration, compensation shall not be paid;
 - If the officer's average variable portion during his term of office (on a time-apportioned 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 payment remains with the Supervisory Board, without such compensation being automatically due.
- The Supervisory Board may decide to grant compensation as consideration for the 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 the non-compete clause shall be fixed by the Supervisory Board in accordance with practice.
- Executive Board members not covered by employment contracts shall be granted the unemployment insurance provided for by the MEDEF, the contributions to which shall be 65% borne by the Company and 35% borne by the recipient officer.

These deferred remuneration commitments to each of the Executive Board members shall be subject to the AREVA Ordinary Shareholders' Meeting held to approve the financial statements for the year ended December 31, 2011.

Any compensation payment decided shall have to receive the prior approval of the State Ministers concerned pursuant to Decree No. 53-707 of August 9, 1953.

AGREEMENTS AND COMMITMENTS AUTHORIZED IN PREVIOUS YEARS AND HAVING CONTINUING EFFECT DURING THE YEAR

Pursuant to Article R. 225-57 of the French commercial code, we have been advised that the following agreements and commitments authorized by the shareholders in previous years have had continuing effect during the year.

WITH AREVA NC

On July 8, 2004, the Supervisory Board authorized the signature of an agency agreement under which AREVA NC gave AREVA authority to manage or organize and control, in the name of AREVA NC and on its behalf, assets earmarked to fund dismantling and radioactive waste management expenditures. This agreement has an indefinite term with a 3-month cancellation notice by either party.

This agreement did not give rise to any billing over fiscal year 2011.

WITH EXECUTIVE BOARD MEMBERS UNTIL JUNE 30, 2011

On October 16, 2008, the Supervisory Board, at the recommendation of the Compensation and Nominating Committee, decided to bring the commitments given by AREVA with regard to executive management severance pay into compliance with the French TEPA Law.

The members of the AREVA Executive Board, Mrs. Anne Lauvergeon, Chairperson, and MM Gérald Arbola, Didier Benedetti and Luc Oursel, were each granted entitlement to severance pay equal to twice the total of their most recent fixed annual compensation at the date of termination of their duties, plus the average variable annual compensation paid in respect of the last three years.

The Supervisory Board adopted the following new rules:

- In the event of removal of a member of the Executive Board by the General Assembly, the resignation of a member of the Executive Board at the request of the Supervisory Board or the non-renewal of the term of office of a member of the Executive Board at the request of the Supervisory Board (and not because the member refuses the renewal), the payment to this member of the severance pay provided in the terms and conditions of employment and approved by the Supervisory Board and the Minister for the Economy and Finance shall be contingent on the following condition: having received over 60% of the maximum variable compensation due in respect of two of the last three years, where this variable compensation is based on both quantitative and qualitative objectives;
 - Conversely, if less than 50% of the maximum variable compensation was received in two of the last three years, the severance pay shall not be paid;

2. Statutory Auditors' special report on regulated agreements and commitments

- If less than 60% of the maximum variable compensation was received in two of the last three years, but this percentage was between 50% and 60% for at least one year, the decision to pay all or part of the severance pay shall be made by the Supervisory Board, without any automatic entitlement to this indemnity.

The Shareholders' Meeting of April 30, 2009 approved these commitments by unanimously adopting the sixth resolution.

Neuilly-sur-Seine and Paris-La-Défense, March 2, 2012

The Statutory Auditors

DELOITTE & ASSOCIÉS

MAZARS

Patrice CHOQUET

Pascal COLIN

Jean-Luc BARLET

Juliette DECOUX

Appendix 3

Environmental report

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Since 2010, the Safety, Health, Security Department and the Environment Department have been combined in a single Safety, Health, Security, and Environment Department (D3SE). Its principal missions are to develop the Group's policies in the areas of safety, health, security and the environment, to provide control through the General Inspectorate, and to assist line personnel in implementing their performance improvement plans.

The different policies endeavor to be responsive to the diverse regulations and cultures in the countries in which AREVA's sites are based, and to the issues expressed by various stakeholders.

→ 1. Environmental policy

The objectives of the environmental policy, which were updated in 2007, cover the 2008 to 2011 period and are shaped by six commitments:

- Managing;
 - Ensuring compliance with regulatory requirements and with the Group's standards;
- Innovating;
 - Incorporating environmental impact reduction into the design of products, services, processes and infrastructure throughout their lifecycle;
- Preventing risk;
 - Developing and harmonizing environmental surveillance, and deploying assessment methods to prevent environmental hazards;
- Preventing environmental liabilities;
 - Thinking about the future use of the sites and preserving biodiversity;
- Minimizing the environmental footprint;
 - Improving environmental performance, at constant revenue, by reducing withdrawals from the natural environment and the consumption of materials and energy, and reducing waste and releases to the air and water;
- Measuring and reporting.
 - Expanding the publication of environmental reports to promote transparency and dialogue with stakeholders⁽¹⁾.

The quantification of environmental objectives is updated annually based on risk mapping efforts, stakeholder expectations, best internal and external practices, environmental reporting, an external benchmark, and dialogue with the operating entities.

The environmental policy applies to all of the Group's entities, both in France and abroad. In 2011, the Group had 49 sites with significant environmental aspects, including 13 regulated nuclear facilities (*installations nucléaires de base*, INB), 5 high threshold Seveso sites, 6 low threshold Seveso sites, and 14 uranium and gold mining complexes.

The policy is broken down into action plans in the operating entities which themselves revolve around three key work areas:

- environmental management, with ISO 14001 certification of sites with significant environmental aspects and eco-design of products and services;
- chronic risk prevention, including polluted soils, eco-health, technological and chemical risks;
- performance improvement and notably, the reduction of water tapping, energy management, the reduction of emissions and releases, particularly greenhouse gases, and the recycling of conventional waste.

AREVA's Health, Safety, Security and Environment Committee, which meets every two months, monitors performance improvement. Results are communicated via quarterly and annual scoreboards.

(1) In AREVA's frame of reference, sites with significant environmental aspects include nuclear sites, sites with facilities representing major man-made risk per Seveso regulations, mine sites, plants with facilities subject to public inquiry, and industrial or office building sites which make a significant contribution to the Group's environmental accounting.

1.1. ENVIRONMENTAL MANAGEMENT AT THE SITES

ENVIRONMENTAL MANAGEMENT SYSTEMS

In the initial phase of setting up environmental, health and safety policies, the objective was to deploy environmental management systems (EMS) at all sites and to secure ISO 14001 or equivalent certification for the nuclear sites and other sites with significant environmental aspects before the end of 2011, or within a period of three years after their acquisition.

This approach was used to structure the environmental, health and safety risk management approach and to harmonize practices. The certification of these systems by third party organizations provided assurance of their quality. At the current advanced stage, and after several years of deploying these management systems, recognition by an outside organization appears to no longer be a choice made by the Group, but a managerial decision by the entity itself.

Each of the operating entities is nonetheless encouraged to continue its efforts to optimize its risk management even more and may call on the help of a specialist and draw on experience pooled at the Group level.

TRAINING AND AWARENESS

In connection with the objectives of its environmental policy, AREVA is strengthening awareness and training the members of the environmental network in environmental responsibility. The "Environment: Risks and Opportunities" program is offered in partnership with AREVA University so that the entire Group shares the same environmental culture. Providing a review of the fundamentals of the environmental profession, it focuses on risk prevention and management. As of the end of 2011, close to 270 people had been trained since 2007.

The training is part of the "Professionalization Program" launched in 2007, which highlights the environmental professions, identifies skills, and shares experience and best practices.

REGULATORY INTELLIGENCE

In 2006, a special computer tool called the regulatory intelligence area (RIA) was deployed at all of AREVA's plant sites in France. It organizes regulatory intelligence while capitalizing the stages in the process, and facilitates verifications of each entity's regulatory compliance while adhering to principles of the legal responsibility of the heads of establishments and their delegates. The latest version, rolled out in 2009, factors in lessons learned from the previous version.

ENVIRONMENTAL SPENDING

This indicator has applied in France since 2004. It is based in part on the definition of environmental spending in the annual statistical survey put out by SESSI, the department in charge of industrial studies and statistics at the French Ministry of the Economy, Finance and Industry.

The amount spent in France in 2011 was 259.8 million euros, an increase of 32 million euros compared with 2010.

PROVISIONS AND GUARANTEES RELATED TO THE GROUP'S END-OF-LIFECYCLE OBLIGATIONS AND ENVIRONMENTAL HAZARDS

Provisions totaling 6.035 billion euros had been set aside at December 31, 2011 for environmental hazards, including mine rehabilitation and mill dismantling, nuclear facility dismantling, radioactive waste retrieval and packaging, final waste disposal, routine cleanup, and cleanup and reclamation of industrial sites. Nuclear facility dismantling and waste retrieval and packaging accounted for 5.815 billion euros of this amount, 5.563 billion euros of which are borne by AREVA (see in particular note 13 to the consolidated financial statements for the year ended December 31, 2011, *End-of lifecycle operations, AREVA Reference Document 2011*).

1.2. TOWARDS ENVIRONMENTALLY FRIENDLY PRODUCTS WITH ECO-DESIGN

By understanding the environmental impacts generated by a product at each stage in its lifecycle, its design can be optimized to reduce those impacts at the source. That is what eco-design approaches try to achieve.

Based on self-assessments, considerable effort was expended to improve the roll-out of eco-design (see lexique) initiatives throughout the Group. In particular, environmental policy objectives were spelled out and the activities flowing from them systematically planned.

For example, the Mining, Front End and Back End BGs completed eco-design studies on several capital investment projects with assistance from the Group's engineering companies. The Group is also finalizing lifecycle analyses of different technologies marketed by the Group to determine the environmental impacts of the production of one kWh of electricity.

Similarly, participatory brainstorming aimed at defining a common environmental management approach for the nuclear engineering operations and the Group's principal projects continued.

2. Environmental risk management and prevention2.1. *Maintaining a high level of safety and managing risk***→ 2. Environmental risk management and prevention****2.1. MAINTAINING A HIGH LEVEL OF SAFETY AND MANAGING RISK**

The Safety, Health, Security and Environment Department leads and coordinates the Group's nuclear safety and radiation protection policy, carries out annual inspections of nuclear facilities, ensures that nuclear safety skills are developed throughout the Group, and leads a network of specialists. It reports on achievements, best practices and events, and it ensures that experience is shared. It reports directly to the Chairman of the Executive Board as necessary.

In 2011, the General Inspectorate of Nuclear Safety, part of the Safety, Health, Security and Environment Department, carried out 33 inspections relating to nuclear safety (culture, management, organization, periodic controls, 10-year reviews, skills and certification, fire prevention, etc.) and to different aspects related to industrial safety and the environment. Inspections were also carried out in response to an event and as follow-up to recommendations. 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. More specifically relating to 2011, the General Inspectorate performed the following environmental inspections:

- verification of the compliance of AREVA site contributions to the national environmental radioactivity measurement network (*Réseau national de mesure de la radioactivité dans l'environnement, RNM*), in accordance with the regulatory requirements in this field;
- management of chemicals used in the plants and prevention of the related pollution risk;
- management of liquid releases at the Tricastin platform.

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 management, and the management of periodic checks of items important for nuclear safety and for the environment helped identify

areas for improvement that will help improve environmental management even more through deployment of the corresponding action plans.

Since March 2009, a team has been charged with constructing an experience base by harvesting lessons learned from events occurring throughout the Group, whether as owner, industrial operator or service provider, in France or abroad, thus largely exceeding the framework prescribed in the TSN Law ⁽¹⁾. It supervises the collection and analysis of information and ensures that it is shared. It develops and promotes the policy on human and organizational factors (HOF). For each event, it decides on potential cross-business actions to be taken. In addition, coordinators designated by the management of the operating entities share their experience during lessons learned meetings organized by the Safety, Health, Security and Environment Department. Three such meetings were held in 2011.

The IT tool known as AHEAD (AREVA Happened Events Advanced Database), available to all operating entities, has been used since the end of 2010 for greater pooling of information on events (events relating to nuclear safety, radiation protection, health, industrial safety, the environment and transportation), and to draw pertinent conclusions from them.

In addition, since the end of 2009, the visual management publication, "Do you feel secure?" designed for all of the Group's operating personnel has been helping each person question his or her own practices based on real internal and external events.

The annual number of nuclear events reported by the Group in 2011 is relatively stable:

- the number of INES Level 1 events (anomalies with no safety significance) is about the same as in previous years;
- the number of INES level 0 events (deviations with no safety significance) is slightly down.

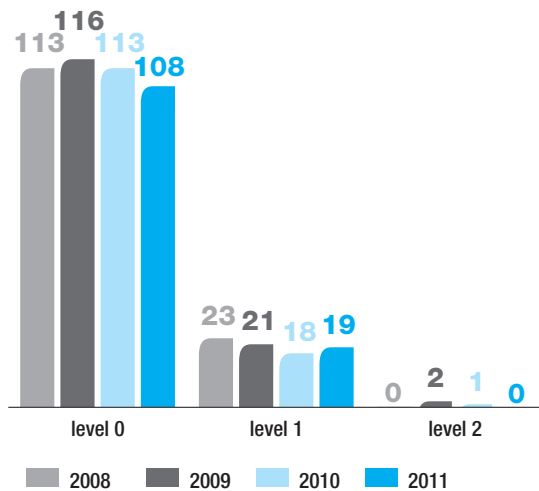
There was no noteworthy change in reporting criteria in relation to the principal nuclear safety functions.

(1) *French Transparency and Nuclear Safety Law no. 2006-686 of June 13, 2006.*

2. Environmental risk management and prevention

2.2. Monitoring releases and the environment

→ NUMBER OF INES EVENTS IN THE AREVA GROUP'S NUCLEAR ENTITIES (OWNER-OPERATORS, CONTRACT OPERATORS, SERVICE PROVIDERS) OR DURING THE TRANSPORTATION OF RADIOACTIVE MATERIALS IN 2011



As in past years, most events stem from human and organizational factors. This underlines the importance of performance improvement initiatives in taking these factors more into account in all of the Group's operations.

Beyond the practice of accounting for events, the lessons learned process also applies to crisis management exercises at the industrial sites within the framework of annual programs. Eleven such exercises were conducted in 2011 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 is strengthening its organization in this field and developing 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.

In addition, following the Fukushima disaster, AREVA submitted additional safety assessments of its nuclear facilities at the request of ASN and the European authorities. Following its analysis, ASN deemed that the facilities assessed present an adequate level of safety; it asked the operators to improve the robustness of certain functions to face extreme situations going beyond their existing safety margins.

Following up on these assessments, AREVA conducted a cross-business study on the crisis management organization in 2012 to ensure that every measure is taken to guarantee that the organization and crisis resources are operational.

The objective is 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 intervention conditions likely to be encountered in the major scenarios identified.

2.2. 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 for the European Pollutant Emission Register (EPER), reduction of greenhouse gas emissions with the preparation of the National Quota Allocation Plan, and the renewal of release permits for the 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 (information 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. Work continues on the topic of rare gases.

The Réseau national de mesures de la radioactivité de l'environnement (RNME, the national network for the measurement of radioactivity in the environment) launched its website in February 2010. The general public can now go to www.measure-radioactivite.fr to access all of the environmental radioactivity measurements carried out in connection with the prescribed environmental monitoring by operators of the vicinity of their sites. The operators have acquired the tools they need 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 ASN for the analyses they carry out.

ASN continued to inspect the laboratories and to send the data to the network. AREVA 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 for the various operators is now available and prompted the creation of a solid database in this field. The guide was

2. Environmental risk management and prevention

2.3. Radiological impact of the sites

submitted to the BNEN in 2010. A guide on air sampling is being issued and a guide on bio-indicators is being finalized.

As part of its environmental radioactivity monitoring program around its sites, the AREVA group performs some 100,000 measurements annually on samples taken at 1,000 locations.

As part of an HCTISN⁽¹⁾ task force, AREVA is drawing on its expertise to contribute to efforts to define an environmental radioactivity index.

2.3. RADIOLOGICAL IMPACT OF THE SITES

The radiological impacts of nuclear sites on the most exposed members of adjacent populations (reference groups) are estimated in terms of added effective dose, expressed in millisieverts per year (mSv/yr.). Radiological impacts are calculated for each nuclear site based on radioactive liquids and gases released from the site and an analysis of the potential exposure pathways to the affected public.

This highly complex radiological impact assessment model factors in the various types of radiation (alpha, beta and gamma), the three potential exposure pathways (external exposure, ingestion and inhalation), and the specific behavior of each radionuclide in the human body. The radiological impact assessment model 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 total annual added effective dose 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 impacts there are also very low, at around 0.01 mSv or less⁽²⁾.

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 implementing measures to limit as much as possible the impacts of external radiation at the site boundary to 1 mSv/yr. This corresponds to an extreme theoretical scenario in which an individual stays at the site boundary for an entire year without interruption, i.e. 8,760 hours. 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. For example, in 2011, at the AREVA NC Pierrelatte site, the improved sensitivity of this system helped detect a dose rate level near a storage area that was higher than that detected previously. Exposure scenarios show that this dose level has no dose impact on the public or on site personnel.

2.4. PREVENTING ENVIRONMENTAL HEALTH RISKS

In 2011, the Group continued to perform or update chemical health risk assessments as part of its environmental policy. These assessments are designed to characterize the potential health effects for neighboring populations that may have been chronically exposed to chemical releases. The assessments are performed at sites in France and abroad, based on normal operating scenarios for the facilities.

Following the update of the asbestos directive in 2009, asbestos reviews scheduled in 2010 and the sites' self-assessments were used to draw up a site inventory of the asbestos hazard.

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 goals of the directive are 1) to identify and, where technically and economically feasible, eliminate all class 1 and 2 CMR; and 2) to ensure the traceability of employee exposure through measurement and follow-up. The results of compliance reviews on this subject at some sites have shown that the sites have identified their class 1 and 2 CMR and are in the process of replacing them.

Prevention of the risk of legionellosis is still a priority for the entities concerned.

(1) Haut Comité pour la Transparence et l'Information sur la Sécurité Nucléaire.

(2) To be compared with average of about 2.4 mSv per year for natural exposure in France.

The French agency for environmental and occupational health safety, AFSSET, called on AREVA in a matter before it concerning the risks linked to the use of nanomaterials and manufactured nanoparticles. According to available consolidated data, the Group's processes do not currently

use nanomaterials or manufactured nanoparticles. Nevertheless, given the potential issues surrounding this type of material, we have established an institutional watch and are working with research organizations and academic institutions on research and development projects.

2.5. PREVENTION 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 Pierrelatte establishment, Comurhex's Pierrelatte and Malvési sites, and Jarrie's CEZUS 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 the Environment, Sustainable Development, Transportation and Lodging. The TRPP for the CEZUS Jarrie site was approved in June 2011. The Comurhex Malvési site received additional requirements in March 2009. Since mid-2010, discussions have been underway with stakeholders on draft regulations establishing allowable uses in areas exposed to risk. At the Tricastin platform, independent

experts reviewed the hazard studies prepared by AREVA NC and Comurhex Pierrelatte and the TRPP was signed in March 2011.

Outside France, AREVA continued to deploy the guide on performing risk analyses. The hazards studies for Cominak and Somair in Niger have been completed. They point up best practices as well as a certain number of topics on which the sites must make progress. Based on these findings, action plans will be deployed in 2012 to improve the overall management of accident hazards.

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 (*Institut national de l'environnement industriel et des risques*, INERIS), as needed, under an AREVA-INERIS agreement renewed biannually; it is currently undergoing renewal for the 2012-2013 period. By way of example, the CASU provided technical support to the Comurhex Pierrelatte site in May 2010 by modeling atmospheric dispersion during incidents involving F₂-N₂; it did the same for ammonia in August 2011.

2.6. SOIL MANAGEMENT

The environment policy calls for soil diagnostics to be performed, available documentation to be updated and, as necessary, a long-term surveillance and management plan to be set up for environmental liabilities at all industrial sites with significant environmental aspects, including regulated nuclear facilities and mining sites, before the end of 2011. This initiative, launched in early 2007, was completed in 2011.

Concerning the Front End BG, the following findings were made:

- the AREVA NC Miramas site continued its soil rehabilitation operations. The soils to be processed have been excavated, sorted and processed by thermal desorption, with the mercury they contain recovered for treatment as waste;
- the Tricastin site continued to pursue its environmental action plan and in 2011:
 - set up two hydraulic barriers, north and south, to protect the Gaffière stream that crosses the site from markers present in the water table. The north barrier is effective, with nominal pumping reached, and the south barrier is ready to be started up once the permits are received;
 - continued to work on the "mound" to remove old gaseous diffusion barriers and to cap it. The corresponding applications were sent to the relevant authorities;

- In Romans, France, the FBFC site rehabilitation project is nearing completion, in accordance with the action plan defined with the nuclear safety authority ASN in 2009. The project involves the rebuilding of underground networks and of the effluent treatment station in particular.

Concerning the Mining operations, action plans were developed following environmental reviews carried out by the Safety, Health, Security and Environment Department and per the objectives specific to the business. As part of these action plans, ANTEA is conducting an environmental assessment of the Cominak site in Niger. The resulting performance improvement plans will be implemented in 2012.

An inventory of reused mine tailings (rock removed to gain access to the deposits) was begun in late 2009 in connection with the Ministry of the Environment and Sustainable Development/ASN circular of July 22, 2009 and the national radioactive waste and materials management plan (PNGMDR). The data collected by flyovers was used to draw up work maps for additional checks. No emergency situation has been observed. An action plan will be developed to handle the areas in which such use is incompatible.

2. Environmental risk management and prevention*2.7. Protecting and restoring ecosystems*

In the Nuclear Site Value Development BU (Back End BG), cleanup of SICN's Veurey and Annecy sites is nearing completion, enabling them to be decommissioned. Already, re-industrialization of the Annecy site has begun, with the installation of a mechanical service company in the existing facility and the construction of an urban biomass boiler in collaboration with the city.

Concerning the Reactors & Services BG, the JSPM site of the Equipment BU bought the Jumetiau site in 2009, where it is providing clean-up services prescribed by the prefectorial order of February 11, 2011 for the last operator. Monthly monitoring of the water table has been in place since April 2011, for example, and skimming operations (removal of oils floating on the surface) are in progress. In addition, a management plan describing the methodology to be used to process soils was sent to the authorities in July 2011.

2.7. PROTECTING AND RESTORING ECOSYSTEMS

AREVA pays close attention to monitoring and preserving biodiversity. The study 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 or reintroduced during reclamation adapt to the local biotope (plant and animal habitat).

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. As for any industrial operation:

- the Group's sites use land;
- they use all of the ecosystems that make up biodiversity (natural resources, climate regulation, regulation of effluents, etc.);
- they contribute to biodiversity erosion (waste production, greenhouse gas emissions, use of resources, dividing up of existing ecosystems).

AREVA integrated these themes in its environmental policy for 2008-2011 with the goal of limiting and offsetting the impacts of its operations on biodiversity.

Comprehensive mapping showed that the main impacts on biodiversity were 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, targeted inventories were carried out at different industrial sites. The most important of these concerns the Tricastin site. The study, conducted over a period of more than one year, included a literature search on existing nature data in the far field and fauna/flora data mining in the near field.

→ 3. Environmental performance improvement

→ KEY FIGURES

	2011	2010	2009 *
Consumption			
Quantity of energy consumed (MWh), excluding Eurodif ⁽⁶⁾	2,765,631	2,945,453.01	3,119,705
Total quantity of water taken for site requirements (m ³)	31,102,780	38,659,002	38,950,065
Quantity of water consumed (m ³), excluding Eurodif cooling water, geothermy and water re-injected into groundwater bodies	17,233,258	17,407,561	18,659,080
Consumption of hazardous chemicals			
Chlorinated solvents (MT)	171	139.19	144
Conventional waste			
Total tonnage of conventional waste (normal and exceptional operations)	51,867	65,464	177,550
Quantity of hazardous waste (MT) related to normal operations ⁽¹⁾	9,514	8,143	15,852
Quantity of non-hazardous waste (MT) related to normal operations ⁽¹⁾	26,414	28,724	63,616
Recycled share in% of hazardous waste related to normal operations	51 ⁽²⁾	55 ⁽²⁾	41 ^(3 and 7)
Recycled share in% of non-hazardous waste related to normal operations	71 ⁽²⁾	77 ⁽²⁾	78 ^(3 and 6)
Releases			
Total nitrogen releases into aquatic environments (MT)	133.1 ⁽⁴⁾	675.5	716.9
Aqueous releases of uranium (kg)	328.8 ⁽⁴⁾	543.1	407.8
Direct greenhouse gases (MT CO ₂ e)	465,836	712,481	757,966
CO ₂ emissions from facilities subject to the National Quota Allocation Plan (MT CO ₂ e)	41,620	40,919	40,117
Toxic gas releases: volatile organic compounds (kg VOC)	1,588,727	1,512,549	1,603,089
Releases of acid-forming gases: SO _x (MT)	2,017	2,063	1,490
Releases of acid-forming gases: NO _x (MT)	904	1,837	1,884
Releases of acid-forming gases: NH ₃ (MT)	41	45	57
Releases of ozone-depleting gases (kg CFC-111e)	573	505	474
Dose impact			
Radiological impact from the La Hague site (mSv)	Not available ⁽⁵⁾	0.009	0.0075
	Level 0: 108	Level 0: 113	Level 0: 116
	Level 1: 19	Level 1: 18	Level 1: 21
Number of INES events	Level 2: 0	Level 2: 1	Level 2: 2

* Nuclear, Renewables and Transmission & Distribution scope.

(1) Since 2010, the reporting procedures were modified, allowing normal operations and exceptional operations to be broken down for each type of waste processing.

The focus is now on waste related to normal operations.

(2) In view of point (1) above, it is now possible to calculate the recycling rate related to normal operations.

(3) In 2008 and 2009, the recycling percentage takes into account both normal and exceptional operations with the adjustment rate specified for each year.

(4) Excluding AREVA NC La Hague: data not available as of the writing of this report.

(5) Final data not available as of the writing of this report.

(6) Excluding exceptional waste from Comurhex Pierrelatte, TA Cadarache, CRI USA and AREVA NC Miramas.

(7) Excluding exceptional waste from Canoas, Aix-les-Bains and Somair.

(8) Since 2010, fuel use by AREVA-owned vehicles for transportation is included.

3.1. ENERGY CONSERVATION

In 2011, AREVA group sites were asked to continue their efforts to improve energy efficiency, and diagnostics were performed.

A total of 2,765,631 MWeh of energy was consumed in 2011, excluding the Eurodif process, 6.1% less than in 2010. Adjusting the raw data for operations at constant revenue, the decrease for the 2004 to 2011 period is -19%.

The Mining BG was the biggest consumer, at 37.4%. In 2011, consumption fell for all of the major contributors due to a slowdown in business (e.g. the Equipment BU), postponed investments (the Mining BG) and necessary operational stoppages (Fuel and Chemistry BUs).

In addition, the La Hague was the most consuming site, at 25% of the Group's consumption.

An action plan is in progress to stabilize and further reduce the Group's energy consumption. The major contributors must carry out energy audits and invest in activities that produce energy savings. The Saint-Marcel site in Burgundy, for example, has optimized its management of preheating stations, with reductions of some 50% of its gas consumption. A survey of workshop lighting at the site cut power consumption in half and paid for itself in one and a half years. This achievement will be replicated at the two remaining bays.

3.2. WATER USAGE

The total quantity of water consumed, excluding cooling water for the Tricastin site (Eurodif), geothermal uses and volumes re-injected into groundwater bodies, was 17.2 million m³ in 2011, compared with 17.4 million m³ in 2010. This represents a change of -45% from 2004 to 2011, at constant revenue.

This drop in water consumption at the Group level is primarily due to the following:

- The installation of a recirculation cooling loop at the Comurhex Malvési site, which started up in August 2007, resulted in annual water savings of 1.34 million m³ and a reduction in the site's water consumption of more than 80% compared with 2006. This change offset the significantly lower flowrate of the spring that provides the site with industrial water. It should also be noted that consumption fell in 2011 due to a two-month production stoppage.
- A closed-loop system for the CEZUS Rugles furnaces was completed at the end of 2010 as part of a program launched in 2004, resulting in water savings of 17,767 m³ compared with consumption figures for 2004.
- At Creusot Forge, water consumption fell by 600,713 m³ compared with 2010 due to the drop in workload and the ongoing campaign to reduce leaks and to operate the cooling towers at 100% capacity.
- Leaks from the water system at the AREVA NC Miramas site were repaired, resulting in a 50% drop in consumption, i.e. 49,158 m³.

However, water consumption increased at several sites, most often due to an increase in activity:

- The Mining business deployed new projects: mine work and track spraying started at the Imouraren site in Niger and the Midi uranium mill started production at Trekkopje in Namibia, while operations and staff were stepped up at the Katco site in Kazakhstan and the Somair site in Niger.
- Socatri's water consumption rose by 234,481 m³ compared with 2010, mainly due to readjustments of pumping for groundwater treatment done in 2008 and 2009 following the incident in the summer of 2008.

Innovative systems were installed at some sites to reduce consumption:

- A reverse osmosis process was installed at the FBFC Romans site, saving approximately 5,000 m³ of water per year since 2008.
- A recirculated cooling loop process was installed at the Canberra site in Dover, dividing the site's water consumption by three in 2011 compared with 2010.

A total of 31.1 million m³ was withdrawn for site requirements in 2011, compared with 38.7 million m³ in 2010. This figure includes the volume of mine drainage water withdrawn at the mining sites, Eurodif cooling water, and the volume of geothermal water. The drop registered this year is partly due to activities to minimize AREVA's environmental footprint, particularly at the mining sites.

3.3. WASTE

CONVENTIONAL WASTE

The gross production of conventional waste totaled 51,868 metric tons in 2011, as follows:

- 10,471 metric tons of hazardous waste, 91% of which came from routine operations; and
- 41,397 metric tons of non-hazardous waste, 64% of which came from routine operations.

In 2011, ongoing construction work at Comurhex Pierrelatte and at the Georges Besse II plant, and new construction at the MELOX, AREVA TA Cadarache and AREVA NC sites resulted in the production of a large volume of hazardous and non-hazardous waste, although volumes were down from the previous years.

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 51% in 2011 for hazardous waste;
- 44% in 2004 to 71% in 2011 for non-hazardous waste;

This represents an overall improvement in the recycling rate of 59% for all conventional waste from 2004 to 2011.

To achieve the objective of final waste 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 and reuse waste by selecting the most suitable methods; and
- improve the processing and packaging of non-reusable waste.

Some examples of performance improvement activities:

The Creusot Mécanique site changed the cutting oil it uses, with the result that the number of oil changes is down, reducing the quantity of hazardous waste this produces by about 30%.

Employee awareness at the Lynchburg sites was raised concerning existing sorting and recycling activities, with a resulting improvement in their recycling rate. For example, at the Old Forest and Mill Ridge sites, the conventional waste recycling rate rose by about 25% from 2010 to 2011.

PCBS AND PCTS

AREVA's subsidiaries anticipated the 2010 date for the eradication of polychlorinated biphenyls (PCBs) and polychlorinated terphenyls (PCTs) set by the European directive 96/59 of September 16, 1996. The Group has made a commitment to phasing out the remaining equipment under a plan approved by the French Ministry of Ecology and Sustainable Development and included in the national plan approved by the decree of February 26, 2003. All transformers and capacitors containing more than 500 ppm of PCBs had been eliminated as of December 31, 2010, closing the chapter on the eradication plan. Those containing less than 500 ppm of these substances continue to be removed at the end of their lifecycle, as planned.

In Niger, these transformers were removed from the facilities and stored in special areas pending the availability of a safe method for their eradication.

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.

	Very short-lived (half-life < 100 days)	Short-lived (half-life ≤ 31 years)	Long-lived (half-life > 31 years)
Very Low-level Waste (VLLW)	Management through radioactive decay at the production site followed by conventional disposal	Very Low-level Waste Surface Disposal Center (Aube department)	
Low-level Waste (LLW)		Each type of waste requires a specific management method, as shown in the table below.	Research carried out under French law of June 28, 2006 (near-surface disposal, 15 to 200m)
Medium-level Waste (MLW)			Research carried out under French law of June 28, 2006 (deep disposal, 500m)
High-level Waste (HLW)		Research carried out under French law of June 28, 2006 (deep disposal, 500m)	

3. Environmental performance improvement

3.3. Waste

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.

In France, Andra operates two disposal sites for low- and medium-level waste and for very low-level waste at Soulaines and Morvilliers respectively.

The safety of radioactive waste management in France is governed mainly by the legal and institutional framework given in the French law of June 28, 2006 on the sustainable management of radioactive materials and waste. This law continues the process set in motion by the Bataille law of December 30, 1991, which established three areas for research on the long-term management of radioactive waste.

The sustainable management of radioactive materials and waste must obey the following principles:

- protection of human health and safety and the environment;
- prevention or minimization of the burden to be borne by future generations; and
- the polluter pays principle.

The law of June 28, 2006 addresses three major subjects: (i) definition of a radioactive materials and waste management policy, (ii) greater transparency and democratic oversight, and (iii) economic support and financial measures. Article 6 of the law defines the objectives of the national radioactive materials and waste management plan:

- establish an inventory of existing management methods;
- 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.

The law specifies that the PNGMDR shall be put out every three years and that a decree shall establish the resulting regulatory requirements. The 2010-2012 edition was published in June 2010.

In France, radioactive waste from regulated nuclear facilities is defined in the order of December 31, 1999 establishing general technical

regulations designed to prevent and limit the external risks and hazards resulting from the operation of regulated nuclear facilities. The order specifies that the operator must make every effort to ensure that facility design and operation provide the best possible management of the waste produced, taking into account in particular subsequent disposal methods. It requires a study indicating all of the waste management methods to be used.

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 a very limited time.

Performance improvement indicators are consolidated and summarized at the AREVA group level. A special assessment is used to optimize them and streamline their use.

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.

Among the performance improvement initiatives begun in 2011 were those of the FBFC Romans and AREVA NC La Hague sites, which conducted major operations to remove waste from site storage, thus simplifying their radioactive waste management and reducing its impacts.

The Richland site (AREVA Inc.) deployed a supercritical CO₂ recycling process for the uranium contained in its incinerator ash. This produces the best level of recycling possible – internal recycling.

The Georges Besse II plant developed a system that interfaces the radiological monitoring tool with the waste area monitoring tool. This guarantees the necessary level of radiological cleanliness to classify most of the rooms in the facility as “conventional waste areas”.

At Comurhex Malvési, the long-term management of waste contained in ponds B1 and B2 was examined in a post-operations study of Comurhex 2. The three scenarios for minimizing environmental impacts call for in situ disposal.

Characterizations and studies were carried out on the disposal of ore processing residues 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. 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

(1) Chapter I of Title IV of Book V of the French Environmental Code, law no. 75-633 of July 15, 1975.

data on waste and materials inventories as of the end of 2009, along with forecasts through 2020 and 2030, and for end of the lifecycle 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.

3.4. RELEASES IN WATER

The nuclear fuel cycle, characterized by the small quantities of materials processed, generally consumes small quantities of reagents for uranium mining and chemistry and for used fuel treatment.

In 2011, only releases for which the measured concentrations were over the detection thresholds were reported.

The drop in nitrogen releases (133.1 metric tons in 2011, compared with 675.48 MT in 2010, including 145.03 MT without AREVA NC La Hague, 716.94 MT in 2009 and 870.24 MT in 2008) is primarily due to the drop in

The Group is a “holder” rather than a “producer”, under the meaning of Article L. 541-2 of the French Environmental Code, of radioactive waste belonging to its utility customers, which is primarily long-lived high-level radioactive waste (LL/HLW). This waste is returned to them as soon as technically feasible, as provided by the law of June 28, 2006.

The services AREVA provides to EDF also include the interim storage of its radioactive waste in specially designed facilities pending the availability of the deep geological repository, as defined in the French law of June 28, 2006. Up until then, the EDF group is the sole owner of the waste. However, AREVA assumes liability for holding it, within the liability limits provided in the French Nuclear Safety and Transparency Act of June 13, 2006.

workload at the AREVA NC Pierrelatte facilities, lower business volumes at Comurhex Malvési, and maintenance of the ARC Canada site.

Combined uranium releases to the aquatic environment from the Group's plant sites were 328.8* kg in 2011, compared with 543.18 kg in 2010, including 514.85 kg excluding AREVA NC La Hague, 407.84 Kg in 2009 and 726.8 kg in 2008. The changes are mostly observed at former mine sites, where uranium releases are directly related to rainfall volumes. The drop in business volume at Comurhex Malvési and maintenance of the ARC Canada site are additional reasons.

3.5. 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 (CO₂) and with nitrogenous releases (N₂O) 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.

GREENHOUSE GASES

The AREVA group's direct emissions of greenhouse gases were 465,835.7 metric tons^(*) of CO₂ equivalent in 2011. At constant business volume (based on revenue), emissions were down 68% compared with 2004. Of these emissions, 74.1% relate to fossil energies and 13.9% relate to nitrous oxide (N₂O), while 4.5% are emissions from refrigerants.

Most of the nitrous oxide emissions from the Comurhex Malvési site have been processed since the end of 2010 in a facility that decomposes it into oxygen and nitrogen. This was the biggest reason for the 34.1% reduction in the AREVA group's direct emissions of greenhouse gases compared with 2010.

(*) In 2010, this figure includes 21,921 metric tons of CO₂ equivalent in direct emissions related to transportation. The 2010 figure for direct emissions excluding transportation is thus 690,559 metric tons of CO₂ equivalent.

I. Reporting methodology

3.6. Radioactive releases

Greenhouse gas emissions from the La Hague site, whose boilers are the Group's only facilities subject to the national quota allocation plan, remained stable in 2011 compared with 2010.

To achieve carbon neutrality, AREVA has mobilized to minimize its own emissions; the goal is a 50% reduction from 2004 levels by the end of 2011. To achieve this, the Group improved its industrial processes to use energy wisely, sought carbon light substitutions and promoted more eco-efficient attitudes internally. AREVA voluntarily relies on carbon compensation to neutralize its remaining direct emissions of greenhouse gases. AREVA funds external sustainable development projects that reduce carbon emissions.

AREVA funds external sustainable development projects that reduce carbon emissions, such as wind and biomass projects in India or hydroelectric projects in Brazil.

VOLATILE ORGANIC COMPOUNDS (VOC)

Measured VOC emissions were 1,589 metric tons in 2011, compared with 1,512 metric tons in 2010, an increase of 5%.

3.6. RADIOACTIVE RELEASES

Radioactive releases have fallen sharply in the past 30 years. For example, the radiological impact of the La Hague site has been divided by five, and the impact on the reference group has stabilized at around 10 μ Sv, down from about 70 μ Sv 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.

The environmental reports published by the Group's French nuclear sites since 1995 and the annual safety reports made available to the public pursuant to 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.

→ I. Reporting methodology

The indicators published in this report are used to measure the main impacts and sustainable development challenges associated with the operations of the AREVA group.

These indicators were developed by a group of experts representing our different businesses and departments, and reflect, in particular, GRI version 3⁽¹⁾ and WBCSD⁽²⁾ recommendations as well as applicable legislation, such as the French law on New Economic Regulations. The AREVA group was established in September 2001 and began instituting performance indicators as early as 2002, its first full year of operation.

The indicators presented in this report concern the data for fiscal years 2009 to 2011. Our reporting period is the calendar year (January 1 to December 31). Indicators for dosimetry data are collected per 6-month period and concern a reference period of 12 consecutive months, taking into account a lag of 6 months related to the acquisition of the dosimetry data. The data collected during the annual campaign performed in January 2012, for example, concern the period from July 2010 to June 2011.

SCOPE

All of the Group's worldwide operations are covered in this report. By "Group", we mean AREVA, its subsidiaries and all of the operational and functional entities in which AREVA's interest is 50% or more as of December 31, 2011. Some minority-owned subsidiaries are included in

the reporting procedure on an exceptional basis, along with the majority-owned subsidiaries, due to the Group's operational involvement.

Units whose sale was in progress and irreversible in 2011 were not included in the scope of reporting. An additional criterion was used: the

(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).

Group's operational involvement⁽¹⁾. As a result, the environmental, health and safety indicators related to the Group include data from minority-owned subsidiaries such as Cominak in Niger and AMC in the Sudan. In addition, with respect to the mineral exploration operations, only the social indicators (related to the workforce and to occupational safety) are reported for 2011. A study of the issues involved in those operations was carried out on that basis, and the AREVA group decided to extend the reporting of environmental indicators to mining operations. The environmental reporting already includes mine site rehabilitation operations.

Office buildings with a total surface area of less than 1,000 m² 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. The objective is to cover the entire Group, which is not always possible, particularly at small sites with limited administrative resources.

For "Environment, Health and Safety" data, the full consolidation method is used (data from majority-owned subsidiaries are fully consolidated). By "operations", we mean the operations of all industrial sites and office building sites with a surface area of more than 1,000 m².

Concerning Human Resources data, the consolidation method chosen is identical except for the minority subsidiaries (AMC, AREVA Dongfang Reactor Coolant Pumps Co., ATMEA, Cominak, ETC), for which the proportionate consolidation method is used.

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, Georges Besse II), all of the environment, health, security and social data are consolidated at the Group level.

Mineral exploration activities (excluding the initial phase: activities preparatory to operating activities [new projects and platforms]) are now included in the scope.

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.

The main changes in the consolidated Group were as follows in 2011:

- the 01DB France and Brazil, Newport News USA and SFAR France sites were deconsolidated;
- the Géosciences site was reorganized as AFMEX, AREVA Gabon, AREVA NC Niger and COGEOBI;
- the AREVA Solar Kimberlina, AREVA Solar Mountain View, AREVA Solar Australia Pty USA and Bratislava Slovakia, and Sogefibre Valognes France sites and the FA3 France and OL3 Finland projects were consolidated;
- the AMALIS site was created following the merger of the ESI and GADS sites, and the Bessines site was created following the merger of the CESAAM and SEPA sites.

METHODOLOGY

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; a simplified version may be consulted on the Group's website, areva.com.

In 2011, the reporting procedure was streamlined. As a result, the scope of reporting was modified, some formulas were eliminated and the definition of some indicators was changed.

These changes reflect the decision to focus reporting on the most pertinent challenges of the AREVA group's operations.

Water and electricity transferred from the Cominak and Somair sites in Niger to the urban area were excluded from the AREVA group's energy consumption data.

The calculation of internal and external doses is based on methods developed by AREVA in accordance with applicable regulations. Practical measurement methods may differ by site; those concerning external doses are currently the subject of comparative analyses aimed at gradually bringing them into alignment based on local regulatory requirements.

The mean internal and external dose calculation includes all monitored personnel, including personnel that received a non-detectable dose or no dose at all.

The internal doses used to calculate the mean dose to the Group's employees from occupational exposure to radiation were not reviewed by the Statutory Auditors for reasons of confidentiality. For this indicator, the review is therefore limited to the sum of individual external doses resulting from occupational exposure to radiation by the Group's employees.

(1) An entity has operational control of the source of an impact when it has decision-making authority for the operating procedures which cause those impacts or emissions, i.e. when the responsibility for the impacts is explicitly mentioned in the contract terms and conditions governing the right to operate the source involved and/or it has a permit to operate that source from the administration (or its equivalent outside France).

INDEPENDENT VERIFICATION

The Statutory Auditors Deloitte & Associés and Mazars provided independent verification of reporting criteria for selected key

environmental, social and safety indicators for 2011. These indicators are presented in the table of indicators hereunder.

→ 2011 DATA VERIFIED AT THE SITE* BY THE STATUTORY AUDITORS DELOITTE & ASSOCIÉS AND MAZARS

	Unit	Assurance*	2011	2010	2009
Number of sites with ISO 14001 certification	Number	✓	69	70	126
Energy consumed (excluding Eurodif)	MWh	✓	2,765,631	2,945,453	3,119,705
Volume of water consumed (excluding Eurodif cooling water)	m ³	✓	17,233,158	17,407,561	18,659,080
Total tonnage of conventional waste (normal and exceptional operations)	MT	✓	51,867	65,464	177,550
Direct greenhouse gas emissions (GHG) (MT CO ₂ eq.)	MT CO ₂ eq.	✓✓	465,836	690,559	757,966
Emissions of volatile organic compounds (VOC)	kg VOC	✓	1,588,727	1,512,549	1,603,089
Total individual external doses to AREVA group employees over 12 consecutive months	man-mSv	✓	16,779	18,176	16,583
Frequency rate for work-related accidents with lost time for Group employees	Number of accidents with lost time/ million hours worked	✓	1.37	2.03	2.04
Severity rate for work-related accidents with sick leave for Group employees	Number of days lost/ thousand hours worked	✓	0.05	0.08	0.08
Number of work-related accidents with lost time involving subcontractor personnel working at a Group site	Number	✓	189	185	285
Percentage of women engineers and managers	%	✓	20.55	20.27%	18.36%
Percentage of women in non-management positions	%	✓	19.57	20.01%	19.25%

* The Statutory Auditors' opinion on pages 379-380 relates only to selected entities, listed on page 374.

✓ moderate assurance.

✓✓ reasonable assurance.

II. Statutory auditors' report on the review of selected environmental, social and safety performance indicators

→ II. Statutory auditors' report on the review of selected environmental, social and safety performance indicators

This is a free translation into English of the statutory auditors' report is provided solely for the convenience of English speaking readers. This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

At the request of the AREVA Group (the "Group") and in our capacity as the Group's statutory auditors, we performed a review in the aim of providing assurance on certain environmental, social and safety performance indicators selected by the Group.

This data, which is the responsibility of the Safety, Health, Security and Sustainable Development Department, was prepared in accordance with internal reporting procedures for measuring and reporting sustainable development and continuous improvement indicators (hereinafter the "Reporting Criteria"), available for consultation at the Safety, Health, Security and Sustainable Development Department, and under the responsibility of the Group Human Resources Department.

The Reporting Methodology described on page 376 of the 2011 Reference Document explains the data collection methodologies used to calculate the published indicators.

It is our responsibility, based on the work performed, to express a conclusion on the selected indicators, as defined below. The conclusions expressed below relate solely to these indicators and not to all the environmental, social and safety data appearing in the 2011 Reference Document, nor to any other information in the 2011 Reference Document.

SCOPE AND NATURE OF OUR WORK

We conducted our procedures in accordance with the applicable professional guidelines.

DATA SUBJECT TO PROCEDURES TO PROVIDE MODERATE ASSURANCE

We conducted the following procedures in order to provide moderate assurance for the selected entities that the selected data, identified by the symbol ✓ on page 378 of the 2011 Reference Document, did not contain any material anomalies for the 8 selected entities⁽¹⁾ based, in particular, on the significance of their contribution to the data and to also reflect the Group's diversity. A higher level of assurance or a conclusion on the Group's consolidated data would have required more extensive work.

- In accordance with the professional guidelines, we have assessed the Reporting Criteria with respect to its relevance, reliability, objectivity, clarity and completeness.
- Interviews were carried out with the persons responsible for the application of the Reporting Criteria at the Safety, Health, Security and Sustainable Development Department and the Human Resources Department as well as in 6 Business Units⁽²⁾ concerned by the selected entities.
- We performed tests on the application of the Reporting Criteria at the selected entities. We verified the data reporting process at these entities and examined, on a sampling basis, the calculations at different consolidation levels.

THE CONTRIBUTION OF THE SELECTED ENTITIES TO THE GROUP'S DATA:

→ ENVIRONMENTAL INDICATORS

Number of ISO 14001 certified sites (number)	33%
Energy consumption (excluding Eurodif) (MWh)	47%
Water consumption (excluding Eurodif cooling water) (millions of m ³)	41%
Total tons of conventional waste (normal and exceptional activity) (kg)	38%
Emissions of volatile organic compounds (VOC) (kt)	93%

→ SAFETY-RELATED INDICATORS

Number of work-related accidents with sick leave for subcontractor personnel working in an activity on behalf of the Group at its own sites or at its clients' sites (excluding temporary workers)	18%
Total individual external doses to Group employees from occupational exposure to radiation over the twelve consecutive months (man-mSv)	29%
Frequency rate for work-related accidents involving Group employees	19%*
Accident severity rate with sick leave for Group employees	19%*

* For these indicators, the contribution of selected entities to Group data is calculated based on the number of hours worked.

(1) Areva NC in la Hague, Cezus Jarrie, Cominak, Somair, Creusot Forge, Chalon IB, Tour Areva for all of the data identified by the symbol ✓ and Comurhex Malvési, solely for emissions of greenhouse gases (GHG).

(2) BU Mines, Chemistry, Recycling, Fuel, Equipment and Installed Base.

→ SOCIAL INDICATORS

Percentage of women engineers and managers (excluding senior management executives) and women in non-management positions	20% ⁽¹⁾
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(1) For these indicators, the contribution of selected entities to Group data is calculated based on the number of employees.

DATA SUBJECT TO PROCEDURES TO PROVIDE REASONABLE ASSURANCE

For the indicator "Direct emissions of greenhouse gases" identified by the symbol ✓✓ on page 378 of the 2011 Reference Document, the

degree of precision applied to the measurement and the more extensive nature of our work than that used for moderate assurance, particularly in terms of the number of samplings, enable us to express reasonable assurance on the Group's data. The contribution of selected entities to this consolidated indicator, at the Group level, is 58%.

To form our conclusions to provide moderate and reasonable assurance, we also relied on the results of work carried out over the past six years by the joint statutory auditors at the Group's significant sites and on the performance improvement actions implemented by AREVA in accordance with its continuous improvement policy.

To assist us in conducting our work, we referred to the Environmental and Sustainable Development experts of our firms.

CONCLUSION

MODERATE ASSURANCE

Based on our work, we did not identify any material anomalies likely to call into question the fact that the data identified by the symbol ✓ was prepared, in all material aspects, in accordance with the Reporting Criteria.

REASONABLE ASSURANCE

In our opinion, the indicator "Direct emissions of greenhouse gases", identified by the symbol ✓✓, was prepared, in all material aspects, in accordance with the Reporting Criteria.

La Défense and Neuilly-sur-Seine, March 1st, 2012

The Statutory Auditors

DELOITTE & ASSOCIÉS

MAZARS

Patrice CHOQUET

Pascal COLIN

Jean-Luc BARLET

Juliette DECOUX

Appendix 4

Annual Combined General Meeting of Shareholders of May 10, 2012

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→ Agenda

RESOLUTIONS VESTED IN THE ORDINARY GENERAL MEETING

- Approval of the corporate financial statements for the year ended December 31, 2011 (**1st resolution**).
- Approval of the consolidated financial statements for the year ended December 31, 2011 (**2nd resolution**).
- Allocation of net income for 2011 (**3rd resolution**).
- Approval of agreements and commitments subject to the provisions of Articles L. 225-86 and L. 225-90-1 of the French Commercial Code (**4th through 9th resolutions**).
- Setting of directors' fees allocated to the Supervisory Board in respect of 2012 (**10th resolution**).
- Authorization given to the Executive Board to conclude transactions involving the Company's shares (**11th resolution**).

RESOLUTIONS VESTED IN THE SPECIAL GENERAL MEETING

- Amendments to the by-laws (**12th resolution**).
- Delegation of authority to be given to the Executive Board for the purpose of increasing the share capital by issuing common shares or securities giving access to the Company's share capital, with the preemptive subscription right maintained for the shareholders (**13th resolution**).
- Delegation of authority to be given to the Executive Board for the purpose of increasing the share capital by issuing common shares or securities giving access to the Company's share capital, through a public offer with cancellation of the preemptive subscription right of the shareholders (**14th resolution**).
- Delegation of authority to be given to the Executive Board for the purpose of increasing the share capital by issuing common shares or securities giving access to the Company's share capital, with

cancellation of the preemptive subscription right of the shareholders, through a private placement pursuant to article L. 411-2 II of the French Monetary and Financial Code (**15th resolution**).

- Delegation of authority to be given to the Executive Board for the purpose of increasing number of shares to be issued in the event of a capital increase, with or without preemptive subscription right for the shareholders (**16th resolution**).
- Delegation of authority to be given to the Executive Board in the event of an issue of shares or securities of any kind giving access to the Company's share capital, immediately or eventually, with cancellation of the preemptive subscription right, for the purpose of establishing the issue price according to the terms set by the General Meeting of Shareholders, in an amount up to 10% of the Company's share capital (**17th resolution**).
- Delegation of authority to be given to the Executive Board for the purpose of increasing the share capital by issuing common shares with a view to compensating contributions in kind granted to the Company and consisting of shares of equity or securities giving access to share capital (**18th resolution**).
- Delegation of authority to be given to the Executive Board for the purpose of increasing the share capital by capitalization of reserves, profits or issue premiums (**19th resolution**).
- Delegation of authority to the Executive Board for the purpose of increasing the share capital by issuing common shares reserved for the participants of a company savings plan sponsored by the Company or its Group (**20th resolution**).
- Global limitation of authority to issue shares or securities (**21st resolution**).

POWER

- Powers for legal formalities (**22nd resolution**).

Draft resolutions

Resolutions vested in the Ordinary General Meeting

→ Draft resolutions Annual General Meeting of Shareholders of May 10, 2012

RESOLUTIONS VESTED IN THE ORDINARY GENERAL MEETING

FIRST RESOLUTION

Approval of the corporate financial statements for the year ended December 31, 2011

The Shareholders, deliberating under the conditions for quorum and majority required for ordinary general meetings, being familiarized with the Executive Board's management report, the observations of the Supervisory Board on this report, and the general report submitted by the Statutory Auditors on the corporate financial statements, approve the corporate financial statements for the year ended December 31, 2011 as presented to them, as well as the operations reflected in these financial statements or summarized in these reports, showing net income of 1,182,442,606.90 euros.

In accordance with article 223 *quater* of the French Tax Code, the Shareholders take note that the total amount of expenditures and expenses as defined in article 39-4 of the French Tax Code is 272,536.70 euros for the year ended, corresponding to an income tax expense of 98,535.64 euros.

SECOND RESOLUTION

Approval of the consolidated financial statements for the year ended December 31, 2011

The Shareholders, deliberating under the conditions for quorum and majority required for ordinary general meetings, being familiarized

with the Executive Board's management, the lack of observations by the Supervisory Board on the Executive Board's report and on the consolidated financial statements, and the Statutory Auditors' report on those statements, approve the consolidated financial statements for the year ended December 31, 2011 as presented to them, as well as the operations reflected in these financial statements or summarized in these reports.

THIRD RESOLUTION

Allocation of net income for 2011

The Shareholders, deliberating under the conditions for quorum and majority required for ordinary general meetings, note that the balance sheet for the year ended December 31, 2011 shows net income of 1,182,442,606.90 euros and retained earnings of 2,562,618,376.27 euros and decide to allocate distributable earnings as follows:

● Net income for the year	1,182,442,606.90 euros
● Allocation to the legal reserve (10% of share capital)	412,503.30 euros
● Retained earnings for the year	2,652,618,376.27 euros
i.e. distributable earnings (article L. 232-11 of the French Commercial Code) of which is fully allocated to retained earnings.	<u>3,834,648,479.87 euros</u>

As provided by law, the Shareholders note the dividends distributed in respect of the three previous fiscal years as follows:

	Number of shares receiving distributions ⁽¹⁾	Net dividend per share (euros)	Total dividend paid ⁽²⁾ (thousands of euros)
2008	33,948,603 shares 1,429,108 investment certificates	7.05	249,413
2009	33,937,633 shares 1,429,108 investment certificates	7.06	249,705
2010	-	-	-

(1) Total of 1,429,108 investment certificates (IC) and 34,013,593 shares, less the number of treasury shares of the Company held by the Company at the date of payment of the dividend.

(2) Dividends paid for the years ended December 31, 2008 and December 31, 2009 were eligible for a tax exemption of 40% for natural persons residing in France for tax purposes, as provided in article 158-3, paragraph 2 of the French Tax Code.

FOURTH RESOLUTION

Related-party agreements

The Shareholders, deliberating under the conditions for quorum and majority required for ordinary general meetings, being familiarized with the Statutory Auditors' special report on related-party agreements and

commitments as defined in article L. 225-86 of the French Commercial Code, approve the agreement signed between the CEA, EDF and AREVA, whose principal purpose is to define organizational procedures for the group constituted by the parties to carry out a program of audits of assessment tools for the parties' end-of-lifecycle obligations, at the initiative of the Directorate General of Energy and the Climate.

FIFTH RESOLUTION***Related-party agreements***

The Shareholders, deliberating under the conditions for quorum and majority required for ordinary general meetings, being familiarized with the Statutory Auditors' special report on related-party agreements and commitments defined in article L. 225-86 of the French Commercial Code, approve the share purchase agreement and the share purchase commitment concluded between the Fonds stratégique d'investissement (FSI) and AREVA, whose principal purpose is to define the terms of the sale by FSI to AREVA of securities traded on the regulated market of NYSE Euronext in Paris and the buy-back option granted by FSI to AREVA for these same securities.

SIXTH RESOLUTION***Related-party commitments***

The Shareholders, deliberating under the conditions for quorum and majority required for ordinary general meetings, being familiarized with the Statutory Auditors' special report on related-party agreements and commitments defined in article L. 225-90-1 of the French Commercial Code, approve the commitments made by AREVA corresponding to the closure compensation or benefits due or that may become due to Mr. Luc Oursel in connection with the end or the modification of his duties, as described in the Statutory Auditors' special report.

SEVENTH RESOLUTION***Related-party agreements and commitments***

The Shareholders, deliberating under the conditions for quorum and majority required for ordinary general meetings, being familiarized with the Statutory Auditors' special report on related-party agreements and commitments defined in article L. 225-90-1 of the French Commercial Code, approve the commitments made by AREVA corresponding to the closure compensation or benefits due or that may become due to Mr. Philippe Knoche in connection with the end or the modification of his duties, as described in the Statutory Auditors' special report.

EIGHTH RESOLUTION***Related-party agreements and commitments***

The Shareholders, deliberating under the conditions for quorum and majority required for ordinary general meetings, being familiarized with the Statutory Auditors' special report on related-party agreements and commitments defined in article L. 225-90-1 of the French Commercial Code, approve the commitments made by AREVA corresponding to the closure compensation or benefits due or that may become due to Mr. Pierre Aubouin in connection with the end or the modification of his duties, as described in the Statutory Auditors' special report.

NINTH RESOLUTION***Related-party agreements and commitments***

The Shareholders, deliberating under the conditions for quorum and majority required for ordinary general meetings, being familiarized with the Statutory Auditors' special report on related-party agreements and commitments defined in articles L. 225-86 and L. 225-90-1 of the French Commercial Code and concluded or implemented during the year ended, other than those set out in the 4th through 8th resolutions of this General Meeting, approve the transactions set out therein.

TENTH RESOLUTION***Setting of the directors' fees allocated to the Supervisory Board for 2012***

The Shareholders, deliberating under the conditions for quorum and majority required for ordinary general meetings, being familiarized with the Executive Board's report, set the total amount of the directors' fees allocated to the Supervisory Board at 400,000 euros for the current year.

ELEVENTH RESOLUTION***Authorization to be given to the Executive Board for the purpose of transactions involving the Company's shares***

The Shareholders, deliberating under the conditions for quorum and majority required for ordinary general meetings, being familiarized with the Executive Board's report and in accordance with the general regulations of the Autorité des marchés financiers and of articles L. 225-209 *et seq.* of the French Commercial Code and European Commission Regulation no. 2273/2003 of December 22, 2003:

- Authorize the Executive Board, with the power to sub-delegate, to purchase, in one or more transactions and at the times it shall deem appropriate, common shares of the Company within the limit of a number of shares representing 10% of the total number of shares forming the Company's share capital on the date of these purchases, or 5% of the total number of shares forming the share capital if it involves shares acquired by the Company for purposes of holding them and transferring them subsequently as payment or in exchange in connection with a corporate merger, spinoff or asset contribution.

The number of shares that the Company might hold at any time may not exceed 10% of the shares composing the Company's share capital on the date considered. These percentages apply to a number of equity securities and shares adjusted, if applicable, for transactions that may affect the share capital after this General Meeting;

- Decide that the acquisition, disposal or transfer of these common shares may be carried out, in one or more transactions, by all means, on market, off market or over-the-counter, including the acquisition or disposal of blocks, the use of derivative instruments or the establishment of option strategies, under the conditions provided by the market authority and in compliance with applicable regulations, in particular to:

Draft resolutions*Resolutions vested in the Special General Meeting*

- (i) transfer or sell the shares to employees or former employees, to officers or former officers of the Company and/or related companies, or companies that will become related to the Company under the conditions and according to the terms provided by applicable regulations, in particular in the framework of share purchase option plans of the Company, in accordance with the provisions of articles L. 225-177 *et seq.* of the French Commercial Code, or any similar plan of bonus share transactions, as provided in articles L. 225-197-1 *et seq.* of the French Commercial Code, or to implement any employee savings plan as provided by law, in particular articles L. 3332-1 *et seq.* of the French Labor Code; or
 - (ii) hold the shares and transfer them subsequently (in exchange, for payment or otherwise) in connection with an acquisition, merger, spin-off or contribution, in the limit of 5% of the Company's share capital and in compliance with market practices authorized by the Autorité des marchés financiers, or in the event of a bid on the Company's securities in compliance with article 232-15 of the general regulations of the Autorité des marchés financiers and during the validity period of a public purchase or exchange offer initiated by the Company in compliance with legal and regulatory requirements, and in particular articles 231-1 *et seq.* of the general regulations of the Autorité des marchés financiers; or
 - (iii) hedge securities giving the right to obtain shares of the Company by exercising rights attached to securities giving the right to the allotment of the Company's shares, either upon redemption, conversion, exchange, or presentation of a warrant or in any other manner; or
 - (iv) implement any market practice authorized currently or subsequently by market authorities;
- given that this program would also be intended to allow the Company to pursue any other goal authorized currently or that may be authorized subsequently by applicable laws or regulations;
 - Decide that the maximum purchase price per share is set at 40 euros, excluding load, provided however that the Executive Board may adjust the maximum purchase price in the event of certain transactions on the Company's share capital, in particular modification of the par value of the share, capital increase by incorporation of reserves followed by the issuance and allocation of bonus shares, or a stock split or a reverse split of securities;
 - Decide that the total amount that the Company could devote to this share purchase program may not exceed 1,532,819,400 euros, corresponding to 38,320,485 common shares purchased at the maximum unit price of 40 euros as indicated above;
 - Give full powers to the Executive Board, with the power to sub-delegate under the conditions provided by law, to decide and to implement this authorization and to determine the means to carry out the share purchase program, in compliance with the law and with the conditions of this resolution, and in particular to adjust the aforementioned purchase price in the event of transactions amending the equity, share capital or par value of the shares, to place all orders on the stock market, to sign all documents, to conclude all agreements, to carry out all legal formalities and file all documents, in particular with the *Autorité des marchés financiers* and, more generally, to do all that is necessary.

This authority is granted for a period of 18 months as from the date of this General Meeting. It voids, as of that date, the authority granted to the Executive Board for the same purpose by the Combined General Meeting of Shareholders of April 27, 2011 (7th resolution).

RESOLUTIONS VESTED IN THE SPECIAL GENERAL MEETING

TWELFTH RESOLUTION

Amendments to the by-laws

The Shareholders, deliberating under the conditions for quorum and majority required for special general meetings, being familiarized with the Executive Board's report, decides to amend article 22 of the Company's by-laws (Powers and Responsibilities of the Supervisory Board) as follows:

Former wording

Article 22 – Powers and responsibilities of the Supervisory Board

1. The Supervisory Board exercises ongoing control of the Executive Board's management of the Company, and gives the latter the authorizations that are the prerequisite for concluding operations that the latter may not accomplish otherwise. It deliberates over the overall strategy of the Company and of the Group; annual budgets and multiyear plans of the Company, its direct subsidiaries and the Group are subject to its approval, as are subsidiary operations when these

fall under article 22-2 and involve an amount exceeding the previously established authorization threshold in this article.

At any time of the year, it carries out verifications and controls as it deems necessary and has copies of the documents it considers useful to the accomplishment of its mission sent to it.

The Executive Board presents a report to the Supervisory board at least once per quarter.

Within three months of year-end closing, the Executive Board presents the annual financial statements to the Supervisory Board for verification and control.

The Supervisory Board presents to the Annual General Meeting of Shareholders its comments on the management report that the Executive Board will present to the Ordinary General Meeting of Shareholders convened to approve the financial statements for the year ended, and on the financial statements for the year.

The Supervisory Board appoints the members of the Executive Board and names its Chairman and possibly one or more Managing Directors.

It may convene a General Meeting of the Shareholders.

It approves the agreements referred to in article 24 hereunder.

It may move the head office within the same department of France or to a neighboring department, subject to ratification in accordance with article 4 above.

It may confer any special mandate to one or more of its members for one or more specific purposes.

It may decide to create committees within the Supervisory Board, for which it sets the composition, responsibilities and possible compensation of the members, which exercise their duties under its authority. These committees include, in particular, a Strategy Committee, an Audit Committee, a Compensation and Nominating Committee, and an End-of-Lifecycle Obligations Monitoring Committee.

The Supervisory Board may adopt rules of procedure stipulating its modes of operation.

2. 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 amend 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.

3. Proposals by the Executive Board for allocations of earnings for the company year are subject to the prior approval of the Supervisory Board.

New wording

Article 22 – Powers and responsibilities of the Supervisory Board

1. The Supervisory Board exercises ongoing control of the Executive Board's management of the Company, and gives the latter the authorizations that are the prerequisite for concluding operations that the latter may not accomplish otherwise. It deliberates over the overall strategy of the Company and of the Group; annual budgets and multiyear plans of the Company, its direct subsidiaries and the Group are subject to its approval, as are subsidiary operations when these fall under article 22-2 or 22-3 and involve an amount exceeding the previously established authorization thresholds in these articles.

At any time of the year, it carries out verifications and controls as it deems necessary and has copies of the documents it considers useful to the accomplishment of its mission sent to it.

The Executive Board presents a report to the Supervisory board at least once per quarter.

Within three months of year-end closing, the Executive Board presents the annual financial statements to the Supervisory Board for verification and control.

The Supervisory Board presents to the Annual General Meeting of Shareholders its comments on the management report that the Executive Board will present to the Ordinary General Meeting of Shareholders convened to approve the financial statements for the year ended, and on the financial statements for the year.

The Supervisory Board appoints the members of the Executive Board and names its Chairman and possibly one or more Managing Directors.

It may convene a General Meeting of the Shareholders.

It approves the agreements referred to in article 24 hereunder.

It may move the head office within the same department of France or to a neighboring department, subject to ratification in accordance with article 4 above.

It may confer any special mandate to one or more of its members for one or more specific purposes.

It may decide to create committees within the Supervisory Board, for which it sets the composition, responsibilities and possible compensation of the members, which exercise their duties under its authority. These committees include, in particular, a Strategy and Investments Committee, an Audit Committee, a Compensation and Nominating Committee, an End-of-Lifecycle Obligations Monitoring Committee and an Ethics Committee.

The Supervisory Board may adopt rules of procedure stipulating its modes of operation.

2. 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 amend 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;

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- (viii) decisions pertaining to loans, borrowings, credit and advances; and
 - (ix) acquisitions and disposals of any receivables by any means.
3. The following Executive Board decisions are subject to the prior authorization of the Supervisory Board insofar as they involve an amount exceeding 20 million euros:
- (x) projects and investment decisions in respect of the creation of a site or capacity increase of an existing site;
 - (xi) acquisitions or purchases of equity interests in any company, existing or to be established.
4. Proposals by the Executive Board for allocations of earnings for the company year are subject to the prior approval of the Supervisory Board.
- Acknowledge that in application of article 2 of the decree no. 83-1116 of December 21, 1983 related to the Société des participations du CEA (AREVA), the amendments to the by-laws that are the subject of this resolution shall become final only after their approval by decree;
 - Give full authority to the Executive Board, with the power to sub-delegate under the conditions provided by law, to carry out all legal formalities, take all necessary measures, and file all documents for the purpose of implementing the aforementioned amendments to the by-laws.

THIRTEENTH RESOLUTION

Delegation of authority to be given to the Executive Board for the purpose of increasing the share capital, with the preemptive subscription right maintained, by (i) issuing common shares and/or securities giving access to the Company's share capital and/or (ii) securities creating a right to receive debt instruments

The Shareholders, deliberating under the conditions for quorum and majority required for special general meetings, being familiarized with the Executive Board's report and of the Statutory Auditors' special report, and in accordance with the provisions of applicable laws and regulations, in particular those of 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, hereby:

1. Delegate to the Executive Board, with the power to sub-delegate under the conditions provided by law, subject to the prior authorization of the Supervisory Board in accordance with article 22.2 of the by-laws, its authority to increase, in one or more transactions, in the proportion and at the times it shall deem appropriate, in France or abroad, in euros or in any other currency or monetary unit established by reference to several currencies, the Company's share capital by issuing, with the preemptive subscription right maintained, common shares of the Company or securities (i) giving access by any means, immediately or in the future, to existing or future common shares of the Company, for valuable consideration or for no consideration, or (ii) giving a right to the allotment of debt securities, it being stated that the subscription of shares and other securities may be transacted in cash or by offset of debt.
2. Decide to set as follows the amounts authorized for issue in the event that the Executive Board us the authority granted above:
 - (a) the maximum amount in par value of capital increases that may be carried out under this delegation of authority is set at 290 million euros, provided that (i) this amount will be applied against the maximum total amount set in the 21st resolution of this General Meeting and (ii) this amount will be increased, as appropriate, by the par value of the shares to be issued in accordance with applicable laws and regulatory provisions and, as appropriate, with applicable contract stipulations, to preserve the rights of holders of securities giving access to the share capital; and
 - (b) the maximum nominal amount of the debt instruments that may be issued under this delegation of authority is set at 290 million euros (or the equivalent at the date of issue), provided that this amount is independent and distinct from the amount of debt instruments that the Executive Board may decide or authorize for issue in accordance with the provisions of article L. 228-40 of the French Commercial Code.
3. Decide that the issue or issues shall be reserved by preference for shareholders who may subscribe as of right for new shares in proportion to the number of shares held by them at that time, and acknowledge that the Executive Board may create a subscription right for excess shares.
4. Decide that if the subscriptions as of right and, as appropriate, for excess shares have not absorbed all of the issue, the Executive Board may decide to exercise the following alternatives, or certain of them, under the conditions provided by law and in the order the Executive Board shall see fit:
 - to limit the capital increase to the amount of the subscriptions, provided that said amount shall represent at least 75% of the capital increase decided;
 - to allocate, as it shall see fit, some or all of securities giving access to the Company's share capital or the shares approved for issue but that were not subscribed;
 - to offer to the public, in France or abroad, all or part of the securities that were not subscribed.
5. Decide that Company share warrants may be issued as part of a subscription offer, but also by a bonus issue to holders of the Company's shares, it being stated that the Executive Board shall have the power to decide that fractional share rights shall not be eligible for trading and that the corresponding securities shall be sold.
6. Decide that the Executive Board may suspend the exercise of rights attached to securities giving access to the Company's share capital for a maximum period of three months, and shall take all useful measures in respect of adjustments to be made in accordance with applicable laws and regulatory provisions and, as appropriate, contract stipulations to protect the holders of rights attached to securities giving access to the Company's share capital.
7. Acknowledge that this delegation of authority constitutes waiver by the Shareholders of their preemptive subscription rights to the shares resulting from the exercise of rights attached to the securities giving access to the Company's share capital, for the benefit of the holders of said securities.
8. Acknowledge that, under article 2 of the Decree no. 83-1116 of December 21, 1983 on the Société des participations du CEA

(AREVA), any increase in the share capital decided by the Executive Board implementing this resolution shall come into effect only after joint approval by the minister of Industry and the minister of the Economy.

The Shareholders give authority to the Executive Board, with the power to sub-delegate as provided by law, to:

- implement this delegation of authority, and in particular set the terms and conditions for capital increases, the dates and characteristics of issues and the characteristics of the securities issued, the opening and closing dates for the subscriptions, the price and vesting date of the securities issued, the terms for paying up the securities, the terms under which the securities issued in accordance with this resolution shall give access to the Company's share capital and, regarding debt instruments, their rank of subordination;
- apply all expenses associated with a capital increase against the corresponding issue premiums and deduct from said amount the moneys necessary to fund the legal reserve; and more generally:
- take all useful measures and conclude all agreements necessary to complete the issues contemplated, confirm the implementation of capital increases, amend the by-laws accordingly, and accomplish all formalities for the listing of the securities so issued.

This delegation of authority is granted for a period of twenty-six months as from the date of this General Meeting.

FOURTEENTH RESOLUTION

Delegation of authority to be given to the Executive Board for the purpose of increasing the share capital by issuing common shares or securities giving access to the Company's share capital, through a public offer with cancellation of the preemptive subscription right of shareholders

The Shareholders, deliberating under the conditions for quorum and majority required for special general meetings, being familiarized with the Executive Board's report and the Statutory Auditors' special report, in accordance with the provisions of 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, as well as with the provisions of articles L. 228-91 *et seq.* of said Code, having acknowledged that the share capital was fully paid up:

1. Delegate to the Executive Board, with the power to sub-delegate under the conditions provided by law, subject to the prior authorization of the Supervisory Board in accordance with article 22.2 of the by-laws, its authority to increase the Company's share capital, in one or more transactions, in the proportion and at the times that it shall deem appropriate, in France or abroad, in euros or in any other currency or any monetary unit established by reference to several currencies, by issuing through a public offering:
 - common shares of the Company;
 - any securities giving access, by any means, immediately or subsequently, to common shares of the Company currently in issue or to be issued for consideration or without monetary consideration.
2. Decide to set as follows the amounts authorized if the Executive Board decides to use the authority granted above:
 - the maximum amount in par value of capital increases that may be implemented immediately or subsequently under this delegation of authority is set at 290 million euros, it being stated that (i) this amount will be applied against the total ceiling set in the 21st resolution of this General Meeting and (ii) this amount will be increased, if applicable, by the par value of additional shares to be issued to preserve the rights of holder of securities giving access to the Company's share capital;
 - the maximum principal amount of the debt instruments that may be issued under this delegation of authority is set at 290 million euros (or the equivalent at the date of issue in any other currency or monetary unit established by reference to several currencies), it being stated that (i) this amount will be applied against the maximum total amount set in the 21st resolution of this General Meeting and (ii) this amount is independent and distinct from the amount of debt instruments that might be issued or authorized by the Executive Board in accordance with the provisions of article L. 228-40 of the French Commercial Code.
3. Decide to cancel the preemptive right of shareholders to subscribe to shares and securities issued in accordance with this delegation of authority, while allowing the Executive Board, in application of articles L. 225-135 paragraph 5 and R. 225-131 of the French Commercial Code, the right to reserve for the shareholders a period for subscription by priority, exercised in proportion to the number of shares held by each shareholder and without creation of negotiable rights.
4. Decide that if the subscriptions received, including those, if any, from shareholders, are not sufficient to absorb all of the issue, the Executive Board may decide to exercise the following alternatives, or any of them, in accordance with the law and in the order it shall see fit:
 - to limit the capital increase to the amount of the subscriptions, provided that said amount shall represent at least 75% of the capital increase decided;
 - to allocate, as it shall see fit, some or all of securities giving access to the Company's share capital or the shares approved for issue but that were not subscribed.
5. Acknowledge that this delegation of authority constitutes waiver by the shareholders of their preemptive rights to subscribe to the shares resulting from the exercise of rights attached to these securities giving access to the Company's share capital, for the benefit of holders of said securities.
6. Decide that the issue price of the shares or securities giving access to the share capital shall be at least equal to the minimum amount authorized under legal and regulatory provisions in effect on the date of issue (i.e., for indication as of the date of this General Meeting, a price at least equal to the weighted average of the price during the last three trading sessions preceding the determination of the price, less a discount of 5% or less, if applicable).
7. Acknowledge that, in application of article 2 of the decree no. 83-1116 of December 21, 1983 relating to Société des participations du CEA, the capital increase that may be decided by the Executive Board in

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application of this resolution shall become final only after its joint approval by the minister of Industry and the minister of the Economy.

The Shareholders give authority to the Executive Board, with the power to sub-delegate as provided by law, to:

- implement this delegation of authority, and in particular set the terms and conditions for capital increases, the dates and characteristics of issues and the characteristics of the securities issued, the opening and closing dates for the subscriptions, the price and vesting date of the securities issued, the terms for paying up the securities, the terms under which the securities issued in accordance with this resolution shall give access to the Company's share capital and, regarding debt instruments, their rank of subordination;
- apply all expenses associated with a capital increase against the corresponding issue premiums and deduct from said amount the moneys necessary to fund the legal reserve; and more generally
- take all useful measures and conclude all agreements necessary to complete the issues contemplated, confirm the implementation of capital increases, amend the by-laws accordingly, and accomplish all formalities for the listing of the securities so issued.

This delegation of authority is granted for a period of twenty-six months as from the date of this General Meeting.

FIFTEENTH RESOLUTION

Delegation of authority to be given to the Executive Board for the purpose of increasing the share capital by issuing common shares or securities giving access to the Company's share capital, with cancellation of the preemptive subscription right of the shareholders, through a private placement pursuant to article L. 411-2 II of the French Monetary and Financial Code

The Shareholders, deliberating under the conditions for quorum and majority required for special general meetings, being familiarized with the Executive Board's report and the Statutory Auditors' special report, deliberating in accordance with the provisions of 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, with the provisions of articles L. 228-91 *et seq.* of said Code, and with the provisions of article L. 411-2 of the French Monetary and Financial Code:

1. Delegate to the Executive Board, with the power to sub-delegate as provided by law, subject to the prior authorization of the Supervisory Board in accordance with article 22.2 of the by-laws, its authority to decide to increase the share capital, in one or more transactions, in the proportion and at the times it shall deem appropriate, in France or abroad, in euros or in any other currency or monetary unit established by reference to several currencies, by issuing through private placement meeting the conditions set in article L. 411-2 of the French Monetary and Financial Code:

- common shares of the Company;
- any securities giving access, by any means, immediately or subsequently, to common shares of the Company currently in issue or to be issued for consideration or without monetary consideration.

2. Decide to set as follows the amounts authorized if the Executive Board decides to use the authority granted above:

- the maximum amount in par value for capital increases that may be implemented immediately or subsequently under this delegation of authority is set at 290 million euros, it being stated that (i) this amount will be applied against the total ceiling set in the 21st resolution of this General Meeting, (ii) this amount will be increased, if applicable, by the par value of additional shares to be issued to preserve the rights of holder of securities giving access to the share capital and (iii) issues of securities in accordance with this delegation of authority are limited to 20% of the share capital in any given year, as provided by law;
- the maximum principal amount of the debt instruments that may be issued under this delegation of authority shall not exceed 290 million euros (or the equivalent at the date of issue in any other currency or monetary unit established by reference to several currencies), it being stated that (i) this amount will be applied against the maximum total amount set in the 21st resolution of this General Meeting and (ii) this amount is independent and distinct from the amount of debt instruments that the Executive Board might decide or authorize for issue in accordance with article L. 228-40 of the French Commercial Code.

3. Decide to cancel the preemptive subscription right of shareholders for shares and securities issued under this delegation of authority.

4. Decide that if the subscriptions did not absorb an issue in its entirety, the Executive Board may limit the capital increase to the amount of the subscriptions, provided that said amount shall represent at least 75% of the capital increase decided.

5. Acknowledge that this delegation of authority constitutes waiver by the shareholders of their preemptive rights to subscribe to the shares resulting from the exercise of rights attached to these securities giving access to the Company's share capital, for the benefit of holders of said securities.

6. Decide that the issue price of the shares or securities giving access to the share capital shall be at least equal to the minimum amount authorized under legal and regulatory provisions in effect on the date of issue (i.e., for indication as of the date of this General Meeting, a price at least equal to the weighted average of the price during the last three trading sessions preceding the determination of the price, less a discount of 5% or less, if applicable).

7. Acknowledge that, in application of article 2 of the decree no. 83-1116 of December 21, 1983 relating to Société des participations du CEA (AREVA), the capital increase that may be decided by the Executive Board in application of this resolution shall become final only after its joint approval by the minister of Industry and the minister of the Economy.

The Shareholders give authority to the Executive Board, with the power to sub-delegate as provided by law, to:

- implement this delegation of authority, and in particular set the terms and conditions for capital increases, the dates and characteristics of issues and the characteristics of the securities issued, the opening and closing dates for the subscriptions, the price and vesting date of

the securities issued, the terms for paying up the shares, the terms under which the securities issued in accordance with this resolution shall give access to the Company's share capital and, regarding debt instruments, their rank of subordination;

- apply all expenses associated with a capital increase against the corresponding issue premiums and deduct from said amount the moneys necessary to fund the legal reserve; and
- more generally, take all useful measures and conclude all agreements necessary to complete the issues and private placements contemplated, confirm the implementation of capital increases, amend the by-laws accordingly, and accomplish all formalities required for the listing of the securities so issued.

This delegation of authority is granted for a period of twenty-six months as from the date of this General Meeting.

SIXTEENTH RESOLUTION

Delegation of authority to be given to the Executive Board for the purpose of increasing number of shares to be issued in the event of a capital increase, with or without preemptive subscription right of the shareholders

The Shareholders, deliberating under the conditions for quorum and majority required for special general meetings, being familiarized with the Executive Board's report and the Statutory Auditors' special report, and deliberating in accordance with the provisions of articles L. 225-135-1 and R. 225-118 of the French Commercial Code, and subject to the adoption of the 13th, 14th and 15th resolutions:

1. Delegate to the Executive Board, with the power to sub-delegate under the conditions provided by law, subject to the prior authorization of the Supervisory Board in accordance with article 22.2 of the by-laws, its authority to increase the number of shares or securities to be issued in the event of a share issue with or without preemptive subscription right, decided by the Executive Board in accordance with the 13th, 14th and 15th resolutions of this General Meeting, at the same price as that established for the initial issue, within the timeframe and limits provided by the applicable regulations on the day of issue (currently within thirty days of the end of the subscription and within the limit of 15% of the initial issue), in particular to provide an option for additional allocation in accordance with market practices.
2. Decide that the amount in par value of capital increases decided in connection with this resolution shall be applied against the maximum amount authorized for issue in the resolution authorizing the initial issue and subject to the total ceiling set in the 21st resolution hereunder.
3. Acknowledge that, in application of article 2 of the decree no. 83-1116 of December 21, 1983 relating to Société des participations du CEA (AREVA), the capital increase that may be decided by the Executive Board in application of this resolution shall become final only after its joint approval by the minister of Industry and the minister of the Economy.

This delegation of authority is granted for a period of twenty-six months as from the date of this General Meeting.

SEVENTEENTH RESOLUTION

Delegation of authority to be given to the Executive Board for the purpose of establishing, for up to 10% of the Company's share capital, 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 Company's share capital immediately or eventually, with cancellation of the preemptive subscription right

The Shareholders, deliberating under the conditions for quorum and majority required for special general meetings, being familiarized with the Executive Board's report and the Statutory Auditors' special report, and in accordance with the provisions of the French Commercial Code and in particular article L. 225-136 of said Code:

1. Authorize the Executive Board, with the power to sub-delegate under the conditions provided by law, and subject to (i) adoption of the 14th and 15th resolutions submitted for a vote to this General Meeting and (ii) compliance with the ceiling(s) contemplated in the resolution authorizing the issue, for each issue decided in accordance with the 14th and 15th resolutions, to set the issue price as provided hereunder, within the limit of 10% of the Company's share capital per year, including the issues carried out pursuant to the 16th resolution of this General Meeting (this percentage of 10% applying to the adjusted share capital resulting from share capital transactions that may be carried out after this General Meeting):
 - the issue price of common shares shall be at least equal to the average weighted price of the share on the Euronext Paris market during the last three trading sessions preceding the decision setting the price, possibly less a maximum discount of 5%;
 - the issue price of securities other than common shares giving access to the share capital shall be such that the amount received immediately by the Company, plus the amount, if any, that may be received by the Company subsequently, shall be at least equal, for each common share issued as a result of the issue of said securities, to the amount referred to in the paragraph above, adjusted if necessary to reflect the difference in vesting dates; and
2. Note that the Executive Board shall be required to prepare a supplemental report certified by the Statutory Auditors, describing the final terms and conditions of the transaction and providing elements to assess the effective impact on equity.

This delegation of authority is granted for a period of twenty-six months as from the date of this General Meeting.

EIGHTEENTH RESOLUTION

Delegation of authority to be given to the Executive Board for the purpose of increasing the share capital by issuing common shares with a view to compensating contributions in kind granted to the Company and consisting of shares of equity or securities giving access to share capital

The Shareholders, deliberating under the conditions for quorum and majority required for special general meetings, being familiarized with the Executive Board's report and the Statutory Auditors' special report, and deliberating in accordance with the provisions articles L. 225-129 et

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seq. of the French Commercial Code, and in particular article L. 225-147 paragraph 6 of said Code:

1. Delegate to the Executive Board, with the power to sub-delegate as provided by law, subject to the prior authorization of the Supervisory Board as provided in article 22.2 of the by-laws, the authority to issue in one or more transactions, on the report of the contribution auditors, common shares of the Company to compensate contributions in kind to the Company in the form of shares of equity or securities giving access to the share capital of other companies, when the provisions of article L. 225-148 of the French Commercial Code do not apply.
2. Decide to set the maximum amount in par value of capital increases that may be implemented in accordance with this delegation of authority to 10% of the Company's share capital on the day of the decision by the Executive Board, it being stated that the par value of capital increases implemented in this connection shall be included in the total ceiling of capital increases referred to in the 21st resolution of this General Meeting.
3. Acknowledge that, under article 2 of the Decree no. 83-1116 of December 21, 1983 on the Société des participations du CEA (AREVA), any increase in the share capital decided by the Executive Board implementing this resolution shall come into effect only after joint approval by the minister of Industry and the minister of the Economy.

The Shareholders give full authority to the Executive Board, with the power to sub-delegate under the conditions provided by law, to implement this delegation of authority and, in particular, to establish the nature and number of securities to be created, their characteristics and the terms and conditions of their issue, to approve the valuation of contributions in kind and confirm their implementation, to decide capital increases made for the purpose of compensating contributions in kind, to offset the cost of the capital increase transactions against issue premiums, to deduct the necessary sums from these premiums to fund the legal reserve and, more generally, to take all useful measures and conclude all agreements necessary to complete the issues contemplated, confirm the implementation of the capital increases, amend the by-laws accordingly, and accomplish all necessary formalities for the listing of the securities so issued.

This delegation of authority is granted for a period of twenty-six months as from the date of this General Meeting.

NINETEENTH RESOLUTION

Delegation of authority to be given to the Executive Board for the purpose of increasing the share capital by capitalization of reserves, profits or issue premiums

The Shareholders, deliberating under the conditions for quorum and majority required for special general meetings, being familiarized with the Executive Board's report, in accordance with the provisions of articles L. 225-129, L. 225-129-2 and L. 225-130 of the French Commercial Code:

1. Delegate to the Executive Board, with the power to sub-delegate as provided by law, subject to the prior authorization of the Supervisory Board in accordance with article 22.2 of the by-laws, its authority to increase the Company's share capital, in one or more transactions, in

the proportion and at the times it shall deem appropriate, by capitalizing in the share capital, simultaneously or in succession, reserves, profits, issue premiums or other amounts that may be transferred to share capital in accordance with the law and the by-laws, in the form of bonus shares to the shareholders or by increasing the par value of existing shares.

2. Decide that the maximum amount in par value of capital increases that may be carried out in this respect shall be equal to the total amount eligible for capitalization and will be added to the total ceiling referred to in the 21st resolution of this General Meeting.
3. Decide that, in the event of bonus shares, the fractional rights shall not be eligible for trading and may not be sold, and that the corresponding shares will be sold and the proceeds allocated to the holders of the rights under the conditions provided by law.
4. Acknowledge that, under article 2 of the Decree no. 83-1116 of December 21, 1983 on the Société des participations du CEA (AREVA), any increase in the share capital decided by the Executive Board implementing this resolution shall come into effect only after joint approval by the minister of Industry and the minister of the Economy.

The Shareholders give full authority to the Executive Board, with the power to sub-delegate said authority under the conditions provided by law to implement this delegation of authority, take all measures and decisions, and carry out all legal formalities necessary to complete each capital increase, confirm its implementation, amend the by-laws accordingly, and accomplish all necessary formalities for the listing of the securities issued in accordance with this delegation of authority.

This delegation of authority is granted for a period of twenty-six months as from the date of this General Meeting.

TWENTIETH RESOLUTION

Delegation of authority to the Executive Board for the purpose of increasing the share capital by issuing common shares reserved for the participants of a company savings plan sponsored by the Company or its Group

The Shareholders, deliberating under the conditions for quorum and majority required for special general meetings, being familiarized with the Executive Board's report and the Statutory Auditors' special report, in accordance with the provisions of articles L. 225-129-2, L. 225-129-6, L. 225-138 I and II and L. 225-138-1 of the French Commercial Code, and with the provisions of articles L. 3332-18 *et seq.* of the French Labor Code:

1. delegate authority to the Executive Board, with the power to sub-delegate as provided by law, subject to the prior authorization of the Supervisory Board in accordance with article 22.2 of the by-laws, for the purpose of increasing the Company's share capital in one or more stages, in one or more transactions, in the proportion, at such times and according to such procedures as it shall determine, by issuing common shares of the Company reserved for directors and officers, employees and former employees participating in a group savings plan or any company savings plan of the Company and, as applicable, of French or foreign companies related to it under the conditions of article L. 225-180 of the French Commercial Code and article L. 3344-1 of the French Labor Code, or by the free allocation of existing common

shares or to be issued, particularly by capitalization of reserves, profits or issue premiums, within the limits of the law and regulations;

2. decide that the maximum par value of the capital increases that may be implemented in accordance with this resolution shall be limited to 2% of the share capital existing on the date of the decision by the Executive Board, such limit being discrete and unrelated to any ceiling applicable to capital increases authorized by the 21st resolution of this General Meeting;
3. decide that if the subscriptions have not absorbed all of the shares in connection with a given issue, the capital increase shall be carried out only for the amount of the securities subscribed;
4. decide to cancel, for the benefit of participants in a company savings plan, the preemptive right of holders of common shares to subscribe to common shares, if any, included in bonus shares in accordance with this resolution;
5. decide that, in accordance with the provisions of articles L. 3332-19 and L. 3332-20 of the French Labor Code, the subscription price of common shares shall be determined by reference to the average of listed prices of the common share during the twenty market sessions preceding the decision setting the first day of subscription;
6. it is hereby stated that the maximum discount decided in application of articles L. 3332-19 *et seq.* of the French Labor Code, in relation to the average of listed prices in the twenty market sessions may not exceed 20% or 30%, depending on whether the securities thus subscribed, directly or indirectly, correspond to instruments that may not be sold during a period of less than ten years or for ten years or more. However, the Shareholders expressly authorize the Executive Board to cancel or reduce the abovementioned discount if it deems it appropriate, in particular to take into account locally applicable legal, accounting, tax and social systems, among other things;
7. authorize the Executive Board to allocate common shares of the Company, whether existing or to be issued, for no monetary consideration or as part of a matching contribution or a discount, as the case may be, provided that the transaction is within legal or regulatory limits considering the value of these shares at the subscription price ;
8. acknowledge that, in application of article 2 of the decree no. 83-1116 of December 21, 1983 concerning the Société des participations du CEA (AREVA), the capital increase(s) decided pursuant to this resolution shall become final only after its/(their) joint approval by the French minister of Industry and the French minister of the Economy;
9. give full authority to the Executive Board to implement this resolution, subject to the prior authorization of the Supervisory Board in accordance with article 22 of the by-laws, and in particular to:
 - set the terms and conditions for the transactions and decide on the dates and procedures for the issues and free allocations of common shares to be carried out by virtue of this delegation of authority,
 - set the dates for subscription openings and closings, the vesting dates, and the procedures for paying up common shares of the Company,
 - agree on the schedule for paying up common shares,
 - determine whether the shares may be issued directly in favor of the beneficiaries or through collective schemes,
 - decide, in accordance with the law, on the list of companies or groups from which employees and former employees may subscribe

to the common shares, individually or through a mutual fund, and receive bonus shares, if applicable,

- set the seniority conditions that must be met by the beneficiaries of the common shares that are the subject of each free allocation; determine, as necessary, the terms and conditions for free allocations of shares,
- record the completion of capital increases up to the amount actually subscribed for common shares of the Company,
- determine, if necessary, the amounts to be capitalized within the limit established above and the equity item(s) from which they will be taken,
- enter into any agreements, complete any transactions and formalities linked to the increases in share capital, directly or through third parties, and amend the by-laws in relation to those capital increases,
- more generally, take all necessary measures to implement the share issues and, as appropriate, to suspend them, and on its sole decision and if it deems it necessary to charge the costs of capital increases to the premiums pertaining to those increases and to allocate from this amount the sums necessary to bring the legal reserve to one tenth of the new share capital following each increase.

This delegation of authority is granted to the Executive Board for a period of twenty-six months as from the date of this General Meeting. It voids, as of that date, the delegation of authority granted to the Executive Board for the same purpose by the Combined General Meeting of Shareholders of April 27, 2011 (20th resolution).

TWENTY-FIRST RESOLUTION

Global limitation of authority to issue shares or securities

The Shareholders, deliberating under the conditions for quorum and majority required for special general meetings, being familiarized with the Executive Board's report and the Statutory Auditors' special report, decides to set at 290 million euros in par value the total ceiling of capital increases that may be implemented, immediately or in the future, in accordance with the delegations of authority granted to the Executive Board in the 13th, 14th, 15th, 16th, and 18th resolutions of this General Meeting, it being stated that this ceiling may be increased by (i) the maximum amount in par value for capital increases implemented by capitalization of issue premiums, reserves, profits or other amounts that may transferred to share capital in accordance with the 19th resolution above of this General Meeting and, possibly, (ii) the par value of additional shares to be issued to preserve the rights of holders of securities giving access to the Company's share capital, in accordance with legal and regulatory provisions and, if applicable, contract stipulations.

TWENTY-SECOND RESOLUTION

Granting of authority to execute formalities

The Shareholders, deliberating under the conditions for quorum and majority required for ordinary and special general meetings, grants full authority to the bearer of the original, an excerpt or a copy of the meeting report of this General Meeting, for purposes of filing, publishing and recording same, and more generally to do all that is necessary.

Draft resolutions

Resolutions vested in the Special General Meeting

→ TABLE OF DELEGATIONS OF AUTHORITY AND AUTHORIZATIONS TO THE EXECUTIVE BOARD

The resolutions to be submitted to the Annual General Meeting of Shareholders of May 10, 2012 include delegations of authority and authorizations from the Shareholders to the Executive Board as follows:

Summary	Date of the Annual General Meeting of Shareholders granting the delegation of authority	Period of validity of the authorization	Maximum amount of the authorization in par value for capital increases and in principal amount for debt instruments
Delegation of authority to be given to the Executive Board for the purpose of increasing the share capital by issuing common shares or securities giving access to the Company's share capital, with the preemptive subscription right maintained for the shareholders (13th resolution).	May 10, 2012	26 months	Maximum amount of capital increases: 290 million euros (*) Maximum amount of debt instruments: 290 million euros (*)
Delegation of authority to be given to the Executive Board for the purpose of increasing the share capital by issuing common shares or securities giving access to the Company's share capital, through a public offer with cancellation of the preemptive subscription right of shareholders (14th resolution).	May 10, 2012	26 months	Maximum amount of capital increases: 290 million euros (*) Maximum amount of debt instruments: 290 million euros (*)
Delegation of authority to be given to the Executive Board for the purpose of increasing the share capital by issuing common shares or securities giving access to the Company's share capital, with cancellation of the preemptive subscription right of the shareholders, through a private placement pursuant to article L. 411-2 II of the French Monetary and Financial Code (15th resolution).	May 10, 2012	26 months	Maximum amount of capital increases: 290 million euros (*) Maximum amount of debt instruments: 290 million euros (*)
Delegation of authority to be given to the Executive Board for the purpose of increasing number of shares to be issued in the event of a capital increase, with or without preemptive subscription right of the shareholders (16th resolution).	May 10, 2012	26 months	15% of the original issue (*)
Delegation of authority to be given to the Executive Board for the purpose of increasing the share capital by issuing common shares with a view to compensating contributions in kind granted to the Company and consisting of shares of equity or securities giving access to share capital (18th resolution).	May 10, 2012	26 months	10% of the share capital (*)
Delegation of authority to be given to the Executive Board for the purpose of increasing the share capital by capitalization of reserves, profits or issue premiums (19th resolution).	May 10, 2012	26 months	Total amount eligible for capitalization
Delegation of authority to the Executive Board for the purpose of increasing the share capital by issuing common shares reserved for the participants of a company savings plan sponsored by the Company or its Group (20th resolution).	May 10, 2012	18 months	2% of the share capital

(*) The total ceiling in par value of capital increases that may be implemented, immediately or in the future, in accordance with the delegations of authority granted to the Executive Board in the 13th, 14th, 15th, 16th, and 18th resolutions, is 290 million euros.

Appendix 5

Information made public by the AREVA group
over the past 12 months

→ 1.	INFORMATION PUBLISHED BY AREVA AND AVAILABLE UNDER THE HEADING “FINANCE - REGULATED INFORMATION” OF THE WWW.AREVA.COM WEBSITE AND/OR ON THE WEBSITE OF THE AMF, WWW.AMF-FRANCE.ORG	393
→ 2.	INFORMATION FILED BY AREVA WITH THE COURT REGISTRAR OF THE PARIS COMMERCIAL COURT	396
→ 3.	INFORMATION PUBLISHED BY AREVA IN THE BULLETIN DES ANNONCES LÉGALES OBLIGATOIRES (BALO), AVAILABLE ON THE BALO WEBSITE (WWW.BALO.JOURNAL-OFFICIEL.GOUV.FR)	396
→ 4.	FINANCIAL ADVERTISING	396

This annual information document is drawn up in accordance with article 222-7 of the General Regulations of the Autorité des marchés financiers (AMF, the French financial market authority). In accordance with these regulations, the tables below list the information made public by AREVA since January 1, 2011 to satisfy legal or regulatory obligations concerning financial instruments, financial instrument issuers, and financial instrument markets.

→ 1. Information published by AREVA and available under the heading “Finance - Regulated information” of the www.areva.com website and/or on the website of the AMF, www.amf-france.org

Date	Information
January 4, 2011	AREVA launches a new advertising campaign «Energy: one powerful story»
January 6, 2011	Statement by the Chairman of the AREVA group Supervisory Board
January 7, 2011	Appointments within the AREVA group
January 11, 2011	Cancer treatments: AREVA and Inserm sign a research agreement
January 25, 2011	Successful completion of AREVA's capital increase reserved for Investments Certificates holders
January 27, 2011	At December 31, 2010: Revenue rises to €9.104bn: + 6.7% Backlog rises to €44.2bn: + 2.0%
February 1, 2011	Appointment within the AREVA group
February 7, 2011	Olkiluoto 3 EPR™: All Four Steam Generators Successfully Installed
February 25, 2011	Niger: three hostages have been freed
March 2, 2011	South Africa: AREVA and Necsa strengthen their partnership

1. Information published by AREVA and available under the heading “Finance - Regulated information” of the www.areva.com website and/or on the website of the AMF, www.amf-france.org

Date	Information
March 3, 2011	2010 annual results: <ul style="list-style-type: none"> • Backlog: €44.2bn, up 2.0% • Revenues: €9.104bn, up 6.7% • Operating income excluding particular items: €532m, up €201m • Operating income: - €423m • Net income group share: €883m, i.e. €2.49 per share • Reduction in €2.521bn in debt: net debt of €3.672bn at year-end
March 8, 2011	Appointment within the AREVA group
March 15, 2011	SIEMENS' share in AREVA NP valued at 1,620 million euros
March 16, 2011	AREVA is mobilized for Japan
March 31, 2011	Filing of a draft offering circular in response to the Public Exchange Offer initiated by the CEA on AREVA Investment Certificates. Exchange ratio: one Ordinary Share for one Investment Certificate.
April 13, 2011	Bulgaria: AREVA and BEH sign cooperation agreement in the field of nuclear power and renewable energy
April 13, 2011	Solar: AREVA awarded major contract in Australia
April 15, 2011	Launch of the Simplified Public Exchange Offer on AREVA Investment Certificates <ul style="list-style-type: none"> • one ordinary share for one investment certificate • offering date: April 19, 2011 • expiration date: May 11, 2011 AREVA ordinary shares will be listed for trading on May 30, 2011
April 19, 2011	AREVA to set up a water decontamination process for the Fukushima site
April 19, 2011	Start of the Simplified Public Exchange Offer on AREVA Investment Certificates <ul style="list-style-type: none"> • one ordinary share for one investment certificate • offering date: April 19, 2011 • expiration date: May 11, 2011
April 27, 2011	Combined general meeting: resolutions proposed by AREVA's Supervisory Board approved Jean-Cyril Spinetta reelected Chairman of the group's Supervisory Board
May 2, 2011	First quarter 2011 revenue: 2.7% growth like for like to 1.979 billion euros
May 6, 2011	AREVA's public exchange offer: last days to participate
May 17, 2011	Successful completion of Public Exchange Offer on AREVA's Investment certificates vs ordinary shares
May 18, 2011	GDF SUEZ, VINCI and AREVA join forces to develop France's offshore wind industry
May 20, 2011	Siemens ordered to pay AREVA 648 million euros in penalties
May 23, 2011	AREVA becomes sole shareholder of AREVA Koblitz
May 23, 2011	Appointment within the AREVA group
May 30, 2011	NYSE Euronext welcomes AREVA on its European market
May 31, 2011	Treatment against cancer: AREVA launches construction of the «Maurice Tubiana laboratory» to produce Lead-212
May 31, 2011	AREVA and Rhodia sign agreement to develop deposits containing rare earths and uranium
June 15, 2011	ERAMET: SORAME-CEIR and AREVA renew their shareholders' pact
June 17, 2011	Press Release from Anne Lauvergeon
June 21, 2011	The AREVA Supervisory Board confirms the nomination of Luc Ourse
June 21, 2011	Australia: AREVA part of consortium selected as preferred project for Solar Flagships program
June 24, 2011	China: AREVA announces the creation of a new jointventure in the nuclear industry
June 29, 2011	Iberdrola renewables and AREVA form strategic partnership to bid for French Offshore Wind projects
June 30, 2011	Appointment of the AREVA Executive Board
July 11, 2011	Fukushima: AREVA/Veolia system successfully contributes to treating contaminated waters
July 18, 2011	Appointments within the AREVA group
July 27, 2011	Operating and financial results for the first half of 2011
July 28, 2011	AREVA to launch manufacturing of forgings for first EPR™ reactor in the United Kingdom
August 30, 2011	Biomass: AREVA-led consortium awarded 155 M€ contract

1. Information published by AREVA and available under the heading “Finance - Regulated information” of the www.areva.com website and/or on the website of the AMF, www.amf-france.org

Date	Information
September 12, 2011	Biomass: AREVA-led consortium launches a new project in France
September 15, 2011	USA: AREVA major contractor in TVA's Bellefonte 1 nuclear plant completion
September 15, 2011	AREVA Adopts Principles of Conduct with World's Leading Nuclear Vendors
September 21, 2011	AREVA launches the “Nuclear Learning Tour” for its customers
September 28, 2011	AREVA launches a new 6-year bond issue totalling 500 million euros
September 28, 2011	AREVA to manufacture 32 steam generators for EDF
October 10, 2011	AREVA launches FACES, the roll-out project of the Europe-wide Professions and Competences Forecast and Management agreement
October 12, 2011	The AREVA-Siemens consortium appeals to TVO to commit to take the path of cooperation during the testing phase
October 12, 2011	Appointments within the AREVA group
October 20, 2011	AREVA Med acquires Macrocylics, Inc.
October 24, 2011	China: Taishan 1 EPR dome installed successfully
October 27, 2011	At September 30, 2011: Revenue of €5.95bn: -3.5% vs. September 2010 (-1.5% like for like) Backlog of €42.7bn: -1.0% vs. June 30, 2011; stable year on year
October 3, 2011	China: AREVA and CNNC strengthen collaboration in installed nuclear base management
October 8, 2011	Olkiluoto 3: installation of heavy components of the primary cooling system complete
November 10, 2011	Appointments within the AREVA group
November 21, 2011	Clarification
December 7, 2011	Health Observatories: as Niger gets underway, significant progress recorded in Gabon
December 9, 2011	China: AREVA to supply TELEPER ^M XS digital safety Instrumentation & Control system for Tianwan 3 and 4 nuclear reactors
December 9, 2011	EDF chooses AREVA to upgrade the monitoring and control safety systems for its twenty 1300MW reactors
December 12, 2011	“Action 2016”: AREVA's strategic action plan to improve performance
December 12, 2011	AREVA stock listing suspension requested
December 13, 2011	“Action 2016”: AREVA's Strategic Action Plan
December 14, 2011	UK: major milestone for EPR reactor certification
December 14, 2011	Sale of 01dB-Metravib
December 15, 2011	ERAMET: SORAME-CEIR and AREVA renew their shareholders' pact
December 19, 2011	Canada: AREVA to process 100% of uranium from the Cigar Lake mine
December 22, 2011	China: AREVA consolidates its leading position as fuel component supplier
December 27, 2011	AREVA's stake in Eramet
January 4, 2012	AREVA Signs a \$500-Million Integrated Fuel Supply Contract with Xcel Energy
January 4, 2012	Appointment within the AREVA Group
January 11, 2012	Clarification
January 30, 2012	AREVA sells its 20% stake in Sofradir
February 9, 2012	French Nuclear Safety Authority ASN issues favorable opinion of ATMEA1 reactor safety options
February 10, 2012	AREVA and EDF strengthen their long-term partnership for natural uranium
February 14, 2012	Press release from the Supervisory Board
February 17, 2012	AREVA has achieved major milestones for EPR construction projects in the UK signing new agreements today at the Franco-British summit in Paris
March 2, 2012	Mines: AREVA Sells Stake in Canadian Millennium Project to Cameco
March 8, 2012	AREVA increases its 5-year bond issue by 400 million euros
March 9, 2012	Appointment within the AREVA Group
March 14, 2012	Offshore wind: AREVA delivers M5000 turbines for Trianel's Borkum wind farm
March 16, 2012	Agreement between AREVA and the Fonds Stratégique d'Investissement for the disposal of AREVA's stake in ERAMET
March 26, 2012	GDF SUEZ, VINCI, CDC Infrastructure and their partner AREVA mobilized for offshore wind power in Normandy
March 27, 2012	USA: AREVA Signs a New Contract to Supply Fuel to FirstEnergy's Davis-Besse Nuclear Power Station
March 28, 2012	Fifth transport of metallic compacted waste from France to Belgium

→ 2. Information filed by AREVA with the Court Registrar of the Paris Commercial Court

Date	Information
May 26, 2011	<p>2010 Annual Report, including:</p> <ul style="list-style-type: none"> • the 2010 consolidated financial statements and Statutory Auditors' report; • the 2010 corporate financial statements and Statutory Auditors' report; • the Executive Board's management report, presented to the Annual General Meeting of Shareholders of April 27, 2011; • the report of the Chairman of the Supervisory Board and the Statutory Auditors' report on internal control procedures; • the resolutions proposed to the Annual General Meeting of Shareholders of April 27, 2011; • originals of the Statutory Auditors' reports on the consolidated and corporate financial statements; • recommendation for allocation of earnings.

→ 3. Information published by AREVA in the Bulletin des annonces légales obligatoires (BALO), available on the BALO website (www.balo.journal-officiel.gouv.fr)

Article R. 225-73 of the French Commercial Code requires companies whose shares are listed for trading on a regulated market to publish a notice of meeting in the *Bulletin des annonces légales obligatoires* (BALO, the bulletin of mandatory legal announcements) at least 35 days before a General Meeting of Shareholders is held.

Article R. 232-11 of the French Commercial Code requires these same companies to publish their financial statements in the BALO within 45 days of their approval by the Annual General Meeting of Shareholders.

These requirements apply to AREVA since May 30, 2011, when all of AREVA's shares were listed for trading on the regulated market of NYSE Euronext.

→ 4. Financial advertising

March 4, 2011	<i>Les Échos</i>	Annual results 2010
July 28, 2011	<i>Les Échos</i>	Half-year 2011 financial results
March 2, 2012	<i>Les Échos</i>	Annual results 2011

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

→ 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, multicultural and changing 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 responsibility of the group to our customers, our employees, our shareowners 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 shareowners, 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 wider public, 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.

Shareowners

AREVA is guided by principles of corporate governance, particularly in its pursuit of shareowner returns and growth of their invested capital.

Our shareowners deserve accurate and pertinent financial information, and we, at AREVA, make every effort to ensure that they receive it.

We believe that all shareowners 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 the operations they perform, as well as of those that they have had 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 shall be 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 will 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.

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 only be hired or given any kind of assignment 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 have received a copy of the Executive Board memorandum dated January 31, 2002 on the prevention of insider trading.

Managers shall 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 shall 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 and partners, and public services shall be 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 the measures it sees fit to determine the veracity of the situation, notably by performing the appropriate audits, and to put an end to the unlawful behavior should it be proven.

AREVA prohibits corruption in any form whatsoever, public and private, active and passive. AREVA shall refrain from giving, proposing, promising or soliciting, either directly or indirectly; any 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 occasions, 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 judgement 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

AREVA's philanthropy and Sponsorship Committee defines policy and establishes programs for such activities. Employee involvement in the programs is of particular interest to the Committee.

Spirit

AREVA's philanthropic 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

Principle 1

Businesses are asked to support and respect the protection of international human rights; and

Principle 2

make sure their own corporations are not complicit in human rights abuses.

Labor

Principle 3

Businesses are asked to uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4

the elimination of all forms of forced and compulsory labor;

Principle 5

the effective abolition of child labor; and

Principle 6

the elimination of discrimination in respect of employment and occupation.

Environment

Principle 7

Businesses are asked to support a precautionary approach to environmental challenges;

Principle 8

undertake initiatives to promote greater environmental responsibility; and

Principle 9

encourage the development and diffusion of environmentally friendly technologies.

Anti-corruption

Principle 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**

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→ 1. Technical glossary

> Actinide

Chemical element whose nucleus contains more than 88 protons. In ascending order: actinium, thorium, protactinium, uranium and transuranics (more than 92 protons). Neptunium, americium and curium are often called minor actinides (from 89 to 103 protons).

> Activation

Process by which a stable atomic nucleus is transformed into a radioactive nucleus. The transformation 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, 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 natural humidity and salinity of the air can cause rapid deterioration of the equipment.

> ALARA (“as low as reasonably achievable”)

Concept used to keep 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, followed by radioactive decay of uranium and plutonium-239. It also forms through radioactive decay of plutonium-241.

> Anaerobic

Characteristic of a medium defined by the absence of dioxygen. Anaerobic fermentation is the biological degradation of fermentable 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 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.

> Assembly, fuel assembly

A monolithic assembly of 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 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

Fundamental 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.

> Biofuel

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 composed primarily of CH₄ and CO₂, but also of N₂, O₂, H₂O, H₂S and NH₃. 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 energy supplied by the fuel during its irradiation in the reactor.

> 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 CO₂ equivalent, one carbon credit represents a reduction of one metric ton of CO₂. 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

A combination of components 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.

It is active in three main areas: 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.

> 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 safety 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 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, these rods serve to control the chain reaction in the core of the nuclear reactor, 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 (which sublimates at about 56°C) for the purpose of enriching it in fissile uranium (U^{235}) by gaseous diffusion or centrifugation.

> 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 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.

> 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.

> 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 obligations

All of the obligations for shutting down and dismantling nuclear facilities and managing radioactive waste.

> Enriched uranium, depleted uranium

Before it is used to fabricate fuel elements, natural uranium is enriched in U^{235} to a concentration ranging from 3% to 5%. Natural uranium is used to produce uranium enriched in U^{235} . The physical or chemical processes used to enrich uranium also produce uranium that has a lower concentration of U^{235} than natural uranium: this is known as depleted uranium.

> Enrichment

Process used to increase the abundance of fissile isotopes in an element. Naturally occurring uranium essentially consists of 0.7% U^{235} (fissile isotope) and 99.3% U^{238} (non-fissile isotope), and must be enriched in U^{235} for it to be used in a pressurized water reactor. The proportion of U^{235} 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 1,650 MWe of electric power and features a greater level of safety than generation III reactors and simplified operations and maintenance. It also has a projected service life of 60 years, compared with an initial service life of 40 years for the reactors currently in operation around the world.

> ERU

Enriched 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

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.

> Gaseous diffusion

Process for the isotopic separation of molecular species that uses the difference in the velocity of those molecules, due to their different mass, and thus the different rates at which they pass through a semi-permeable membrane. The uranium hexafluorides UF_6 and UF_6 can be separated in this way, causing enrichment in U_{235} , 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 quadrupole 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 Multibrid 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 généraux 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. The enclosure is generally kept at slightly negative pressure to contain radioactive materials.

> HCTISN (Senior Committee for Transparency and Information on Nuclear Safety)

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 CO₂ emissions.

> Heavy metal

Heavy metal is the nuclear material in fuel: uranium oxide, or a mixture of uranium and plutonium oxides in the case of MOX fuel. The unit of measurement commonly used for heavy metal is the metric ton of heavy metal (MTHM).

> Hulls

Pieces of tubing about 3 centimeters long produced at the treatment plant by shearing 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 atomic 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).

> 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-service inspection

Combination of inspections performed periodically in a facility during a scheduled outage.

> 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.

> Instrumentation and control system

Combination of electrical and electronic systems used 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 m²).

> 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 in proportion to the wave frequency or to the particle speed. The effect of radiation on objects and living organisms is often 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), U^{235} (92 protons, 92 electrons, 143 neutrons), and U^{238} (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 recover the energy produced, and to slow neutrons to trigger fission.

> Local information and concertation 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 on a large scale, 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.

> Moderator

Material designed to slow neutrons produced by nuclear fission.

> MOX (mixed oxides)

A mixture of uranium and plutonium oxides used to fabricate certain types of nuclear fuel.

> 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.

> Mine tailings

Earth, sand or rock that does not contain ore but that must be extracted to gain access to the ore itself. Their radioactivity is very low, comparable to that of the surrounding natural granite.

> Nacelle

The nacelle is installed at the top of the wind 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. They 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)

Document that assesses existing management methods used for radioactive waste and materials, identifies foreseeable storage and disposal facility requirements, indicates the needed capacities and duration of storage and, in the case of radioactive waste for which no final management method exists, sets objectives. The current version is the 2010-2012 edition.

> 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.

> 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.

> Nuclear Energy Agency (NEA)

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.

> 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 Regulatory Commission (NRC)

Counterpart of ASN in the United States.

Field of jurisdiction: nuclear safety and radiation protection.

> 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)

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.

> Office for Nuclear Regulation (ONR)

Counterpart of the Autorité de sûreté nucléaire (French nuclear safety authority, ASN) in the United Kingdom.

Field of jurisdiction: nuclear safety and radiation protection.

> 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.

> 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.

> 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 from 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 reactor cooling system at a level designed to prevent the primary cooling water from reaching the boiling point.

> 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 degradation of a solid fuel (biomass, coal, etc.) in the absence of oxygen.

> Radiation

Also referred to as “ionizing radiation”, designates a release and transmission of energy in luminous, electromagnetic or corpuscular form.

> Radiation protection, radiological protection

Set of rules, procedures, and means of prevention and monitoring directed at preventing or reducing the harmful effects, both direct and indirect, of ionizing radiation on people, including those resulting from environmental damage, while allowing its use.

> 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 necessary for half of the nuclei of a radionuclide to decay. 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 specific to a given radionuclide.

> Radioactive material

Radioactive compound 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 monitoring.

> 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 specially designed facility for permanent keeping 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 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 take place.

> 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, 96% of the fuel materials are reusable (95% uranium and 1% plutonium), while 4% are fission products and minor actinides (final waste). Treatment and recycling consists of separating the reusable radioactive materials from the final waste contained in the used fuel, thus conserving natural resources and isolating the waste by packaging it for disposal.

> 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 ore inventories whose existence is only presumed or estimated with a certain level of probability, and which are potentially mineable in the medium or long term at a cost that is not currently economically profitable.

> 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

Equipment containing the neutron-absorbing elements used to control the nuclear 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

Consists of several blades (usually three) attached to a central hub, which is itself attached to the nacelle.

The rotor converts kinetic energy into mechanical energy (torque), which is then transmitted directly or indirectly by means of a gear box to an alternator, where the mechanical energy is converted into electrical energy.

> Rotor blades

Wind turbine rotor blades capture kinetic energy from the wind and convert it into mechanical energy in the form of thrust perpendicular to the main axis of the blade.

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 analyzes 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, these are 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 under the minister of Ecology, Sustainable Development, Transportation and Housing.

> Shielding, biological shielding, biological protection

Protective shielding from radiation used to limit exposure of people.

> 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 the electric motor of the reactor coolant pump set.

> Steam generator

Heat exchanger 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 and 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.

> Ten-year inspection

Every 10 years, nuclear reactors are inspected thoroughly. The reactor's overall condition is assessed through 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 that can produce the fissile uranium isotope uranium-233 through neutron capture.

> TMD order

French modal order of May 29, 2009 on the transport of dangerous goods (TDG) ("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).

> 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. A specially trained and equipped mobile response unit goes quickly to the scene of the incident and provides real-time information to the monitoring operations center and the National Control and Command Center, the core component of the plan.

> Transuranic elements

Chemical elements in which the nucleus contains 92 protons (characteristic of the nucleus of uranium). The first transuranic elements are, in increasing order, neptunium, plutonium, americium and curium.

> Tritium

Beta ray-emitting isotope of hydrogen that is present in the natural state in the air and in effluents from light water reactors.

> Turbine

Device used to convert the energy contained in a fluid (water, steam, gas, etc.) into a rotary motion.

> UF₄

Uranium tetrafluoride.

> UF₆

Uranium hexafluoride.

> Ultracentrifugation

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.

> 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.

> Units of measurement

- Becquerel (Bq): international unit of measurement of activity (1 Bq = 1 atomic particle disintegration per second). The becquerel is a very small unit. Formerly, activity was measured in curies (1 curie = 37,000,000,000 Bq).
- Sievert (Sv): unit of measurement for radioactive dose, i.e. the fraction of energy from radiation received by 1 kilogram of living matter, taking into account the effects on the organ in question, which are a function of the type of radiation. The millisievert (mSv) is used more frequently, which corresponds to one one-thousandth of a sievert, and sometimes the microsievert (μSv), which corresponds to one one-millionth of a sievert.

> UO₂ powder

UO₂ is the symbol for uranium dioxide, which comes in powder or pellet form. It is the constituent component of nuclear fuel.

> Uraniferous material

Material containing uranium.

> Uranium

Chemical element with atomic number 92 and atomic symbol U, with three natural isotopes: 99.28% fertile U238; 0.71% fissile U²³⁵, and ²³⁴U.

> Uranium tailing

Depleted uranium with a U²³⁵ content of about 0.3%.

> Used fuel storage pool

Pools in which used fuel is stored for cooling after it is unloaded from a reactor. The depth of the water shields personnel from the radiation emitted by the spent fuel.

> 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

Packaging of waste from used fuel treatment: operation consisting of packaging waste generated by the treatment of used fuel for purposes of interim storage or final disposal.

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

Tower used to place the rotor at a sufficient height for it to turn and to capture much stronger wind speeds so that it can extract much more energy potential. The more rugged the conditions, the greater the advantage of a large wind tower. The tower houses certain electrical and

electronic components, such as the air treatment system, the transformer station and the converter.

> 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.

> Zircaloy

Zirconium alloy.

> 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. Non-hedged orders are valued at the rate in effect on the last day of the period. The backlog reported for long-term contracts recorded under the percentage of completion method and partially performed as of the reporting date is equal to the difference between (a) the projected 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 flows 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;
- minus acquisitions of earmarked assets;
- minus cash spent during the year on end-of-lifecycle operations;
- full and final payments received for facility dismantling;
- less full and final payments paid for facility dismantling.

> Comprehensive income attributable to equity owners of the parent

Comprehensive income is the change in equity over a period of time resulting from transactions and events other than changes resulting from transactions with Shareholders.

Comprehensive income includes all of the components of "income" and of "other items of comprehensive income".

"Other comprehensive income items" include:

- (a) profits and losses resulting from the conversion of the financial statements of foreign operations;
- (b) profits and losses related to the evaluation of financial assets available for sale; and
- (c) the effective share of profits and losses on hedging instruments used for a cash flow hedge.

> EBITDA (Earnings before interest, taxes, depreciation and amortization)

EBITDA is equal to operating income plus net amortization, depreciation and operating provisions (except for provisions for impairment of working capital items). EBITDA is adjusted to exclude the cost of end-of-lifecycle operations for nuclear facilities (dismantling, waste retrieval and packaging) for the period, as well as the full and final payments made or to be made to third parties for facility dismantling. It should be noted that the cash flows linked to end-of-lifecycle operations are presented separately.

> Free operating cash flow

This represents the cash flow generated by operating activities before income tax. It is equal to the sum of the following items:

- EBITDA, excluding end-of-lifecycle operations;
- plus losses or minus gains included in operating income on disposals of 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 and intangible assets, net of changes in accounts payable related to fixed assets;
- plus sales of property, plant and equipment 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)

> Net debt

This heading includes current and non-current borrowings, including interest-bearing advances received from customers and put options by minority Shareholders, less cash and cash equivalents and other current financial assets. Shares classified as "available-for-sale securities" are now excluded from the calculation of the net debt or cash position.

> Operating working capital requirement (OWCR)

OWCR represents all of the current assets and liabilities directly related to operations and includes:

- inventories and work-in-process;
- trade accounts receivable and related accounts;
- non-interest-bearing advances;
- other accounts receivable, accrued income and prepaid expenses;
- currency hedges on operating working capital requirement (WCR);
- less: trade accounts payable and related accounts, trade advances and prepayments received (excluding interest-bearing advances), other operating liabilities, accrued expenses, and deferred income;

Note: OWCR does not include non-operating receivables and payables such as income tax liabilities, amounts receivable on the sale of non-current assets, and liabilities in respect of the purchase of non-current assets.

> ROACE (return on average capital employed)

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 and to Siemens' put option,
 - 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

Head office: 33, rue La Fayette - 75009 Paris - France

Tel.: +33 1 34 96 00 00 - Fax: +33 1 34 96 00 01

www.avea.com

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AREVA supplies solutions for power generation with less carbon. Its expertise and unwavering insistence on safety, security, transparency and ethics are setting the standard, and its responsible development is anchored in a process of continuous improvement.

Ranked first in the global nuclear power industry, AREVA's unique integrated offering to utilities covers every stage of the fuel cycle, nuclear reactor design and construction, and related services. The group is also expanding in renewable energies – wind, solar, bioenergies, hydrogen and storage – to be one of the top three in this sector worldwide.

With these two major offers, AREVA's 48,000 employees are helping to supply ever safer, cleaner and more economical energy to the greatest number of people.

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FINANCIAL COMMUNICATIONS DEPARTMENT

33, rue La Fayette - F - 75442 Paris Cedex 9 - France - Tel. : 33 1 34 96 06 47 - Fax: 33 1 34 96 00 01

Energy is our future, don't waste it!