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**YVES COUPIN**  
SENIOR VICE PRESIDENT, SUSTAINABLE  
DEVELOPMENT AND CONTINUOUS IMPROVEMENT

**FOREWORD**

**Why this “sustainable development facts and figures” supplement?**

Our two previous sustainable development reports presented the fundamentals of our policy by stating our action priorities, the organization and resources deployed, and our initial results. Today, meeting our sustainable development commitments is a routine activity.

We therefore felt it appropriate to incorporate the description of our initiative in the Activity and Sustainable Development Report, rather than have a separate publication.

This “Facts and figures” supplement is a working document that provides additional information and delves further into the sustainable development goals and performance of our various businesses.

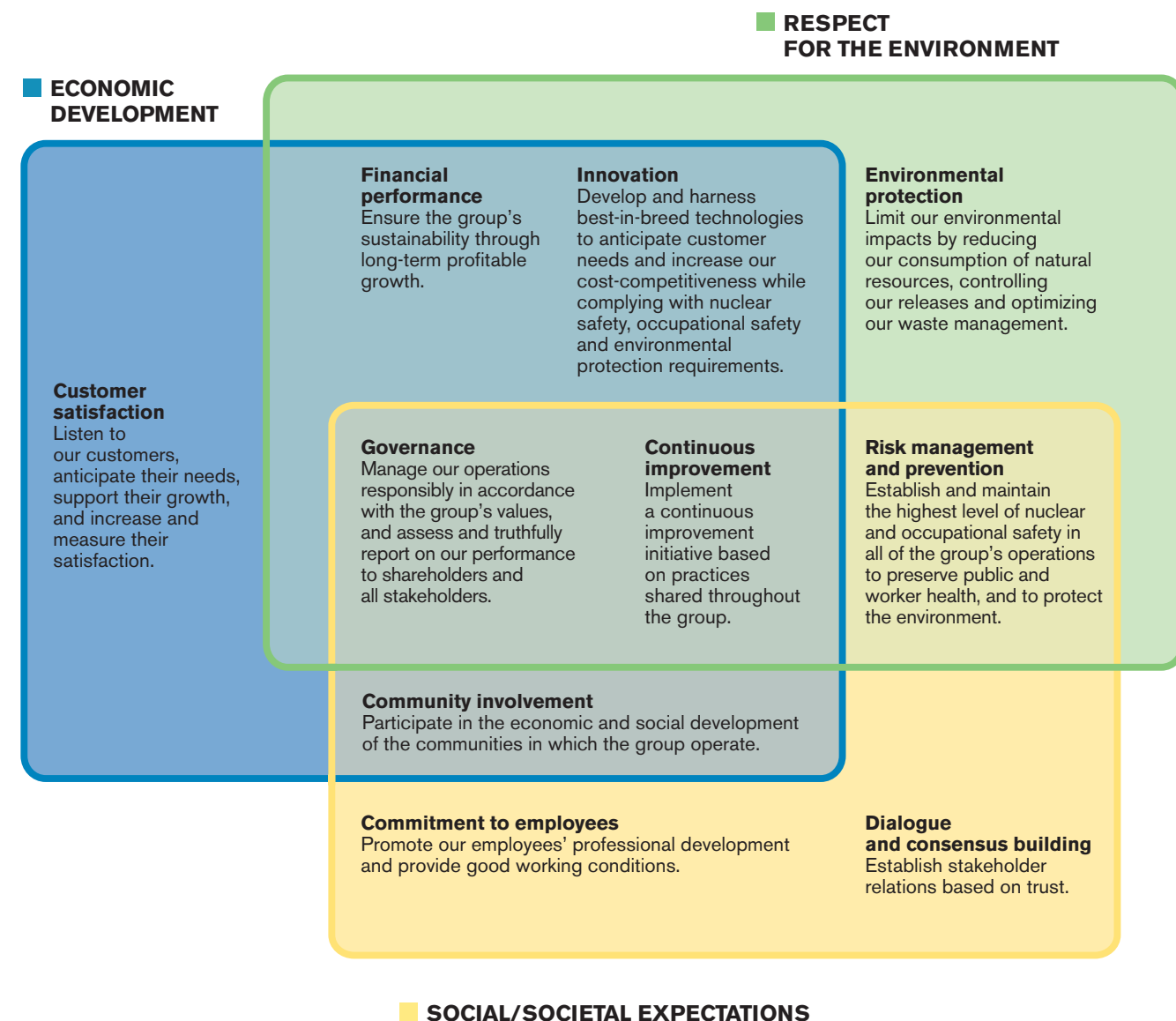
It shows our willingness to report on our progress as well as on the difficulties encountered along the way. It also seeks to satisfy key stakeholder expectations, expressed after reading our previous reports or during our first stakeholders session, held in 2004.

We are aware that we still have progress to make. To this end, we want to continue this interaction, which has helped us improve our sustainable development and continuous improvement initiative, and we remain open to any and all suggestions in this regard.

# A GROUP UNITED AROUND SUSTAINABLE DEVELOPMENT VALUES

## Our commitments

> Sustainable development is a keystone of AREVA's industrial strategy for achieving profitable, socially responsible and environmentally respectful growth. This goal gives rise to ten commitments.



# IMPLEMENTING THE PRINCIPLES OF THE GLOBAL COMPACT

Issued in July 2000 by the Secretary General of the United Nations, the Global Compact aims to rally companies, UN organizations, the working world and civil society around nine universal principles relating to human rights, labor standards and the environment. On June 24, 2004, a tenth principle pertaining to the fight against corruption was added.

AREVA shares these values and subscribed to the Global Compact in March 2003. This means that we committed to reporting regularly on our progress in effectively implementing these principles. The Global Compact principles, together with the OECD's guidelines for multinational enterprises, are an underlying pillar of our values charter, to which they are appended. Consequently, they inspire every aspect of our sustainable development programs, for which an account is provided in this report and in our activity and sustainable development report. The table below highlights key actions directly linked to the ten principles of the Global Compact.

## Principles of the Global Compact

## Key actions deployed

### Human rights

1. Businesses are asked to support and respect the protection of international human rights within their spheres of influence; and,
2. to make sure their own corporations are not complicit in human rights abuses.

Developed in 2003, the AREVA values charter specifies our action principles and our rules of conduct with respect to each of our stakeholders, and especially with regard to human rights. The principles of the Global Compact are appended to the charter.

In 2004, French, English and German versions of our values charter were distributed to all employees speaking one of those languages, and the English version was distributed to all managers. It was also distributed to our main suppliers, who are asked to adhere to it. In so doing, we have shown that it is possible to disseminate the Global Compact principles and make them known to our employees and partners. Our values charter is also available on our website, [www.aveva.com](http://www.aveva.com).

### Labor standards

3. Businesses are asked to respect freedom of association and to recognize the right to collective bargaining;
4. to eliminate all forms of forced and compulsory labor; and,
5. to abolish child labor effectively.

The AREVA values charter specifies that "we conduct our operations with the utmost respect for human dignity and will not tolerate harassment of any kind nor any violation of human rights". Any failure to meet these obligations must be called to the attention of the appropriate level of management, which shall immediately ascertain whether such practices have occurred, call for necessary audits to be conducted, and put a stop to such acts immediately when warranted.

The draft version of the sustainable development charter for suppliers now being developed specifies the commitments that will be asked of the suppliers and included in their contract terms and conditions.

### Environment

7. Businesses are asked to support a precautionary approach to environmental challenges;
8. to undertake initiatives to promote greater environmental responsibility; and,
9. to encourage the development and diffusion of environmentally-friendly technologies.

Respect for the environment is inscribed in AREVA's values charter and constitutes one of our ten sustainable development commitments. Deployment of our environmental policy is anchored in implementation of environmental management systems certified under the ISO 14001 standard (see p. 27) and in the continuing search for performance improvement. Our efforts have achieved results, as shown in our sites' radiological impacts, which are well below regulatory requirements (see pp. 28-29).

Our entities are encouraged to accelerate the development of environmentally-friendly products and processes by relying more on eco-design approaches. Our R&D programs also take this objective into account. This is also true of our activity to promote the recycling of agricultural residues into energy (see p. 19).

Respect for the environment is one of our selection criteria for suppliers. The sustainable development charter for suppliers will strengthen that requirement and make it more explicit.

### Anti-corruption

10. Businesses are asked to work against all forms of corruption, including extortion and bribery.

AREVA supported the addition of this tenth principle to the Global Compact; even before it was published, it was incorporated into our values charter. In 2004, the group joined the Extractive Industry Transparency Initiative (EITI), which aims for greater transparency in payments made by mining companies to governments in countries in which they do business, and encouraged the government of Niger to join it.

# DEPLOYING OUR SUSTAINABLE DEVELOPMENT INITIATIVE

AREVA's continuous improvement initiative is based on defined performance objectives and on assessing and tracking each entity's performance. The table on the facing page gives a snapshot of key projects and their current status.



## Independent verification statement on AREVA's key sustainable development and continuous improvement activities in 2004

At the request of the AREVA group, we have reviewed the implementation of the AREVA Way initiative as well as the major achievements for the year, identified with a check mark in the table on the facing page.

### Nature and scope of work

For the achievements, we looked for evidence that the activities were performed, in 2004, as presented in the table. Our work included interviews with persons involved in these achievements and reviewing documents attesting to their existence, such as meeting reports, attendance sheets and internal reports. For deployment of the AREVA Way initiative, working at the group's corporate offices, we:

- reviewed procedures for the deployment, collection and consolidation of the self-assessments with the sustainable development and continuous improvement team, and conducted a review by sampling of documented evidence substantiating the self-assessment scores that serve as a basis for the development of action plans;
- verified that the budget discussion meetings of the business units began with an examination of sustainable development performance indicators, with a view to integrating that aspect into the budget process.

During visits to six plant sites – FCI in Cochin (India) and Turin (Italy), T&D in San Fernando de Henares (Spain) and Mönchenglöblich (Germany), COGEMA at La Hague and Framatome ANP in Romans (France) – we interviewed AREVA Way coordinators to verify the effective deployment of the initiative based on a documentary review.

### Findings

Based on the sample of six sites we visited and on our work at the corporate offices concerning certain achievements in 2004, our findings are consistent with the information presented in the progress chart for the sustainable development initiative on the facing page.

March 2, 2005

ERNST & YOUNG ET ASSOCIÉS  
ENVIRONMENT AND SUSTAINABLE DEVELOPMENT  
Éric Duvaud

New objectives.

Actions verified by Ernst & Young in 2004.

Intermediate objectives or deadlines have been met.

Actions are in progress, but planned objectives have not yet been met.

Deadlines not met or objective revised to take changes within the group into account.

(1) Deadline revised to take AREVA T&D's consolidation into account.

Commitments	Objectives	Deadline
GOVERNANCE	Distribute AREVA values charter to employees and regular suppliers.	2004
	Have the chief executive of each first-tier subsidiary sign a letter of compliance to the charter every year.	Ongoing
	Continue to build management awareness of business ethics and values.	Ongoing
CONTINUOUS IMPROVEMENT	Integrate AREVA Way into the group's strategic and budgetary processes, including AREVA T&D.	2005
	Strengthen sustainable development training.	Ongoing
	Continue to enhance the reliability of sustainable development and continuous improvement reporting.	Ongoing
RISK MANAGEMENT AND PREVENTION	Establish a nuclear safety charter in 2004.	2004
	Make the INES the standard for incident reporting at all of the group's nuclear sites worldwide.	2004
	Perform a simplified risk assessment (SRA) or its equivalent on 100% of the non-nuclear sites with significant environmental aspects.	End of 2006
FINANCIAL PERFORMANCE	Strengthen the inclusion of sustainable development issues in the purchasing process. Deploy the charter among the suppliers.	Ongoing
INNOVATION	Develop eco-design approaches.	Ongoing
CUSTOMER SATISFACTION	Expand deployment of customer satisfaction surveys while harmonizing the approach and the format.	Ongoing
COMMITMENT TO EMPLOYEES	Adopt a standard format for internal opinion surveys based on an 18–24 month cycle.	Ongoing
	Achieve an average frequency rate of < 5 and an average severity rate of < 0.2.	2006
	Perform external occupational safety audits at 100% of the sites.	2006
	Add an HHA-type health section to environmental analyses of sites with significant environmental aspects.	Before the end of 2006
	Reduce the maximum individual dose from exposure to 20 mSv/man-year in all group facilities, including those in countries with less stringent regulations. Aim to comply with this limit for services performed at the sites of other nuclear companies.	Ongoing
COMMUNITY INVOLVEMENT	Set up a network of economic development coordinators at the main sites.	2004
	Redevelop the Pontarlier plant site.	2004
	Specify the main lines of the group's corporate patronage strategy.	2004
DIALOGUE AND CONSENSUS-BUILDING	Anchor the stakeholder mapping initiative in the AREVA Way process and ensure its steady implementation.	Ongoing
	Expand dialogue with NGOs.	Ongoing
	Standardize the content of existing environmental reports and extend its development to all sites with significant environmental aspects.	End of 2005
RESPECT FOR THE ENVIRONMENT	Implement EMSs at all sites and secure ISO 14001 certification for the EMSs of sites with significant environmental aspects (SEA).	End of 2006 <sup>(1)</sup>
	Establish simplified EMSs for service businesses and other sites with minimal environmental aspects.	End of 2005
	Widen the group's environmental policy to encompass its new scope of consolidation. Specify AREVA T&D's contribution to the corresponding objectives.	2004
	Reduce water usage by 20% (excluding EURODIF and the Célestin reactors at Marcoule).	End of 2006
	Reduce energy consumption by 15% (excluding EURODIF).	End of 2006
	Develop a method for assessing building energy efficiency and apply it to all existing office locations with a surface area of more than 1,000 m <sup>2</sup> .	End of 2005
	Broaden radiological impact model validation to include major nuclear sites.	2005
	Reduce direct emissions of greenhouse gases by 20%.	End of 2006
	Reduce the Connectors division's air emissions of chlorinated solvents by 80%.	End of 2006
	Reduce the Connectors division's aquatic releases of lead by 80%.	End of 2006
	Reduce the tonnage of final conventional waste placed in landfills by 30%.	End of 2006
	Reduce the volume of radioactive waste packages from operations shipped to disposal sites by 10%.	End of 2006

Progress	2004 achievements	Upcoming milestones	Page
😊	French, English and German versions distributed to all employees using those languages, and the English version to management personnel in other countries. Distributed to more than 50% of the suppliers involved.	Translate the charter into the group's major languages and distribute it.	15
😊	Done.	Continue.	
😊	Held four awareness sessions for management in Europe and North America.	Continue to raise awareness concerning business ethics through ongoing programs at AREVA University.	
		<b>N</b> Test the feasibility of setting up a management system for human rights compliance at two of the group's sites.	
		<b>N</b> Coordinate the compliance verification process of the self-audit with the AREVA Way performance improvement process.	04-05
😊	<input checked="" type="checkbox"/> <b>154 self-assessments had been performed by the end of 2004, including 4 for the second year in a row.</b> <input checked="" type="checkbox"/> <b>Budget meetings of the business units began with a review of sustainable development indicators.</b>	Continue and broaden deployment of AREVA Way self-assessments at more sites and with greater management involvement.	04-05
😊	CD-ROM distributed to 2,069 managers. AREVA University's training programs have been reorganized to make continuous improvement one of its main thrusts. Sustainable Generation initiative.	Strengthen the sustainable development component of all training programs dispensed by the group.	
😊	<b>Scope of reporting extended to include AREVA T&amp;D.</b> Dedicated information system set up: STAR, deployed at the group's 226 sites around the world.	Supplement reporting in the social and societal area.	
😊	Our nuclear safety charter has been formalized.	Deploy the charter at all of the group's nuclear sites.	21
😊	Done for Europe.	Expand the use of the INES to include the United States.	21
😊	By the end of 2004, 76% of the sites involved had completed an SRA or the equivalent.	Continue to work towards the objective.	21
😞	Proposed sustainable development charter applicable to suppliers developed.	Deploy the charter among suppliers. Develop an internal code of ethics for purchasing practices in 2005.	15
😊	Software to assess the environmental impacts of products put on the AREVA T&D Intranet site. Audit of eco-design processes in some fifteen units of the T&D division using a dedicated in-house assessment model. <input checked="" type="checkbox"/> <b>7 environmental product statements issued by AREVA T&amp;D.</b> <input checked="" type="checkbox"/> <b>39 people trained in eco-design.</b>	Market the Connectors division's first "lead-free" products. Develop eco-design practices with the objective of standardizing them for all new products by 2010.	18-20
		<b>N</b> Develop the renewable energy strategy further.	18-20
😊	Results of late 2003 survey operated on by Framatome ANP. Guidelines for measuring customer satisfaction developed.	Perform a similar survey at COGEMA in 2005.	
😊	<input checked="" type="checkbox"/> <b>Development of an internal opinion survey structured around the 10 sustainable development commitments tested by Framatome ANP.</b>	Adapt the model to the various subsidiaries.	
😊	Average frequency rate in 2004: 7.64 (7.99 in 2003). Average severity rate in 2004: 0.23 (0.28 in 2003). Objectives defined for each unit.	Continue.	24-25
😊	<input checked="" type="checkbox"/> <b>SGS launches audit campaign (32 sites audited as of the end of 2004).</b>	Continue.	
😞	<input checked="" type="checkbox"/> <b>SRAs completed at 10 of the 111 SEAs involved.</b>	Continue.	24-25
😊	The 20-mSv/yr limit was exceeded 30 times in the services business in the United States and once in the Niger mines, but exposure remained well below the regulatory limit of 50 mSv/yr.	Undertake an initiative for the services business in the United States, drawing on methods developed with EDF in France.	26
		<b>N</b> Develop a policy on diversity, in particular by promoting the hiring of disabled workers.	
😊	Network of coordinators set up at 14 sites.		17
😊	6 new companies move to the site. 260 affected employees reclassified.		17
😊	Final adoption of the 2 main themes chosen by the group.	Set up a corporate foundation to promote the development of this policy and encourage employee involvement.	17
		<b>N</b> Provide support to the AREVA T&D adjustment plan.	17
		<b>N</b> Provide better organization of integration activities in the Niger communities.	17
😊	Mapping completed at 4 sites by the end of 2004 (2 in France, 1 in Germany, 1 in the United States).	Gradual deployment at all sites, with priority given to the main nuclear sites and those subject to Seveso regulations.	16
😊	Consensus-building with a panel of sustainable development experts ("stakeholders session") headed by Comité 21.	Publish the results of the consensus-building initiative.	15
😊	13 sites have published an environmental report, including COGEMA-La Hague, COGEMA-Marcoule, MELOX, the Niger mines, EURODIF and Cézus-Jarrie.	Continue.	16
		<b>N</b> Commission a rating report on the Mining BU from the rating agency Vigeo.	16
		<b>N</b> Set up a local information commission in Niger with representatives of the administrations, the local communities and relevant NGOs.	16
😊	<input checked="" type="checkbox"/> <b>12 new sites received ISO 14001 certification.</b> 73% of the nuclear sites and 57% of the other SEA sites were certified as of the end of 2004.	Have the nuclear and Seveso sites certified under ISO 14001 by the end of 2005, and the other SEA sites by the end of 2006.	27
😊	Guidelines developed for establishing simplified EMSs at service sector sites and other sites with minimal environmental aspects.	Set up simplified EMSs in 2005 for service businesses and other sites with minimal environmental aspects and more than 100 employees.	27
😊	<input checked="" type="checkbox"/> <b>Environmental analysis undertaken at 7 sites.</b>		
😊	Group objectives adapted to new scope of consolidation. Breakdown of objectives for each AREVA T&D entity.		27
😊	Analytical method for consumption developed at the Marcoule site extended to the sites with the most consumption. Continued study of underground water resources in Niger.	Strengthen actions to raise awareness on water conservation in Niger.	30
😊	Definition of an action plan with quantified objectives for sites that consume the most. Distribution of an eco-efficiency kit to all sites.		31
😊	Method under development.	Finalize the method.	31
😊	Standardization of model developed for La Hague in connection with the Groupe Radioécologique du Nord-Cotentin to include other nuclear sites in France.	Finalize standardization of radiological impact assessment models used at the main nuclear sites in 2005 and present the results to the relevant local commissions.	28-29
😊	Studies continued on eliminating SF <sub>6</sub> releases from COMURHEX-Pierrelatte.	Eliminate SF <sub>6</sub> releases from COMURHEX-Pierrelatte. Reduce the T&D division's releases of SF <sub>6</sub> by 20%.	32-33
😊	15% increase from 2003 to 2004 due to business growth, especially at the Mantes-la-Jolie and Cochin sites.	Continue the action plans.	32-33
😊	Ongoing program to eliminate lead used in manufacturing. 6% reduction from 2003 to 2004.	Market the first lead-free products in 2005.	34-35
😞	In 2004, 42% of all conventional waste was recycled. Recycling system for electrical and electronic waste set up at the MELOX site.		34-35
😞	Radioactive waste reduction objective redefined based on type of storage/disposal.	Define indicators that factor in the management of the group's radioactive waste.	34-35



# AREVA WAY, THE CORNERSTONE OF OUR MANAGEMENT PROCESSES

## Our objectives

- > Deploy AREVA Way in all units before the end of 2004.
- > Integrate AREVA Way into strategic and budgetary processes in 2005 at the latest, AREVA T&D included.

## 2004: deployment of AREVA Way

Our 10 sustainable development commitments are the founding principles of the group's industrial strategy and the building blocks of our continuous improvement process, AREVA Way.

Our units' self-assessment of their sustainable development performance is an important phase in our performance improvement initiative. The self-assessment model breaks down our 10 commitments into 32 performance improvement drivers and 100 performance improvement criteria. By the end of 2004, 150 entities had applied the AREVA Way model, and 4 of them were in their second year. These entities represent 95% of the nuclear divisions (Front End, Reactors & Services, Back End), 78% of the Transmission & Distribution division, and 86% of the Connectors division, and account for at least 79% of the workforce in each of the regions in which we operate, excluding the gold mines, which were unable to deploy the process due to special circumstances. The units report on performance to management bodies during strategy and budget meetings. Performance improvement objectives are chosen and resources allocated accordingly, and both are expressed in the budget. In 2004, we also tested a revised form of the methodology on seven corporate departments.

## Assessing our performance improvement

Our self-assessment model defines four levels of performance:

- levels 1 and 2 correspond to the organization of performance improvement actions and their methodical, open implementation;
- promotion to level 3 indicates significant performance improvement and the quality of interactions with local stakeholders;
- level 4 marks sustainable performance improvement that is shared transparently with our stakeholders.

In its present form, the AREVA Way model supports the assessment of management processes and continuous improvement.

Compliance with regulations and with our own standards is considered a fundamental requirement, a prerequisite for validating level 1 performance, and is subject to a process of verification led by the Internal Audit Department (the "self audit"). It became apparent that these approaches had to be coordinated better by adding a second branch to the model pertaining to verification of compliance. Our self-audit process will be the foundation of this branch.

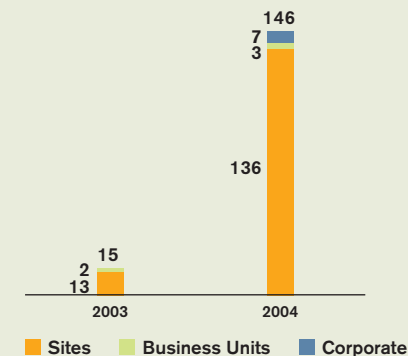
In 2004, the group had made most progress on its "commitment to employees", "customer satisfaction" and "governance" commitments. More improvement is needed on "dialogue and consensus-building" and "community involvement", both of which require strong involvement with regard to stakeholders and better organization of actions. Rich in lessons learned on actual practices, these observations also reflect the high standards of the method: prior to validating a given level of performance, all of the lower level requirements must be met and evidence produced. A lack of organization or insufficient evidence can result in a lower score than that justified by actual performance. This requirement is designed to encourage the organization of performance improvement initiatives that ensure more sustainable results, including initiatives in more informal fields, such as stakeholder relations management.

The results are also a composite of a wide range of performance by the divisions and the regions.

The nuclear divisions draw on more structured and advanced initiatives than those of the Connectors and T&D divisions.

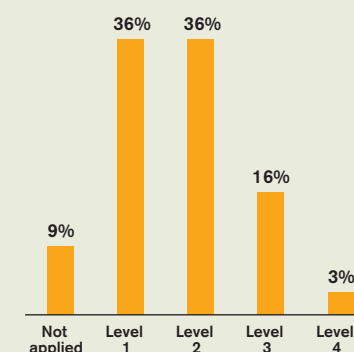
The same is true for the European entities in relation to the US and Asian entities.

Number of AREVA Way self-assessments



The self-assessment initiative was tested on pilot sites in 2003 and deployed throughout the group in 2004, with a coverage rate of close to 90% of the consolidated group (all subsidiaries and regions combined). Also in 2004, the initiative was applied to the group's corporate departments for the first time via the corporate self-assessment.

Breakdown of assessed criteria by score



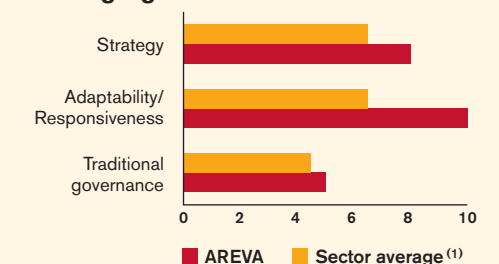
The breakdown of the group's scores shows that, overall, it is in the phase of deploying good practices (predominance of levels 1 and 2).

## Rating by Innovest

Innovest, an independent consulting firm specialized in rating corporate social, environmental and governance performance, prepared a rating report in 2004 on AREVA's position and practices at the latter's request (see p. 16 as well).

According to Innovest, AREVA Way is a highly effective organizational component for deploying the company's strategy that warranted its highest score in the area of Adaptability/Responsiveness: "Although its experience curve is still recent (less than five years), AREVA is best in class in its sector<sup>(1)</sup> in terms of deploying its sustainable development strategy, which is based in particular on the pillars of quality and continuous improvement. The group is a pioneer with its implementation of the AREVA Way management tool. Integrating Alstom T&D is the only significant risk in this area."

### Strategic governance



(1) Electrical equipment sector, chosen by Innovest for rating purposes.

## Upcoming milestones...

- > Perform an AREVA Way self-assessment every year in each of the group's units, incorporating the results of strategic and budgetary reviews.
- > Adapt the self-assessment process to the particularities of the corporate departments.
- > Ensure better coordination with the compliance verification process of the self-audit.

# ENERGY, OUR CORE BUSINESS

## FRONT END DIVISION



Uranium mining



Uranium conversion



Uranium enrichment



Fuel fabrication

## REACTORS & SERVICES DIVISION



Design and construction of reactors and their components

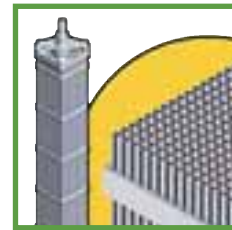


Services

## BACK END DIVISION



Used fuel treatment



Fuel recycling (MOX fuel fabrication)



Logistics



Cleanup

The Front End, Reactors & Services and Back End divisions offer products and services to nuclear power generators.

## OUR CUSTOMERS: ENERGY PROFESSIONALS



Nuclear power generators



Other power generators



Manufacturing

## OUR CUSTOMERS' CUSTOMERS: ENTERPRISES AND INDIVIDUALS

## TRANSMISSION & DISTRIBUTION DIVISION



Electricity transmission



Networks Distribution

The T&D division supplies products and services for the transmission and distribution of electricity to electric power companies and to manufacturing industries.

## OUR BUSINESSES' KEY SUSTAINABLE DEVELOPMENT GOALS

# Our businesses' responsible approach

Each of our businesses makes a contribution to achieving the group's objectives: reducing the frequency and severity rates of work-related accidents, deploying our AREVA Way performance improvement process, and securing ISO 14001 certification for our sites with significant environmental aspects are but a few examples. However, their diversity means that they face a wide variety of environmental, social and societal challenges. Within the AREVA Way continuous improvement process, an essential first step is to analyze the challenges and impacts specific to each business. The businesses are then encouraged to implement action programs that meet their specific sustainable development goals, consistent with the policy and objectives established for the entire group. Examining key sustainable development indicators during strategic and budgetary reviews strengthens accountability and effective implementation of our performance improvement initiative.

### FRONT END

#### Operations

- Exploration, mining and concentration of uranium and gold ore.
- Uranium conversion and enrichment.
- Nuclear fuel design and fabrication.

#### Main customers

- Operators of nuclear power plants and research centers.



Uranium mining



Uranium conversion



Uranium enrichment



Fuel fabrication

#### Strategic priorities

- Remain a reliable supplier over the long term by replenishing uranium reserves – and plant and equipment if needed – and by adapting production capacities to the market outlook.
- Continually improve fuel performance (strengthen cost-competitiveness, consume less uranium, reduce waste volumes).

#### Key sustainable development goals for operations

##### Mining

- Participate in the economic and social development of the communities and foster their economic redevelopment at the end of operations.
- Control the chemical and radiological impacts of mining operations and ore processing on surface and ground water.
- Minimize the environmental impacts of mine and mill tailings storage (landscaping, liquid effluent, radon emissions) and ensure their long-term stability.
- Reduce doses to workers exposed to radiation by adhering to a 20-mSv/yr limit.
- Reduce radiological impacts on members of the public to as low as reasonably achievable.
- Minimize water usage and consumption in regions where it is a scarce resource (Niger, Sudan).
- Reclaim mine sites after operations to limit their environmental impacts, integrate them into the landscape and ensure public safety.

##### Chemistry – Enrichment – Fuel

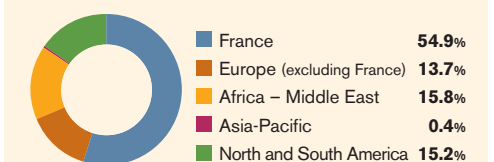
- Maintain a high level of safety in the utilization of fluorine, ammonia, hydrofluoric acid, chlorine (chemistry),  $\text{ClF}_3$  (chemistry, enrichment),  $\text{UF}_6$  (chemistry, enrichment, fuel) and zirconium (fuel).
- Ensure that depleted and reprocessed uranium is safely stored (chemistry, enrichment).
- Optimize the management of radioactive waste from operations (VLLW and LLW<sup>(1)</sup>).
- Reduce GHG<sup>(2)</sup> emissions associated with releases of  $\text{SF}_6$  (COMURHEX-Pierrelatte) and of  $\text{N}_2\text{O}$  (COMURHEX-Malvési).
- Minimize the environmental impacts of nitrates contained in ponds at COMURHEX-Malvési.
- Reduce water consumption.

(1) VLLW: very low-level waste; LLW: low-level waste.  
(2) GHG: greenhouse gases.

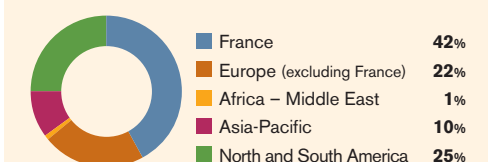
#### 25 SEA\* sites

including 3 uranium mines and 3 gold mines, 2 nuclear and Seveso sites, 7 nuclear sites and 6 Seveso sites.

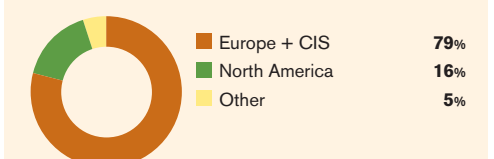
#### Workforce by region



#### Sales revenue by region



#### Purchases by region



\*SEA: Significant Environmental Aspects.



## REACTORS & SERVICES

### Operations

- Design and construction of nuclear reactors.
- Products and services needed to maintain and operate existing nuclear power plants and improve their performance.



**Design and construction of reactors and their components**



**Services**

### Main customers

- Operators of nuclear power plants and research centers, nuclear companies.

### Strategic priorities

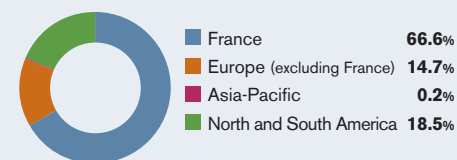
- Offer competitive products and services enabling utilities to build and operate nuclear power plants with a high level of safety while improving their availability and productivity:
  - reduced outage times;
  - reactor life extension;
  - compliance with quality and schedule requirements for the delivery of major components (reactor vessels, steam generators, etc.);
  - development of the EPR.
- Develop reactor types to meet market demand for electric power supply, both in terms of safety and in terms of cost-competitiveness.
- Plan for future generations of reactors with the objective of ensuring ever safer, simpler, cleaner and more competitive nuclear power generation, and of responding to future market demand.

### Key sustainable development goals for operations

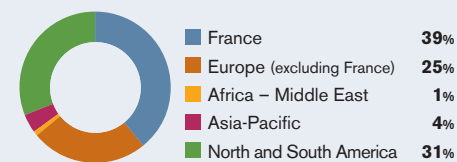
- Offer integrated services.
- Standardize eco-design approaches for products and services so as to take into account the complete life cycle of the components that go into them.
- Continue to improve existing reactors, use natural resources more efficiently and reduce waste volumes per kWh of power generated.
- Control and limit radiological exposure to personnel in the services businesses during operations in customer facilities, with the objective of adhering to a limit of 20 mSv/yr.
- Strengthen human resources and ensure the transfer of skills to support the growing workload related to nuclear revival prospects around the world and the contribution of the EPR to that movement.
- Continue R&D efforts on new generation reactors (high-temperature and very high-temperature reactors, breeder reactors, etc.) and on adapting them to new requirements (better use of resources, emerging countries, new uses of nuclear power – high-temperature heat, hydrogen, desalination, etc.).

### 8 SEA\* sites including 2 nuclear sites.

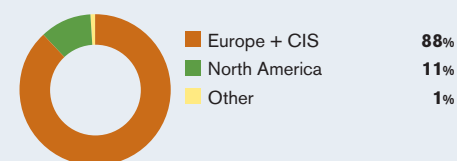
#### Workforce by region



#### Sales revenue by region



#### Purchases by region



\*SEA: Significant Environmental Aspects.

## BACK END

### Operations

- Treatment and recycling of used nuclear fuel.
- Cleanup of nuclear facilities.
- Nuclear logistics.



**Used fuel treatment**



**Recycling: MOX fuel fabrication**



**Logistics**



**Cleanup**

### Main customers

- Operators of nuclear power plants and research centers, and companies in the nuclear industry.

### Strategic priorities

- Offer nuclear operators technology solutions and services for responsible used fuel and radioactive waste treatment (nuclear materials recycling, final waste packaging and reduction of waste volumes and radiotoxicity).
- Contribute to the peaceful uses of plutonium from dismantled nuclear weapons.
- Offer solutions for the dismantling of facilities that have been permanently shut down, and retrieve and package legacy radioactive waste.

### Key sustainable development goals for operations

#### Treatment – Recycling

- Maintain a high level of safety.
- Keep environmental releases as low as reasonably achievable through ongoing radioactive release reduction efforts.
- Keep reducing energy consumption.
- Limit the volume of operating waste that does not meet the acceptance criteria for near-surface disposal.
- Reduce the amount of conventional waste sent to landfills.

#### Cleanup

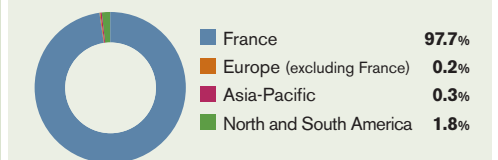
- Keep radiation exposure to site cleanup workers as low as reasonably achievable and adhere to the limit of 20 mSv/yr.

#### Logistics

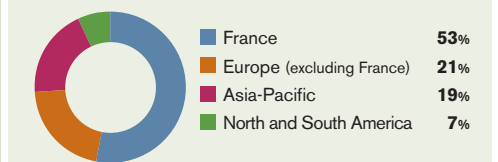
- Maintain a high level of nuclear and occupational safety during nuclear materials transportation.
- Continue efforts to share information and build consensus with key stakeholders.

### 5 SEA\* sites including 4 nuclear sites.

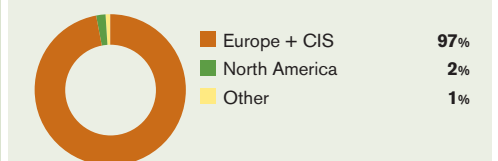
#### Workforce by region



#### Sales revenue by region



#### Purchases by region

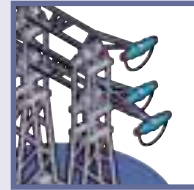


\*SEA: Significant Environmental Aspects.

## TRANSMISSION & DISTRIBUTION

### Operations

- Supply of products, systems and services for electricity transmission and distribution networks.



Transmission



Networks  
Distribution

### Main customers

- Some 30,000 customers around the world:
  - integrated electric power companies;
  - administrators of electric power supply systems;
  - manufacturing companies, large consumers of electricity;
  - infrastructure companies (airports, railway systems, etc.).

### Strategic priorities

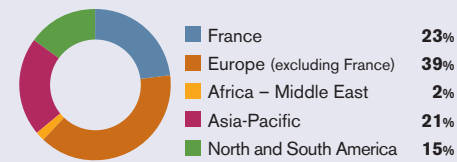
- Design and supply solutions for reliable and efficient electricity transmission and distribution for the benefit of all.
- Foster the development of decentralized energies (connection to the transmission system, recycling of biomass into energy, etc.).
- Ensure profitable business development by locating production close to growth markets.

### Key sustainable development goals for operations

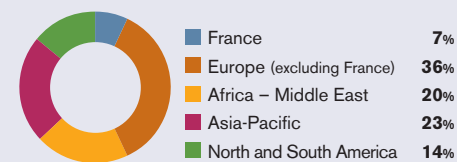
- Develop eco-design approaches to optimize the environmental efficiency of products throughout their life cycle.
- Reduce direct emissions of greenhouse gases linked to SF<sub>6</sub> releases.
- Widely institute environmental management and occupational safety management systems.
- Support reorganization of the plants by redeploying affected employees internally and externally, and by participating in local economic redevelopment.
- Develop a purchasing policy that is consistent with the objectives of profitability and responsibility.

## 41 SEA\* sites

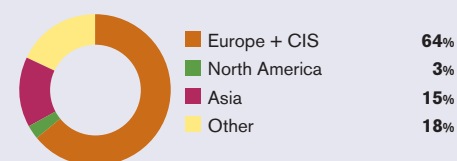
### Workforce by region



### Sales revenue by region



### Purchases by region



\*SEA: Significant Environmental Aspects.

## CONNECTORS

### Operations

- Design and fabrication of electrical, electronic and optical connectors, flexible microcircuitry and interconnection systems.



Manufacturing  
of connectors

### Main customers

- Mobile phone and communication network companies, computer and component firms, industrial electronics and consumers.
- Original equipment manufacturers, car manufacturers, cable makers.
- Generators and distributors of electric power, manufacturing sites.
- Manufacturers of smart cards, integrated circuitry, micropackaged systems.

### Strategic priorities

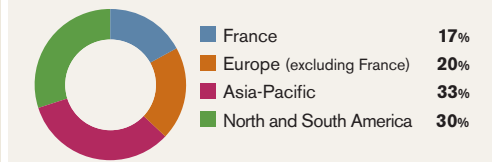
- Enhance the performance of transportation systems by providing reliable interconnection systems that improve passenger safety and comfort, and help protect the environment.
- Supply connectors that improve the efficiency, reliability and user-friendliness of machine readable interface systems.
- Continually innovate and step up new product development to maintain a technological edge at all times (connection speeds, component size, anticipation of electrical installation and performance standards, etc.) while keeping customer cost reduction requirements in mind.
- Ensure sustainable business growth.

### Key sustainable development goals for operations

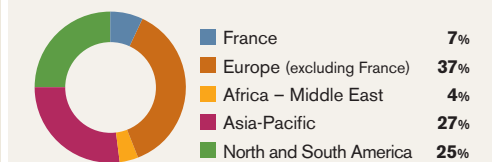
- Develop eco-design approaches to optimize the environmental efficiency of products throughout their life cycle.
- Continue to reduce liquid releases of heavy metals (lead, copper, chromium, tin) by developing elimination and substitution programs.
- Pursue programs to reduce the Connectors division's solvent consumption so as to achieve the objective of reducing chlorinated solvent emissions by 80% from 2002 to 2006.
- Reduce materials consumption (plastics, metals).
- Increase waste recycling, especially of copper and plastics.
- Optimize the management of packaging.
- Support reorganization of the plants by redeploying employees affected by site closures internally and externally, and by participating in local economic redevelopment.
- Develop a purchasing policy that is consistent with the objectives of profitability and responsibility.

## 32 SEA\* sites

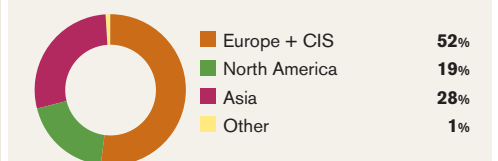
### Workforce by region



### Sales revenue by region



### Purchases by region



\*SEA: Significant Environmental Aspects.

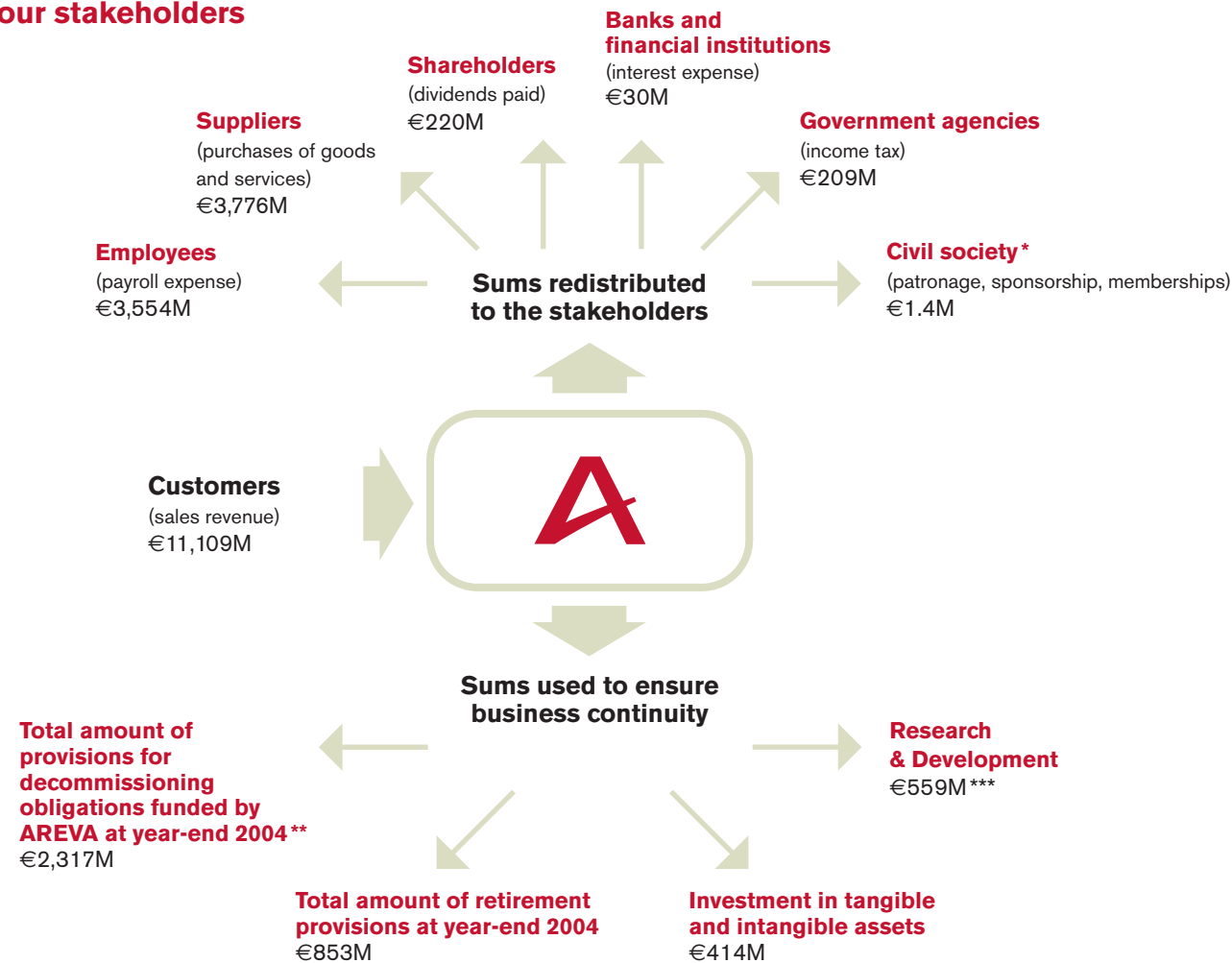
# STAKEHOLDER RELATIONS

## Our objectives

- > Develop and disseminate the group's purchasing charter.
- > Anchor the stakeholder mapping initiative in the AREVA Way process to ensure gradual implementation.
- > Increase dialogue with NGOs.
- > Hold an external stakeholder dialogue session in 2004.

Dialogue and consensus building are one of our ten sustainable development commitments. To establish relationships built on trust with all of our stakeholders, our dialogue initiative is based on a willingness to listen and to share clear and transparent information on the impacts of our operations. The formal dialogue session held in 2004 with a panel of stakeholders and the rating of our policies and practices by the independent firm Innovest helped us gain a better understanding of our stakeholders' expectations and questions.

## Economic interaction with our stakeholders



\* Amounts in cash managed at the corporate level, not including amounts allocated locally or internal expenditures (management expenses, staff secondment, etc.).  
 \*\* To plan for nuclear facility decommissioning as soon as the facility starts operations, AREVA assessed its share of expenses and has created a dedicated portfolio to cover them, based on prudent assumptions concerning annual portfolio yields and the timing of the expenses. The entire estimated decommissioning expense for the group's production facilities (4.3 billion euros) is covered by a provision. The after-tax market value of the portfolio at year-end 2004 was 2.3 billion euros. For more information, please see our annual report.  
 \*\*\* This amount corresponds to the group's combined R&D expenses: i.e., total expenses, including R&D funded by customers. The group spent 402 million euros directly, or 3.6% of our 2004 sales revenue.

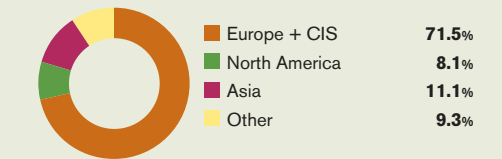
## Strengthening the role of sustainable development in the purchasing process

An important thrust of our initiative is to strengthen the role of our sustainable development commitments in the purchasing process.

- The AREVA values charter, developed in 2003, was distributed to employees and the majority of our suppliers in 2004 and can be downloaded or ordered on our website, [www.aveva.com](http://www.aveva.com). It defines the values that the group has established for itself and that it asks its partners to share and adhere to in the interest of fair relations that respect human rights and the environment.
- A sustainable development charter applicable to suppliers is under development and will spell out the commitments asked of our suppliers. It will establish the group's standards with regard to human rights, labor standards (forced and compulsory labor, child labor, discrimination, minimum wage), health and safety, nuclear safety, environmental protection and community involvement.

A code of ethics for purchasing practices has also been prepared to explain how our values and our sustainable development principles are implemented by those involved in the purchasing process.

## Purchases of goods and services by region

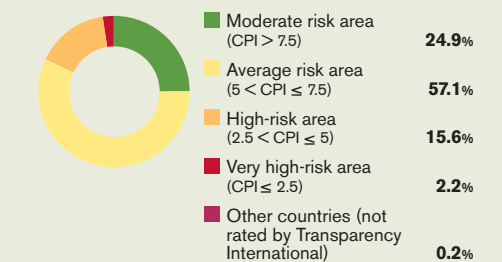


The predominance of purchases in Europe and the CIS is explained by the AREVA group's historical presence in France, Germany and the United Kingdom. The T&D division accounts for the largest volume of purchases.

## Expanding dialogue with our stakeholders: the first stakeholders' session

In September 2004, the first in a series of meetings was held for open dialogue between representatives of our stakeholders and our corporate departments. The purpose of this stakeholders' session, headed by Comité 21<sup>(1)</sup>, was to collect the concerns, views and expectations of a panel of sustainable development experts. The second meeting, held in February 2005, provided the opportunity to answer all of the questions that were raised. Following these very enlightening and rewarding sessions, we decided to broaden our analysis and the role of sustainable development goals in our businesses, to explain more fully our strategy concerning renewable energies and access to energy for all, and to strengthen our support for human rights in our practices. Comité 21 will prepare and publish a written summary of the overall process. We plan to continue these sessions over the next two years to review progress on our commitments and to broaden the dialogue.

## Sales revenue by region and corruption level (Transparency International Index<sup>(2)</sup>)



The Corruption Perception Index (CPI) ranges from 0 to 10. 45% of the group's worldwide sales occurred in France and the United States, which are in the average risk area. The third most important country in terms of sales is Germany (12%), which is located in a moderate risk area. High-risk areas, where the group did 15.6% of its business, include China, Brazil, Mexico and Italy.

(1) [www.comite21.org](http://www.comite21.org).  
 (2) [www.transparency.org](http://www.transparency.org).

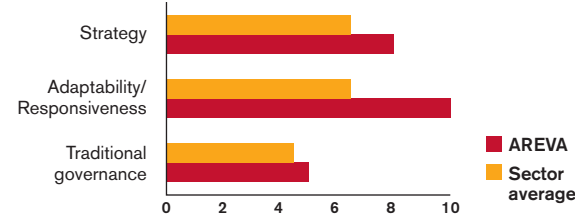


## STAKEHOLDER RELATIONS

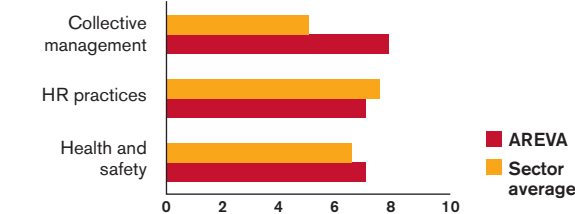
### Strengthening local consensus-building actions around our sites

The local stakeholder mapping initiative begun in 2003 at the COGEMA-La Hague site and the former Limousin mines in France, and in Lingen, Germany, was completed in 2004. It was also carried out at the Richland site in the United States. This enabled us to finalize the guidelines for all of the group's sites, which will phase them in beginning in 2005, with priority given to the major nuclear sites and to those subject to Seveso regulations. This method forces the sites to compare their own perceptions of local stakeholder expectations with the latter's real expectations. In doing so, they spell out their true economic, social and environmental challenges and the opportunities for dialogue to ensure greater mutual understanding. Most of our sites publish data on their environmental impacts and their actions in this regard. To make this information more transparent and enable comparisons to be drawn, internally as well as externally, we developed a manual in 2004 on preparing environmental and social reports for sites with significant environmental aspects (SEA). In 2004, 13 SEA sites published these reports, including COGEMA-La Hague, MELOX at Marcoule, the Niger mines and Cézus-Jarrie.

#### Strategic governance (Innovest rating)



#### Human capital (Innovest rating)



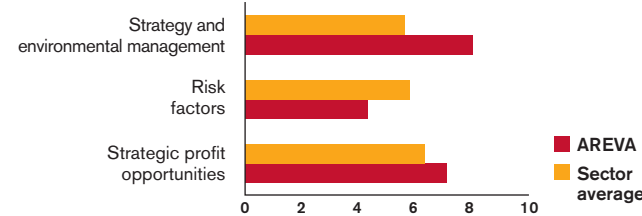
### Upcoming milestones...

- > Distribute the codes of ethics for purchasing practices in 2005 to all personnel involved in the purchasing process.
- > Deploy the sustainable development charter for suppliers on a global scale within the next three years.
- > Widely implement the external stakeholders mapping initiative at all SEA sites.
- > Set up a local information commission in Niger with representatives of the administrations, the local communities and relevant NGOs.

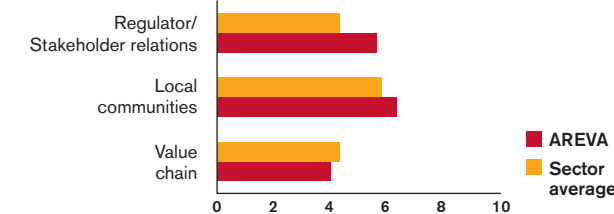
### Independent review of our performance by Innovest

In 2004, we asked Innovest to rate our social and environmental performance. In comparison to a representative sample of international corporations in the electrical equipment sector, AREVA received a rating of A on a scale of CCC (least advanced practices) to AAA (most advanced). The group's performance was deemed better than the sector average in 9 of the 12 areas assessed. The key performance improvement drivers identified by Innovest related to the successful integration of the T&D division, the strategic position in renewable energies, the role of sustainable development principles in the supply chain, the strengthening of the dialogue and consensus-building approach with our stakeholders, and the optimization of radioactive-waste treatment solutions. The AREVA Way process and environmental management systems stood out as strengths. Innovest's report is available on our website, [www.aveva.com](http://www.aveva.com). In addition, in early 2005, we asked Vigeo to rate our mining operations to strengthen our analysis of their sustainable development challenges.

#### Environmental performance (Innovest rating)



#### Stakeholder capital (Innovest rating)



## ACTING WITH CORPORATE SOLIDARITY

### Our objectives

- > Set up a network of local economic development coordinators at the main sites in France.
- > Specify the main lines of the group's corporate patronage strategy.

### Fulfilling our corporate responsibility in communities near our sites

AREVA's markets are dynamic, highly competitive and constantly changing. We adapt our plants and do our best to plan for and support necessary restructuring to minimize the impacts on people and on the community. Information concerning deployment of the FCI restructuring plan for France and the United States in 2002, the AREVA T&D reorganization plan, and support measures for the sale of Gemma are presented in our activity and sustainable development report and in our annual report. In France, where most of the group's plants are located, a network of coordinators was created in 2004 at 14 sites to coordinate our support to local development entities more effectively. Our development capital company, AREVADELFI, supports this action by funding local enterprise creation and development projects.

#### AREVADELFI actions since inception

	From 1998 to 2004
Committee meetings	20
Applications approved	65
Commitments approved (in millions of euros)	5.7
Number of jobs supported	2,288
Commitments made (in millions of euros)	4.7
Jobs created or in the process of creation over a 3-year period	1,963

(1) [www.afrique-initiatives.com](http://www.afrique-initiatives.com).  
(2) [www.unido.org](http://www.unido.org)

At the former FCI site in Pontarlier, the six companies selected are now open for business. All of the 260 employees were reclassified in less than 18 months through mobility opportunities within the group and in some instances to outside projects, including 130 at the same site. A business development unit is prospecting in France for promising projects based on new technologies. As of the end of 2004, our portfolio featured 56 projects, representing a job creation potential of 1,800 over the 2005-2007 period. Our local economic development experts provide technical support to our teams in other countries in which we do business on an as-needed basis. In Niger, the group helped Afrique Initiatives<sup>(1)</sup> and ONUDI<sup>(2)</sup> complete a feasibility study on a financing entity for small and mid-sized businesses. Working with local players, we have also launched a critical review to structure our development activities better.

### Towards consistency in our corporate patronage actions

AREVA has involved its employees in developing the outlines of its corporate patronage policy. An in-house survey of employees in France, Germany and the United States conducted in 2003 and 2004 helped identify their expectations and define the main subjects in which they hope to see the group invest: knowledge sharing and dissemination, and North/South development. These two subjects were thus selected, along with global warming, a major environmental issue related to energy, to build our corporate patronage policy. In 2004, more than 30 actions were supported by AREVA as a result. The AREVA corporate foundation, to be created in 2005, will strengthen overall consistency in selecting and implementing projects chosen by the group to meet its sustainable development commitments and fulfill its responsibilities with regard to the public and communities in areas in which it operates.

### Upcoming milestones...

- > Integrate AREVA T&D sites into the local economic development network.
- > Renew the blanket cooperation agreement for redevelopment projects signed in 2002 with the Caisse des Dépôts et Consignations in 2005.
- > Further structure integration activities in the Niger communities.
- > Set up the AREVA corporate foundation in 2005.



## Our objectives

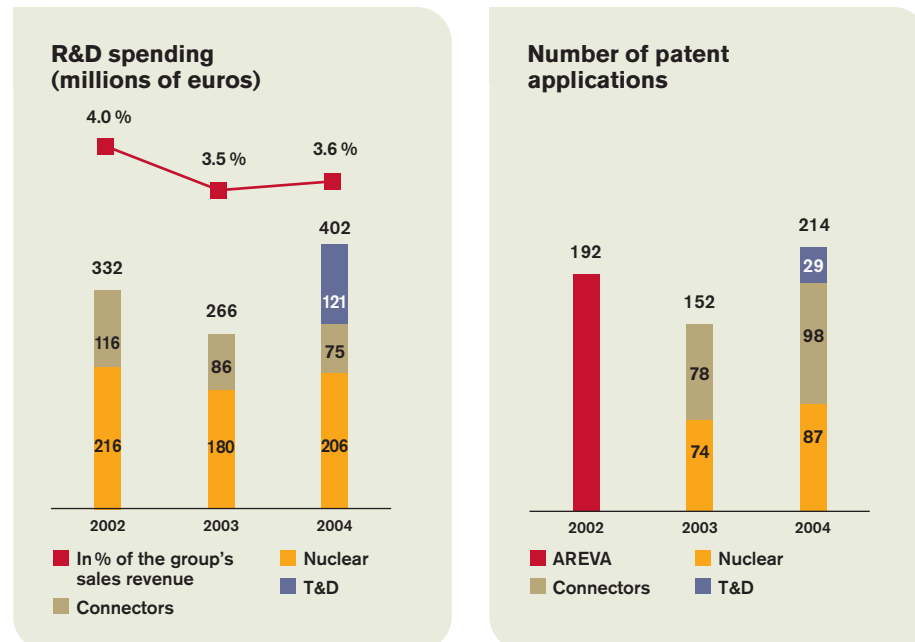
### > Set up an internal eco-design network.

Our Energy business offers solutions for generating and distributing energy to all, conserving natural resources, minimizing the impacts of our industrial operations on the environment, and combating the greenhouse effect (CO<sub>2</sub> emissions), while remaining competitive. Our research programs focus on that set of issues. They primarily relate to nuclear power, which offers a positive opportunity to regions with high demand from industry. Development is also under way to promote renewable energies, which are better suited in some regions in which demand is more dispersed or diversified. To stimulate our technology innovation programs, Framatome ANP conducted an application test of a group creativity method in 2004 on the subject of an HTR exchanger. Two patent applications resulted from the exercise. This method will be expanded to include other strategic technology challenges, for which the experts deem existing technical solutions not fully satisfactory. Research and development expenses represented 3.6% of the group's sales revenue in 2004. They increased overall due to the consolidation of AREVA T&D (121 million euros), but spending was stable in nuclear power and slightly down in Connectors. The Energy businesses account for 81% of R&D spending (51% for the nuclear businesses, 30% for AREVA T&D), while Connectors accounted for 19%.

### Developing eco-design approaches

By understanding the environmental impacts generated by a product at each stage of its life cycle, its design can be optimized to reduce those impacts at the source: this is what eco-design approaches aim to achieve. In 2004, 39 employees from our design offices and Health-Safety-Environment managers received training in eco-design techniques. A group network consisting of members of our design departments was set up to lead the effort, which will gradually pervade all of our businesses. The T&D division set up a dedicated Intranet site to give each unit access to software capable of assessing a product's total impacts. Seven environmental product statements were developed as a result, and 15 units completed self-assessments of their product design processes. The Design and Sales department of the Fuel sector wrote a manual in 2004 that explains the approach taken to address environmental aspects in the design of fuel assemblies<sup>(1)</sup>, control rod drive mechanisms<sup>(2)</sup> and canisters. It was first deployed in France and will soon be used in Germany and the United States.

(1) Bundle of fuel rods filled with uranium or MOX pellets. The core of a reactor contains from 100 to 200 fuel assemblies, depending on the reactor type.  
(2) Equipment containing the neutron-absorbing elements used to control the nuclear reaction. The chain reaction can be slowed or stopped by introducing control rods into the reactor core.



In 2004, the T&D division applied eco-design concepts to 72.5 kV gas-insulated switchgear equipment, which acts as a circuit breaker for internal and external high voltage facilities.

The eco-designed equipment considerably reduces environmental impacts and produces operating cost savings:

- 30% reduction in total product weight and in the amount of materials used;
- substitution of heavy metals by eliminating the use of hexavalent chromium, cadmium and lead;
- replacement of epoxy resins with recyclable polyethylene terephthalate (PETP);
- loss reduction of high greenhouse effect SF<sub>6</sub> using special leak-proof solutions;
- reduction of packing and of the number of shipments.

AREVA T&D developed and supplied all of the electrical connections for Multibrid's 5 MW experimental offshore wind turbine on a turnkey basis. Located close to Bremerhaven in Germany, it began generating electricity in December 2004.

### Supporting the development of renewable energies

The energy mix needed to meet future demand will include a variety of energy production sources that do not emit greenhouse gases. Renewable energies are usually intermittent and produced by decentralized sources. AREVA designs and deploys solutions to produce those energies and to connect them to the grid, thus contributing to their technical and economic viability. In particular, the group is involved in wind energy (fabrication and installation of high capacity wind turbines, connection of land-based and offshore wind turbines to the grid) and in the recycling of biomass into energy (supply of turnkey power plants, connection to the grid). For example, in 2004, AREVA T&D helped connect several wind farms to the electric grid and supplied a 6 MWe power plant to India that uses agricultural residues (mainly rice straw and wood waste). It worked on several other similar projects, which culminated in early 2005 with contracts in Brazil to supply two power plants fueled by wood residues. Advanced development work is focusing on adapting boilers to various types of fuel and on overcoming related issues, especially corrosion. Longer term, AREVA is also interested in developing fuel cells for use in submarine propulsion and for back-up generators. In 2004, a new threshold was crossed with the development of the first 20-kWe fuel cell in France.

> For more information about the group's innovations, see the summary table on page 20. Also see the R&D chapter in our annual report and on our website, [www.aveva.com](http://www.aveva.com).

## INNOVATION

### Main lines of Research and Development in our businesses

	R&D TOPIC	GAINS EXPECTED
<b>NUCLEAR</b>	Develop new uranium mining methods	[F] Reduce mining costs while minimizing environmental impacts.
	Increase nuclear fuel and reactor core performance	[C][F] Increase burn-up. [C] Enhance reactor and fuel design software and codes. <b>Economic gains, reduced materials requirements and waste volume reduction/kWh.</b>
	Plan for facility aging	[C][F] Extend the life of reactors and fuel cycle facilities. [F] Safely decontaminate and dismantle equipment that has been permanently shut down. <b>Safety and economic profitability.</b>
	Develop new generations of nuclear systems	[C][F] Develop fourth generation reactors and fuel cycles. <b>Improve energy efficiency, reduce final waste volumes, develop new industrial applications.</b>
	Increase recycling via used fuel treatment	[F] Increase transportation and disposal capacities, reduce liquid and gaseous releases. [C][F] Expand the range of fuel treatable at the La Hague plant in France. <b>Reduce long-lived waste volumes and potential toxicity.</b>
	Increase protection of workers and neighboring populations	[C][F] Continually improve the reliability and efficiency of equipment for individual protection and dosimetry monitoring. <b>Minimize the health effects of radiation.</b>
<b>T&amp;D</b>	Improve the performance of transformers and circuit breaker systems	[C] Increase overload capacity and ability to withstand short-circuits and surges. <b>Reliability, safety, energy savings.</b>
	Develop direct current power electronics	[C][F] Increase grid capacity and load-sharing potential. <b>Economic gains, flexible management of alternating current, energy savings.</b>
	Expand the use of digital controls and information systems	[C][F] Optimize transmission, distribution and transaction capabilities. <b>Economic gains, reliability, energy savings.</b>
<b>CONNECTORS</b>	Increase connector performance	Increase the quality and speed of signal transmission. [C] Increase volume. Meet more demanding service conditions. [F] Strengthen control loops, eliminate hazardous substances. <b>Reliability, competitiveness, environmental impact reduction.</b>

[F] Optimize facilities and processes.  
[C] Optimize products and services to customers.

### Upcoming milestones...

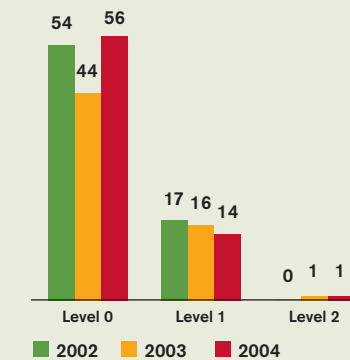
- > Widely implement eco-design approaches for all new products by 2008.
- > Market the first lead-free products resulting from eco-design approaches in Connectors in 2005.

## RISK MANAGEMENT AND PREVENTION

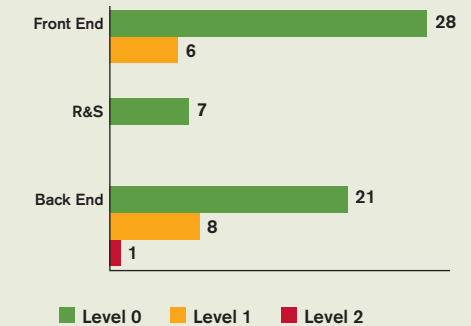
### Our objectives

- > Establish a nuclear safety charter in 2004.
- > Make the INES the standard for incident reporting at all of the nuclear sites.
- > Perform a Simplified Risk Assessment (SRA) or its equivalent on 100% of the non-nuclear sites with Significant Environmental Aspects (SEA).

Number of reported incidents at the group's nuclear sites in France (INES<sup>(1)</sup>)



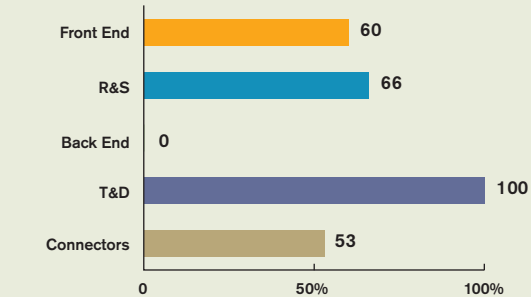
Number of incidents reported in 2004 at the group's nuclear sites in France by division



The AREVA group had a total of 81 incidents in 2004, 71 of which occurred at the nuclear sites in France. The only level 2 incident occurred at MELOX on July 26, 2004, and was related to the contamination of an operator during maintenance. An analysis of all types of incidents reveals the importance of planning in maintenance operations and the necessity of taking human factors into account during those operations.

(1) INES: International Nuclear Event Scale.

SEA<sup>(2)</sup> sites that have completed an SRA (%)



(2) SEA: Significant Environmental Aspects.

The Simplified Risk Assessment (SRA) is used to classify plant sites according to the risks they represent for the environment and human health via their impacts on the soil and the water table. Licensed nuclear facilities and mine sites are not included in the calculation of this indicator, because the regulations that apply to them already largely cover this requirement. All of the T&D division's sites were subject to an SRA-type study when they were consolidated in the AREVA group. The Connectors division has scheduled assessments through the end of 2005 at the 15 remaining sites. For the Front End, Back End and Reactors & Services divisions, SRAs for a total of 7 non-nuclear sites remain to be done.

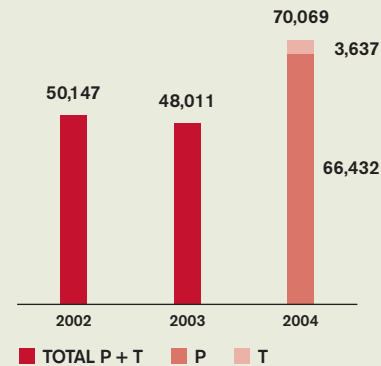
### Upcoming milestones...

- > Deploy the charter at all of the group's nuclear sites.
- > Extend the use of the INES to include the United States.
- > Continue to conduct SRAs.

# COMMITMENT TO EMPLOYEES: WORKFORCE, TRAINING

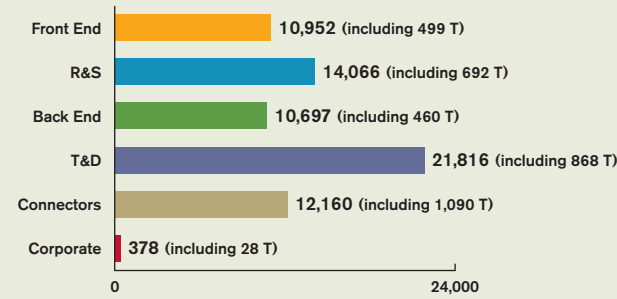
## Employees

Workforce from 2002 to 2004, with permanent (P) / temporary (T) employment breakdown for 2004

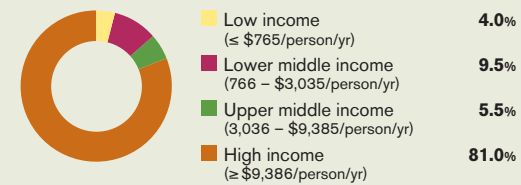


The group's workforce rose by 46% in one year; this was primarily due to the consolidation of AREVA T&D (21,816 additional employees). Meanwhile, the workforce in Connectors stabilized in 2004 (+ 1.7%), after having dropped considerably during the restructuring of 2003.

Workforce by division in 2004

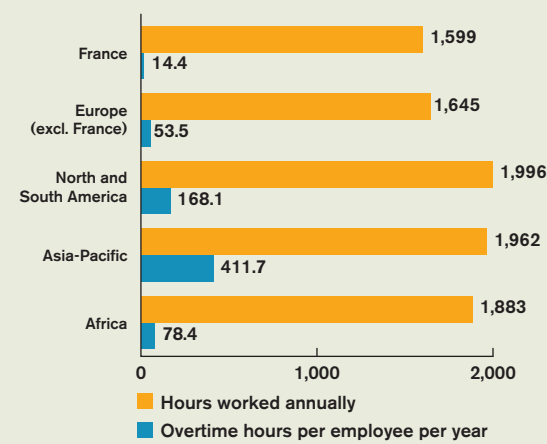


2004 workforce by regional development level (World Bank ranking (1))



The consolidation of the T&D division increased the number of countries in which the group does business from 32 in 2003 to 76 in 2004. More than 80% of the workforce is in developed countries. Only 4% are in low-income countries, mainly Niger (uranium mines), India (T&D and Connectors divisions) and Sudan (gold mines).

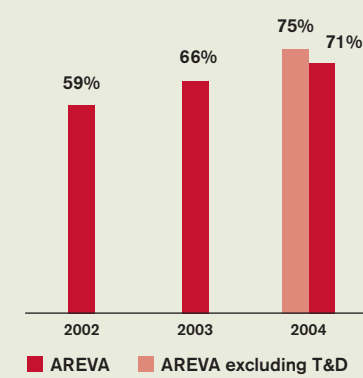
Hours worked annually and number of overtime hours



Asia-Pacific and North and South America are characterized by more hours worked annually and more overtime.

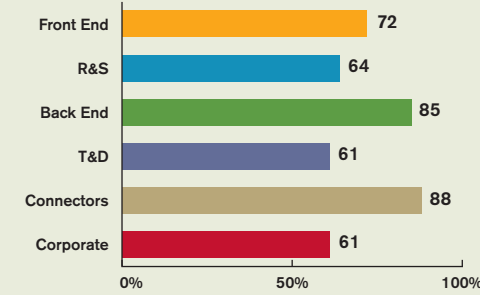
## Training

Employees who received training during the year (%)

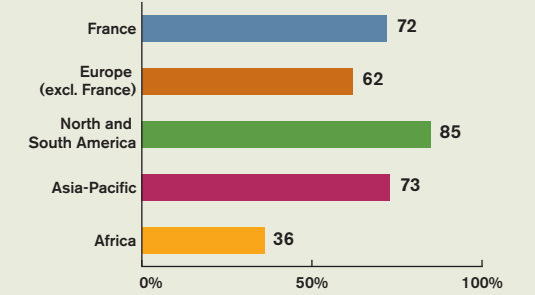


The AREVA group continues to pursue the objective of developing its employees' skills. For example, four new centers were created in 2004 to assess training needs, including two in Europe, one in Asia and one in the United States. In addition to training common to all of the group's operations, business- and region-specific training was offered. At COGEMA, for example, 940 engineers and managers attended a management development training program in 2004.

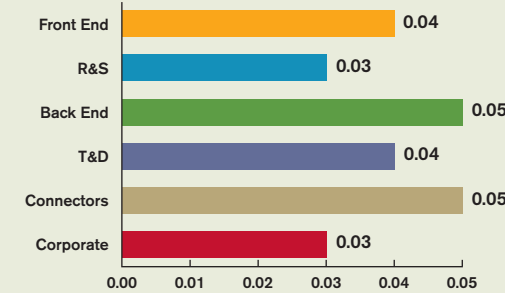
Employees who received training in 2004 by division (%)



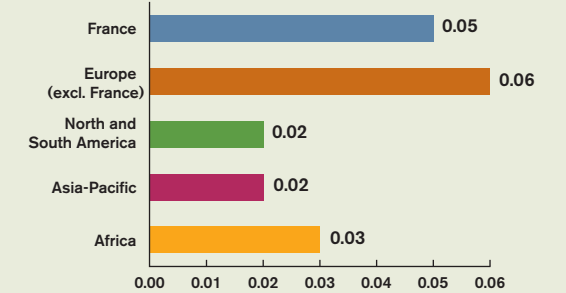
Employees who received training in 2004 by region (%)



Absenteeism rate in 2004 by division



Absenteeism rate in 2004 by region



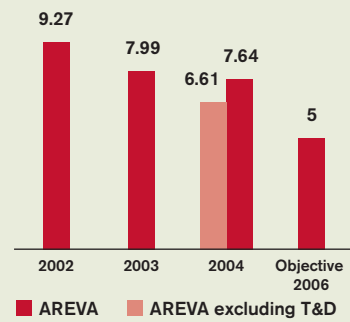
(1) www.banquemonddiale.org

# COMMITMENT TO EMPLOYEES: HEALTH, OCCUPATIONAL SAFETY

## Our objectives

- > Achieve an average frequency rate of < 5 and an average severity rate of < 0.2 group-wide.
- > Perform independent occupational safety audits at 100% of the sites.
- > Add an HHA<sup>(1)</sup>-type health section to environmental analysis of sites with significant environmental aspects.
- > Reduce the maximum individual dose in all group facilities to 20 mSv/year, including in countries with less stringent regulations.
- > Aim to adhere to this limit for services performed at the sites of other nuclear companies.

Frequency rate of work-related accidents with lost time for employees of the AREVA group



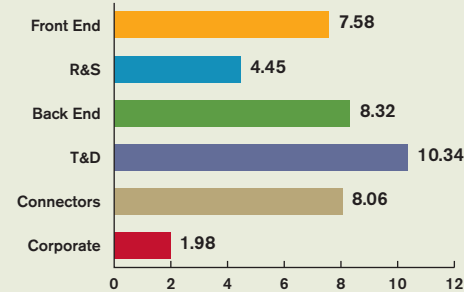
The frequency rate has been declining steadily since 2002, despite the consolidation of AREVA T&D, whose frequency rate (10.34 in 2004) is higher than that of the group's other businesses, although significantly lower than the average figures for French industry (frequency rates of greater than 20).

This continuous improvement is the result of a 4-point global initiative:  
1. analysis of accidents that have occurred;  
2. institution of preventive measures and safety inspections;  
3. deployment of a safety management system throughout the group; and  
4. an independent audit, launched in 2004.

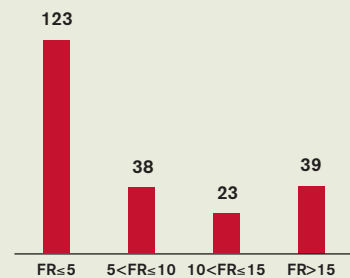
Of the BUs with the highest frequency rates in 2003, the Microconnection, Equipment and Mechanical BUs had the greatest performance improvement in 2004.

The objective of reducing the average frequency rate to less than 5 was achieved at more than 55% of the group's 223 sites in 2004. All of the sites have established action plans to achieve that objective.

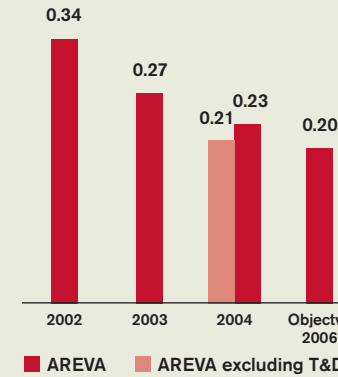
2004 frequency rate of work-related accidents with lost time for employees of the AREVA group (by division)



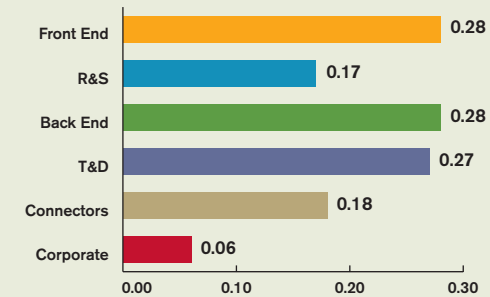
Number of AREVA group sites by frequency rate level (2004)



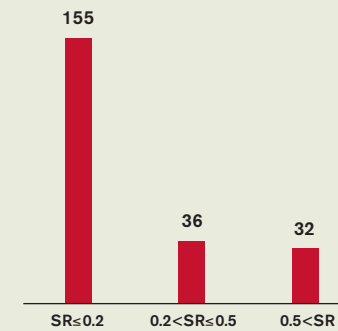
Severity rate of work-related accidents with lost time for employees of the AREVA group



2004 severity rate of work-related accidents with lost time for employees of the AREVA group (by division)

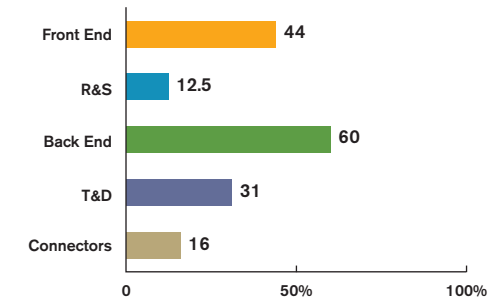


Number of AREVA group sites by severity rate level (2004)



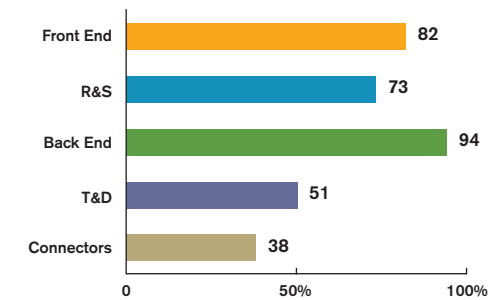
The severity rate has dropped sharply since 2002. The biggest contributors continue to be the Products BU (T&D division), the Nuclear cleanup BU (Back End division) and the Fuel BU (Front End division).

Sites with significant environmental aspects that completed an HHA<sup>(1)</sup> in 2004 (%)



This indicator should be tested by verifying that the HHA completed at each site does effectively meet the group's standards.

Employees who had a medical exam in 2004 (%)



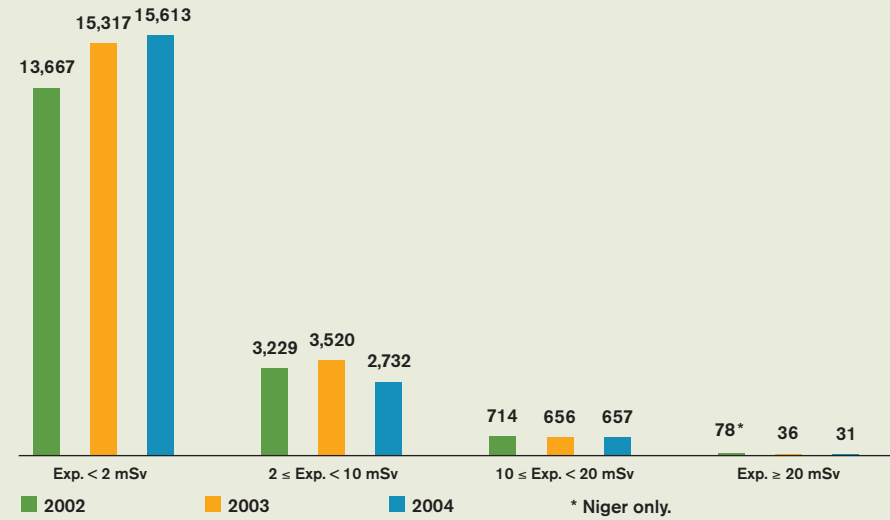
The group wants to institute annual medical exams at all of its sites. The T&D and Connectors divisions, which conduct more business in countries where there is no regulatory requirement for medical exams, are currently setting up the organization needed to achieve this objective over time.

(1) Health hazards assessment.



## COMMITMENT TO EMPLOYEES: HEALTH, OCCUPATIONAL SAFETY

Radiation exposure to group employees as of the end of June 2004  
(number of employees)



The BUs with employees exposed to more than 20 mSv in 2004 are the Reactors & Services division's Nuclear Services BU (30 employees) and the Front End division's Mining BU (1 employee). However, exposure levels at the sites of these BUs remain less than the regulatory limit of 50 mSv per year for the countries involved (United States, Niger).

An action plan has been developed to reduce the maximum exposure level to 20 mSv. In the mines, this involves improving ventilation, lowering dust levels, optimizing exposure times and raising employee awareness. For the services operations, performance improvement plans must be developed in close association with the customers.

The experience acquired in France with EDF will serve as a basis for these projects in the United States.

Radiation exposure to group employees by division in 2004  
(number of employees)

	Exp. < 2 mSv	2 ≤ Exp. < 10 mSv	10 ≤ Exp. < 20 mSv	Exp. ≥ 20 mSv
Front End	5,248	1,067	270	1
Reactors & Services	2,500	770	248	30
Back End	7,862	895	139	0
Corporate	3	0	0	0

### Upcoming milestones...

- > Continue to pursue objectives pertaining to frequency rate, independent audits and HHAs.
- > With respect to radiation exposure doses, draw up an action plan for the services business in the United States, based on methods developed in France with EDF.

## RESPECT FOR THE ENVIRONMENT: MANAGEMENT SYSTEMS

### Our objectives

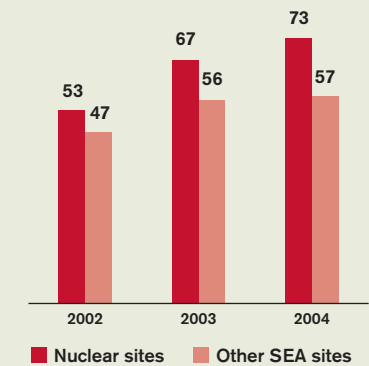
- > Implement environmental management systems (EMS) at all sites and secure ISO 14001 certification for the EMS's of sites with Significant Environmental Aspects (SEA).
- > Establish simplified EMSs for service businesses and other sites with minimal environmental aspects.
- > Expand the group's environmental policy to encompass its new scope of consolidation.

Twelve sites received ISO 14001 certification in 2004 for the first time: FCI Barcelona, FCI Juarez, FCI Mantes-la-Jolie, Framatome ANP Maubeuge Somanu, Framatome ANP Saint-Marcel, Framatome ANP Chalon-sur-Saône, AREVA T&D Sydney (Home Bush Bay), AREVA T&D Kassel, AREVA T&D San Fernando de Henares, AREVA T&D Aix-les-Bains, AREVA T&D Montrouge and AREVA T&D Jakarta Pulogadung.

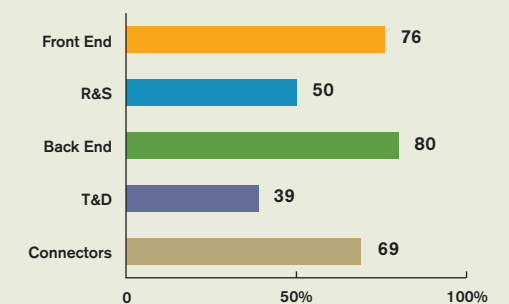
The consolidation of AREVA T&D in 2004 raised the number of SEA sites from 70 to 111.

The ISO 14001 certification process is less advanced at AREVA T&D than in the other subsidiaries, and thus the percentage of certified SEA sites rose more slowly from 2003 to 2004, going from 56% to 57%. The objective of securing certification for the nuclear sites before the end of 2005 is being maintained, and certification of the other SEA sites has been postponed until 2006 due to the work involved pursuant to AREVA T&D's consolidation.

SEA sites certified under ISO 14001 in 2004 (%)



SEA sites certified under ISO 14001 in 2004 by division (%)



Of the nuclear sites, only Socatri, Technicatome Cadarache and two fuel fabrication sites in the United States have yet to be certified. The number of sites yet to be certified for the Reactors & Services division, all of which are non-nuclear, is also low.

Achieving the objectives for the Connectors division will require certification of 10 additional sites, scheduled for 2005. The greatest effort will involve the T&D division, with 24 sites to be certified by 2006.

### Upcoming milestones...

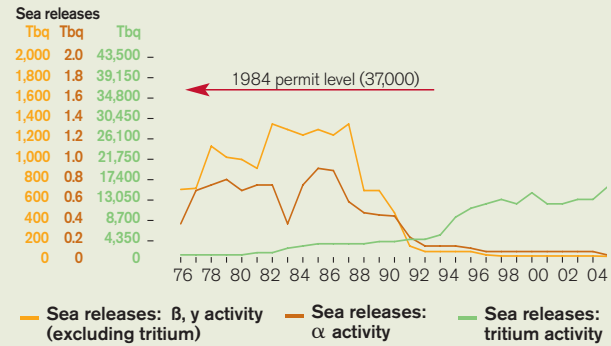
- > Win ISO 14001 certification for the nuclear and Seveso sites by the end of 2005, and the other SEA sites by the end of 2006.
- > Establish simplified EMS's in 2005 for service businesses and other sites with minimal environmental aspects and more than 100 employees.

# RESPECT FOR THE ENVIRONMENT: RADIOLOGICAL IMPACTS

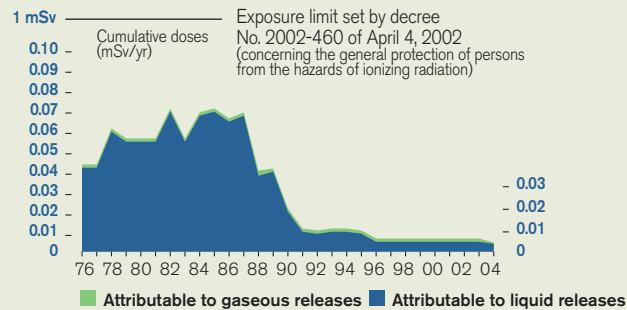
## Our objectives

- > Broaden the validation of radiological impact models to include major nuclear sites by the end of 2005.

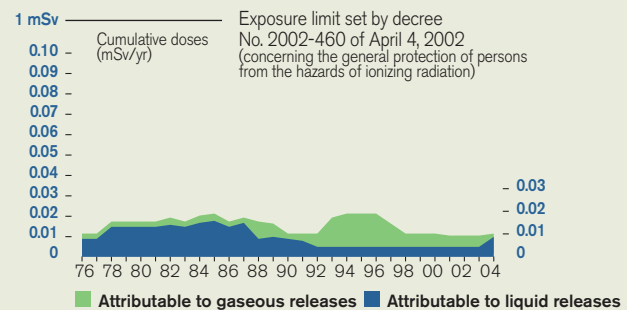
### Radioactive releases at COGEMA-La Hague



### Impacts of releases on the Goury reference group from 1976 to 2004



### Impacts of releases on the Digulleville reference group from 1976 to 2004

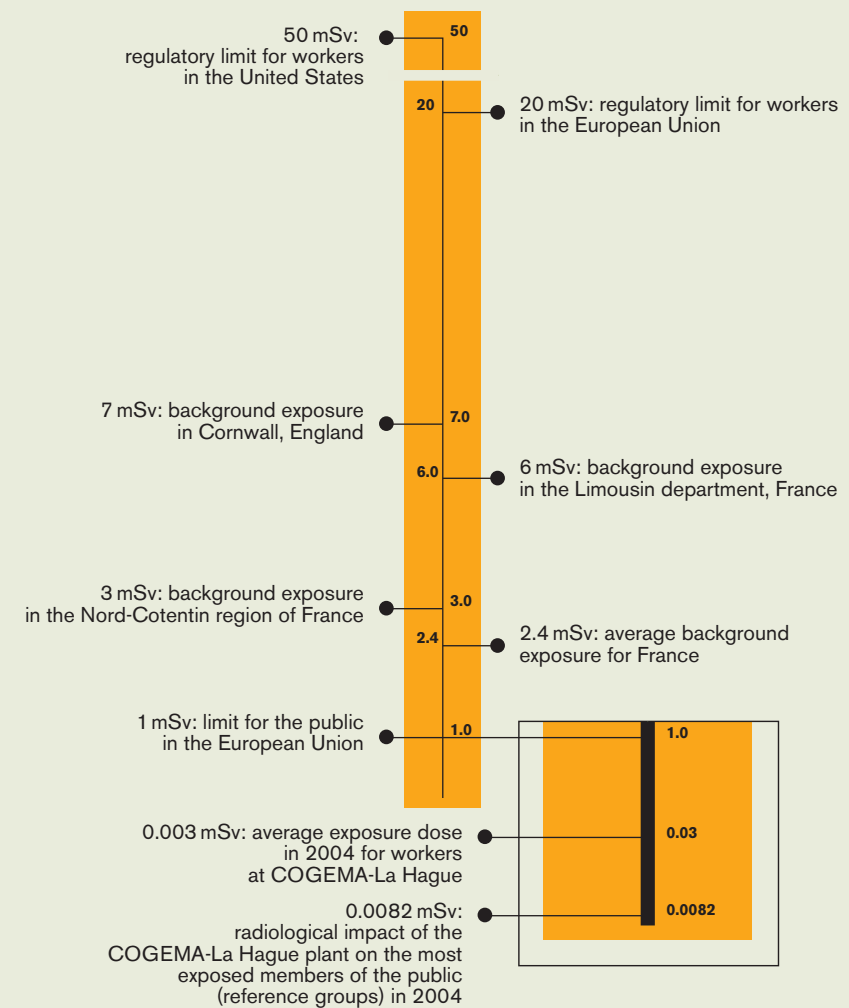


The radiological impacts to the most exposed members of the public (Goury and Digulleville reference groups) caused by the COGEMA-La Hague plant remained less than 1% of the regulatory limit of 1 mSv/yr and 300 times less than natural radiation from the site in 2004. This result is due to the low level of radioactive releases. Only sea releases of tritium increased, although they continued to have a very low impact.

The methodology used to measure the radiological impacts is consistent with that developed by the Groupe de radioécologie du Nord-Cotentin (GRNC), assisted by the Institut de radioprotection et de sûreté nucléaire (IRSN). The parameters are updated based on the latest available data. From 2003 to 2004, the most significant modifications concerned the effective dose factors, for which new standards were adopted: Federal Guidance 12 of September 1, 2003 from the US Environmental Protection Agency. These changes resulted in a 14% increase.

In addition, AREVA continued to work on harmonizing the radiological impact assessment models of its sites. The model developed at the La Hague plant will be adapted in 2005 to the particularities of the group's other major nuclear sites. The results will be presented to the Local Information Commissions (Commissions locales d'information, CLI).

### Comparison of various radiation exposure sources



### Upcoming milestone...

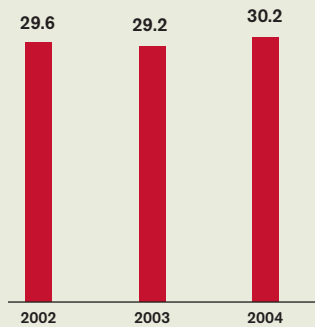
- > Finalize harmonization of the radiological impact assessment models of the main nuclear sites in 2005 and present the results to the relevant Local Information Commissions.

# ENVIRONMENTAL PROTECTION: WATER

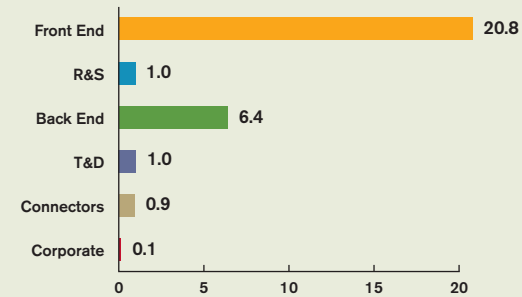
## Our objectives

- > Reduce water usage by 20% (excluding EURODIF and the Célestine reactors at Marcoule).

Water usage, excluding cooling water (millions of m<sup>3</sup>)



Water usage by division, excluding cooling water (millions of m<sup>3</sup>)



Water usage, excluding cooling water, increased slightly from 2002 to 2004 (+2%) following the consolidation of AREVA T&D, whose contribution is nonetheless relatively low (1 million cubic meters in 2004). Four BUs account for 89% of the consumption: the Mining BU (34%), Chemistry BU (22%), Treatment BU (20%) and Fuel BU (13%). Several sites recorded water usage reductions as a result of water consumption analysis. In particular, usage at the COGEMA-Marcoule site (Treatment BU), excluding cooling water, decreased by 1.5 million cubic meters. These gains are partially offset by increases at other sites, mainly due to increased activity: +0.7 million cubic meters at SMI Ity (Mining BU in Côte d'Ivoire), which reopened in 2004, and +0.5 million cubic meters at Australia Mines with the operation of a new workforce.

## Upcoming milestone...

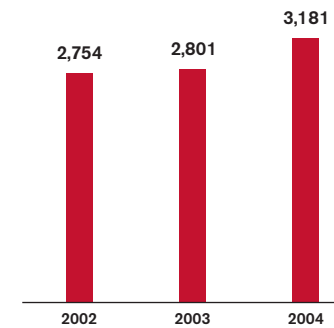
- > Strengthen awareness campaign on water conservation in Niger.

# ENVIRONMENTAL PROTECTION: ENERGY

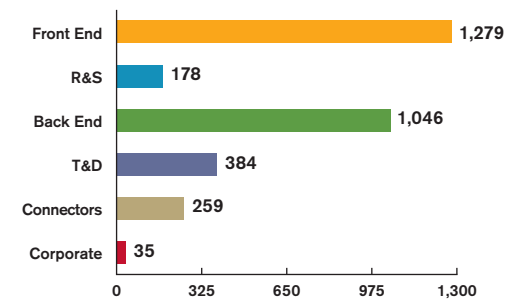
## Our objectives

- > Reduce energy consumption by 15% (excluding EURODIF).
- > Develop a method for assessing the energy efficiency of buildings and apply it to all existing office locations with a surface area of more than 1,000 square meters.

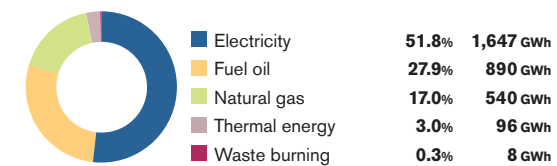
Total energy consumption, excluding EURODIF (GWh)



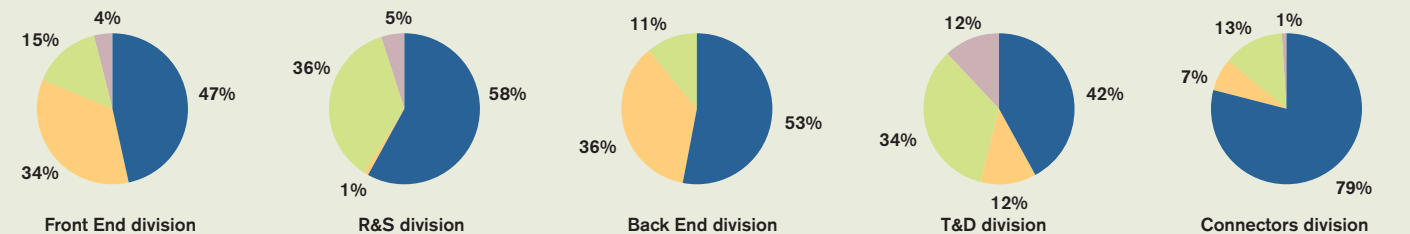
Total energy consumption in 2004, excluding EURODIF (GWh)



Energy consumption by source in 2004



Energy consumption by source in 2004 (%)



Energy consumption is equal to the energy purchased less the energy exported. It includes the consumption of electricity, fuel oil, natural gas and steam (3,173 GWh in 2004) as well as the consumption of energy produced by burning waste (8 GWh in 2004).

The relative proportion of these different forms of energy remained stable. It should be noted that the Back End division exports more thermal energy to the CEA than it buys (+ 21.3 GWh in 2004).

The La Hague plant recorded a 54.3 GWh decrease in energy consumption, or 7%, from 2003 to 2004 as the result of a far-reaching awareness campaign conducted in 2003 and consumption optimization projects in 2004 (facility ventilation, production of compressed air, steam and hot water, operation of cooling towers).

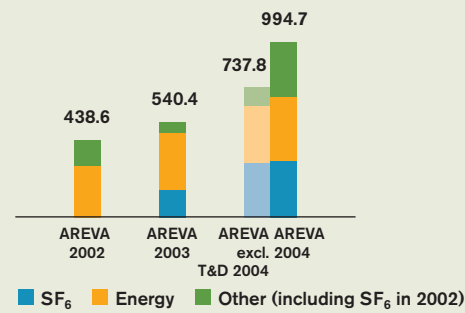
Framatome ANP also reduced its consumption, by 13.9 GWh, at its Saint-Marcel site (Equipment BU) by optimizing the preheating process. These reductions are offset by increased consumption in some BUs, including the Enrichment, Plants, Systems and CDC BUs (+ 4.2 GWh for FCI Cochin in India and + 10 GWh for FCI Nantong and FCI Dongguan in China). The increased consumption at the CDC BU is due to a 34% increase in business from 2003 to 2004.

# ENVIRONMENTAL PROTECTION: AIR

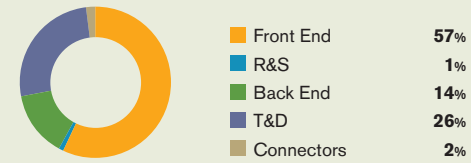
## Our objectives

- > Reduce direct emissions of greenhouse gases (GHG) by 20%.
- > Reduce the Connectors division's air emissions of chlorinated solvents by 80%.

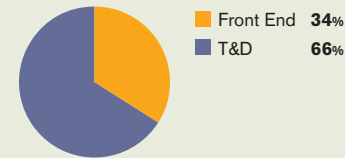
**Direct GHG emissions (thousands of MTe of CO<sub>2</sub>)**



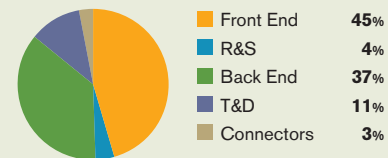
**Direct emissions of GHG in 2004 by division (%)**



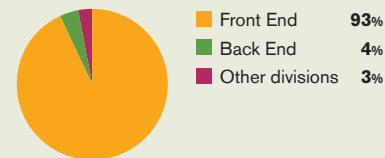
**SF<sub>6</sub> emissions by division (%)**



**GHG emissions from fossil fuel consumption by division (%)**

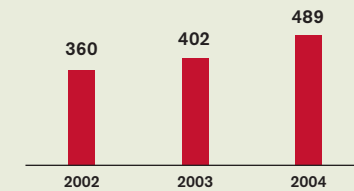


**GHG emissions from other industrial sources by division (%)**

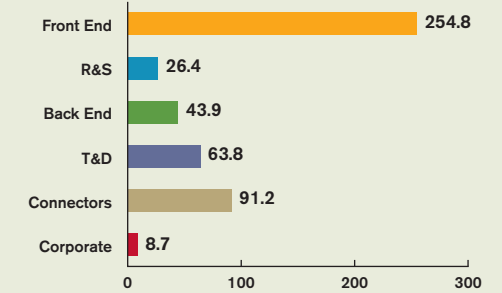


The direct emissions of greenhouse gases, at a little less than 1 million metric tons equivalent of CO<sub>2</sub> in 2004, are attributable to fossil fuel combustion (36%), the release of SF<sub>6</sub> (32%) and the release of N<sub>2</sub>O (22%). The increase in emissions is due to the consolidation of AREVA T&D and to better accounting of all greenhouse gases, whereas reporting efforts in 2002 focused mainly on fossil fuel combustion. Two thirds of the SF<sub>6</sub> emissions occur in the T&D division, which uses this gas due to its excellent dielectric properties, and one third is from uranium chemistry operations, which generate the gas to eliminate traces of fluorine in its gaseous releases at the COMURHEX-Pierrelatte site. AREVA T&D has defined an action plan to reduce its direct emissions of SF<sub>6</sub> during manufacturing/production operations. As part of an eco-design approach, it is also including the requirement to manage SF<sub>6</sub> over the life of the equipment so as to limit the amounts used and the risk of a leak during their operation or at the end of their service life. COMURHEX-Pierrelatte has begun a program to eliminate its SF<sub>6</sub> releases by the end of 2006.

**Indirect GHG emissions (thousands of MTe of CO<sub>2</sub>)**

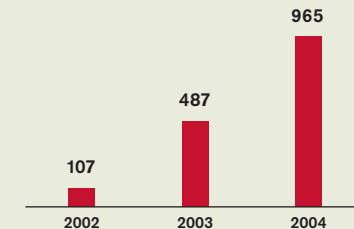


**Indirect GHG emissions (thousands of MTe of CO<sub>2</sub>)**

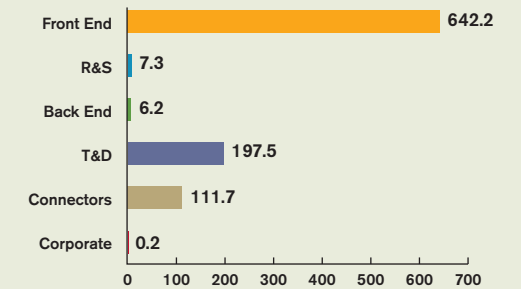


The indirect emissions of greenhouse gases are linked to the consumption of electricity and thermal energy. The main contributors are the mining, enrichment and fuel fabrication operations in the Front End division. The overall increase in indirect emissions of greenhouse gases is due to the upward trend in business and to more comprehensive reporting.

**Emissions of volatile organic compounds (VOC) (metric tons)**



**Emissions of volatile organic compounds by division in 2004 (metric tons)**



The group's emissions of volatile organic compounds amounted to 965 metric tons in 2004. They are primarily due to uranium ore processing in the mines and to the consumption of chlorinated solvents by the T&D and Connectors divisions. The 661-metric ton increase observed from 2002 to 2004, excluding AREVA T&D, was mainly linked to a gradual improvement in reporting, which has become more exhaustive. Current accounting includes, in particular, emissions of low volatile organic compounds in the Mining BU, which represent 64% of total VOC emissions. Action plans are being deployed to limit VOC emissions. For example, at the Mantes-la-Jolie site (the leading emitter of the Connectors division, representing 6% of AREVA's emissions), 3.4 million euros have been invested to reduce emissions by 80% by the end of 2006.

## Upcoming milestones...

- > Eliminate SF<sub>6</sub> releases at COMURHEX-Pierrelatte.
- > Reduce the T&D division's releases of SF<sub>6</sub> by 20%.



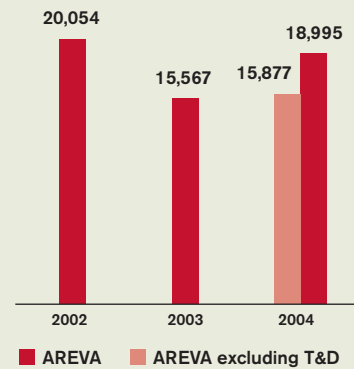
# ENVIRONMENTAL PROTECTION: WASTE AND LIQUID RELEASES

## Our objectives

- > Reduce the Connectors division's lead releases in water by 80%.
- > Reduce the tonnage of final conventional waste placed in landfills by 30%.
- > Reduce the volume of radioactive waste packages from operations shipped to disposal sites by 10%.

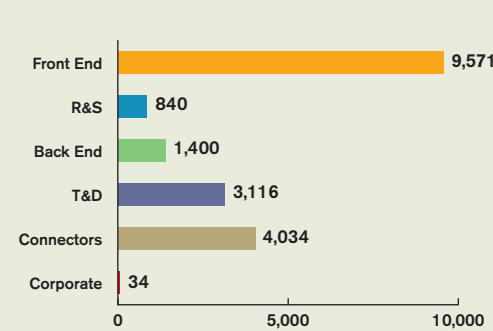
## Waste

Production of hazardous industrial waste (metric tons)

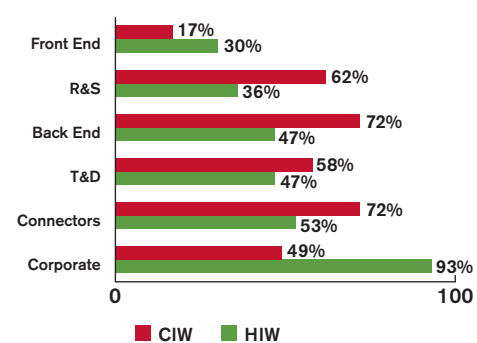


AREVA classifies as hazardous industrial waste any waste generated by its operations listed in the decision of the European Union Council decision 2000/532/CE of May 3, 2000 (for non-European countries, the list of hazardous waste must comply with applicable local regulations). This waste is termed "conventional" waste by opposition to radioactive waste. The main producers are the Front End (50%), Connectors (21%) and T&D (16%) divisions. Source reduction efforts have enabled AREVA to reduce hazardous waste quantities by more than 22% from 2002 to 2003. If one considers that around 1,500 metric tons were generated under exceptional conditions in 2004 (drawdown of product inventories, dismantling of various facilities), the reduction efforts resulted in an 8% decrease in the quantities of the group's hazardous waste from 2003 to 2004 (excluding AREVA T&D), despite an increase in the Microconnections BU's operations (+ 862 metric tons).

Production of hazardous industrial waste by division in 2004 (metric tons)



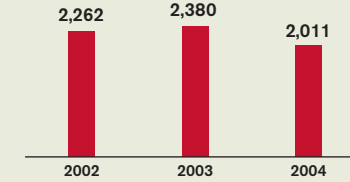
Hazardous industrial waste (HIW) and common industrial waste (CIW) recycled versus sent to landfills in 2004 (%)



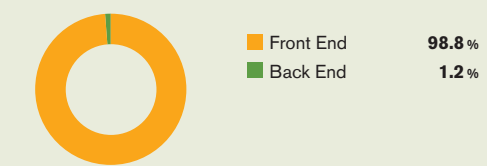
In addition to source reduction, the group continues to step up waste segregation and sorting and to look for recycling opportunities so as to reduce the amount of waste sent to landfills. The waste recycling rate in the Front End division is significantly lower than in the other divisions due to mining operations, where large tonnages are involved (45% of AREVA's combined CIW and HIW) and do not lend themselves to recycling.

## Liquid releases

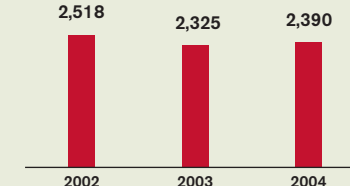
Uranium (kg)



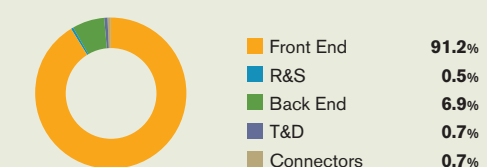
Liquid releases of uranium in 2004 by division (%)



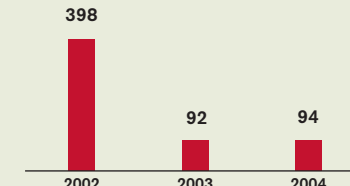
Zinc (kg)



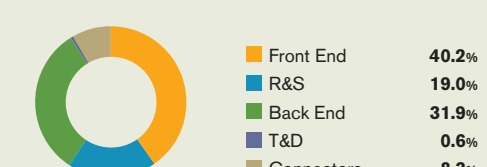
Liquid releases of zinc in 2004 by division (%)



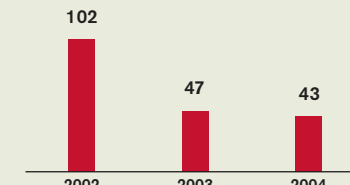
Chromium (kg)



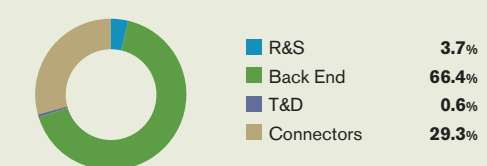
Liquid releases of chromium in 2004 by division (%)



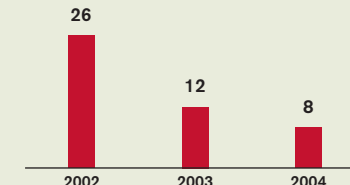
Lead (kg)



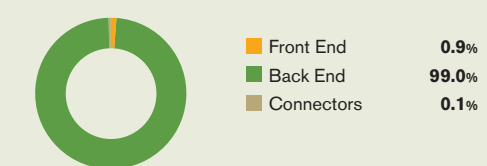
Liquid releases of lead in 2004 by division (%)



Mercury (kg)



Liquid releases of mercury in 2004 by division (%)



The group's operations cause certain heavy metals to be released into aquatic environments, mainly zinc (2.4 metric tons in 2004), uranium (2 metric tons), nickel (328 kg) and chromium (94 kg). All releases are substantially less than the regulatory limits. The biggest contributors are the Front End (4.4 metric tons in all, or 87% of the group's releases), Back End (231 kg, or 7%) and Connectors divisions (219 kg, or 4%). The uranium releases are relatively limited if one compares them to the natural concentration in aquatic environments: a river such as the Rhône, for example, carries along close to 80 metric tons of natural uranium per year. The heavy metals released by the Connectors division come primarily from the surface treatment of the metal parts of connectors. They are the subject of major reduction programs: in particular, the group has set a goal of reducing the amount of lead contained in its liquid releases by 80% by the end of 2006. Capital investments are also being made at some sites. For example, the Cezus-Jarrie site in France built two purification stations for a total of 2 million euros, which divided liquid releases by 10 in 3 years.

## Upcoming milestone...

- > Define indicators that take into account the management of the group's radioactive waste.

## REPORTING METHODOLOGY

The indicators published in this supplement, "Sustainable development facts and figures", 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 representative of our different businesses and departments, and reflect, in particular, GRI<sup>(1)</sup> and WBCSD<sup>(2)</sup> recommendations as well as applicable legislation, such as the French law on New Economic Regulations.

The AREVA group was formed in September 2001 and began instituting performance indicators in 2002, its first full year of operation. The indicators presented in this report concern 2002, 2003 and 2004. Our reporting period is the calendar year (January 1 to December 31). For technical reasons (the time needed for chemical analyses and radiological measurements), some indicators are for a 12-month period that may be different than the calendar year. This is particularly true for dosimetry data.

### 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 of the group in which our interest is 50% or more as of December 31, 2004. The full consolidation method is used (data from majority-owned subsidiaries is fully consolidated). For 2004, the indicators and objectives presented in this supplement include the Transmission & Distribution operations (AREVA T&D) acquired from Alstom on January 9, 2004.

#### Exceptions:

Units whose sale was in progress and irreversible at the end of 2004 were excluded from this report (see changes in consolidation).

An additional criterion was used for mining operations, i.e., the group's operational involvement<sup>(3)</sup>. As a result, we included data from Cominak (Niger) and AMC (Sudan) in the environmental, health and safety indicators.

For environmental indicators, only office sites with a surface area of more than 1,000 m<sup>2</sup> are included in the reporting scope. Plant sites are always included, regardless of their size.

For social data, both the office and plant sites were included, regardless of their size.

### Changes in consolidation

The main changes in the consolidated group in 2004 were:

- the consolidation of the Transmission & Distribution operations (AREVA T&D) acquired from Alstom on January 9, 2004;
- the opening of a new FCI manufacturing site in Loyang, Singapore;
- the deconsolidation of Compagnie Minière d'Afrique pursuant to political developments in Côte d'Ivoire;
- the closure of FCI's Qingdao site in China;
- the cessation of activity of Numatec Hanford Corporation (NHC) in the United States.

### Methodology

The measurement methods used for environmental and social indicators and the related reporting procedures are documented in an AREVA sustainable development and continuous improvement measurement and reporting procedure.

This procedure is provided to anyone, at any level, involved in developing and reporting data; it is updated annually and may be consulted on our website, [www.aveva.com](http://www.aveva.com).

Changes in reporting methodology for 2004 data relate primarily to the calculation of radiological impacts from the La Hague plant and to the frequency and severity rates of work-related accidents with lost work time for employees of the group.

Errors in previously published figures for 2002 and 2003, which remained undetected until 2004, have been corrected whenever possible.

### Coverage rates

The coverage rates for each indicator, measured in percentage of employees involved, are provided in the summary tables of data on pages 38 to 41 of this report.

### Independent verification

Ernst & Young provided independent verification of reporting procedures for selected key environmental and safety indicators for 2004. These indicators are identified with a check mark  in the tables.

The type of verifications performed and the results thereof are presented on page 37 of this report.

For reasons of confidentiality, the internal dosimetry used to calculate the average occupational radiation exposure dose to the group's employees was not reviewed.

### Completeness

The purpose of this report is to clarify our businesses' sustainable development goals and to present an analysis of their social and environmental performance.

Accordingly, it does not enter into detail on the local impacts of the various sites, which are addressed in specific reports that are gradually being published by sites with significant environmental aspects.

See "To learn more" on the inside back cover.

(1) Global Reporting Initiative ([www.globalreporting.org](http://www.globalreporting.org)).

(2) World Business Council for Sustainable Development ([www.wbcsd.ch](http://www.wbcsd.ch)).

(3) An entity has operational control of the source of an impact when it has decision-making authority for operating procedures causing those impacts or emissions, i.e., the responsibility for the impacts and emissions 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).

## MODERATE ASSURANCE REPORT ON CERTAIN INDICATORS\* IN THE AREVA SUSTAINABLE DEVELOPMENT REPORT FOR 2004



At the request of the AREVA group, we have reviewed 11 indicators\*, identified with a check mark  in pages 38 to 41 of this sustainable development report for 2004, enabling us to express moderate assurance. These indicators were prepared under the authority of AREVA's general management in accordance with the measurement and reporting procedure available for consultation on the group's website, for which a summary appears on the facing page (page 36). Our role is to express an opinion on these indicators based on our audit.

### Nature and scope of work

We took the following steps to arrive at moderate assurance that the indicators do not contain significant anomalies.

A higher level of assurance would have required a more extensive audit.

- We evaluated the procedure with regard to its precision, clarity, objectivity, completeness and relevance.
- We validated the indicators by conducting tests and consistency checks (comparing data with supporting documents and verifying calculation methods) from among a sample of six plant sites: FCI Cochin (India) and Turin (Italy), AREVA T&D San Fernando de Henares (Spain) and Mönchengladbach (Germany), and COGEMA-La Hague and Framatome ANP Romans (France). These sites represent from 3% to 25% of the group's consolidated data.
- We conducted consolidation tests during interviews with the group's reporting managers and the four main subsidiaries (FCI, AREVA T&D, COGEMA, Framatome ANP).

### Observations

In comparison with the previous year, the responsibilities have been clarified and the consolidation was verified when the reporting software covering all of the plant sites was put in place. Clarification should be provided on the method for estimating the number of hours worked (calculation of the frequency and severity rates) and on rules for estimating emissions of volatile organic compounds (VOC). It was not possible this year to deploy a reliable tracking system for work-related accidents with lost work time at the group's sites for subcontractor personnel, especially in Asia.

### Findings

Our audit did not reveal any significant anomaly that would cause us to question the fact that the indicators examined have been established, in every significant aspect, in accordance with the procedure.

Paris – La Défense, March 2, 2005

ERNST & YOUNG ET ASSOCIÉS  
ENVIRONMENT AND SUSTAINABLE DEVELOPMENT  
Éric Duvaud

\* ISO 14001 certifications, water consumption (excluding cooling water), energy consumption (excluding EURODIF), direct emissions of greenhouse gases, atmospheric emissions of volatile organic compounds, total tons of waste produced, accident frequency rate and accident severity rate with lost work time involving group employees, number of work-related accidents with lost work time involving subcontractor personnel working at one of the group's sites, external dose from work-related exposure to ionizing radiation to group employees, and radiological impacts (indicator specific to the COGEMA-La Hague site).

# SOCIAL INDICATORS

GRI <sup>(1)</sup> Corresp.	Data	Unit	2003 AREVA	2004 AREVA	2004						Coverage rate <sup>(2)</sup>	
					Corporate Depts	Front End division	R&S division	Back End division	T&D division	Connectors division		
<b>LA1</b>	Total workforce	Number	48,011	70,069	378	10,952	14,066	10,697	21,816	12,160	100%	
	Temporary workers	Number	1,625 <sup>(3)</sup>	4,486	172	391	883	366	1,143	1,531	100%	
	Average employee dose from radiation exposure mSv	mSv	1.41 <sup>(3)</sup>	✓ 1.37	0.37	1.52	2.45	0.81			93%	
	Number of employees receiving a cumulative effective dose of less than 2 mSv	Number	15,317 <sup>(3)</sup>	15,613	3	5,248	2,500	7,862			93%	
	Number of employees receiving a cumulative effective dose of 2 to 6 mSv	Number	2,665 <sup>(3)</sup>	1,951	0	874	454	623			93%	
	Number of employees receiving a cumulative effective dose of 6 to 10 mSv	Number	855	781	0	193	316	272			93%	
	Number of employees receiving a cumulative effective dose of 10 to 14 mSv	Number	380	449	0	148	177	124			93%	
	Number of employees receiving a cumulative effective dose of 14 to 20 mSv	Number	276	208	0	122	71	15			93%	
	Number of employees receiving a cumulative effective dose of greater than 20 mSv	Number	36	31	0	1	30	0			93%	
	Average dose from radiation exposure to subcontractor personnel mSv	mSv	0.45	0.37		0.44	0.11	0.34			89%	
	<b>LA7</b>	Absenteeism rate	Number of days absent/ number of theoretical workdays	0.04	0.04	0.03	0.04	0.03	0.05	0.04	0.05	100%
		Frequency rate of work-related accidents with lost time involving employees of the AREVA group	Number of accidents with lost time/million hours worked	7.99 <sup>(3)</sup>	✓ 7.64	1.98	7.58	4.45	8.32	10.34	8.06	100%
		Number of work-related accidents with lost time involving subcontractor personnel working at an AREVA site	Number	136	✓ 173	4	49	14	61	30	15	97%
Number of fatal work-related accidents involving subcontractor personnel working at an AREVA site		Number	3	0	0	0	0	0	0	0	99%	
Number of fatal accidents involving employees of the AREVA group		Number	0	2	0	1	0	0	1	0	100%	
Number of commuting accidents with lost time involving employees of the AREVA group (excluding the US)		Number	114	167	3	21	31	38	47	27	100%	
Number of fatal commuting accidents involving employees of the AREVA group (excluding the US)		Number	0	3	1	0	1	1	0	0	100%	
Severity rate of work-related accidents with lost time involving employees of the AREVA group		Number of days lost/ thousands of hours worked	0.27	✓ 0.23	0.06	0.28	0.17	0.28	0.27	0.18	100%	

GRI <sup>(1)</sup> Corresp.	Data	Unit	2003 AREVA	2004 AREVA	2004						Coverage rate <sup>(2)</sup>	
					Corporate Depts	Front End division	R&S division	Back End division	T&D division	Connectors division		
	Number of INES <sup>(4)</sup> level 0 incidents in the nuclear facilities (France)	Number	44	56		28	7	21			100%	
	Number of INES <sup>(4)</sup> level 0 incidents in nuclear facilities in France	Number	51	66		38	7	21			100%	
	Number of INES <sup>(4)</sup> level 1 incidents in nuclear facilities in France	Number	16	14		6	0	8			100%	
	Number of INES <sup>(4)</sup> level 1 incidents in nuclear facilities in Europe, including France	Number	17	14		6	0	8			100%	
	Number of INES <sup>(4)</sup> level 2 incidents in nuclear facilities in France	Number	1	1		0	0	1			100%	
	Number of INES <sup>(4)</sup> level 2 incidents in nuclear facilities in Europe, including France	Number	1	1		0	0	1			100%	
	Number of incidents greater than INES <sup>(4)</sup> level 2 in nuclear facilities in France	Number	0	0		0	0	0			100%	
	Number of INES <sup>(4)</sup> level 2 incidents in nuclear facilities in Europe, including France	Number	0	0		0	0	0			100%	
	<b>LA9</b>	Percentage of employees having received training during the year	%	66% <sup>(3)</sup>	71%	61%	72%	64%	85%	61%	88%	100%
		Percentage of women executives	%	4%	5%							100%
		Percentage of women managers	%	17%	16%	31%	11%	14%	17%	13%	20%	100%
		Percentage of women in personnel grades: skilled/unskilled workers, administrative/clerical, technicians, supervisors	%	22%	23%	52%	13%	25%	17%	16%	43%	100%
Percentage of disabled employees		%	2%	2%	1%	2%	3%	2%	2%	1%	100%	

(1) A detailed table of correspondence with the guidelines of the Global Reporting Initiative is available on our website, [www.aveva.com](http://www.aveva.com).

(2) In % of the AREVA group's total workforce.

(3) 2003 figures corrected in 2004.

(4) INES: International Nuclear Event Scale.

✓ Figures verified by Ernst & Young at six sites in 2004.

# ENVIRONMENTAL INDICATORS

GRI <sup>(1)</sup> Corresp.	Data	Unit	2003 AREVA	2004 AREVA	2004						Coverage rate <sup>(2)</sup>
					Corporate Depts	Front End division	R&S division	Back End division	T&D division	Connectors division	
<b>3.20</b>	Percentage of sites with ISO 14001 certification	%	67%	73%		67	50	100			100%
	Percentage of other sites with significant environmental aspects with ISO 14001 certification	%	56%	57%		81	50	0	39	69	100%
<b>EN5</b>	Volume of water taken from the water table	m <sup>3</sup>	16,512,286	17,886,453	7,309	14,402,448	503,968	2,353,510	506,095	113,122	99%
	Volume of water taken from the surface (cooling water)	m <sup>3</sup>	133,043,190	134,607,250		26,935,150		107,672,100			100%
	Volume of water taken from the surface (excluding cooling water)	m <sup>3</sup>	10,709,670 <sup>(3)</sup>	9,791,434	12,439	5,757,500	7	3,877,461	90,028	54,000	99%
	Volume of water taken from the surface	m <sup>3</sup>	143,752,860 <sup>(3)</sup>	144,398,684	12,439	32,692,650	7	111,549,561	90,028	54,000	98%
	Volume of water taken from the water supply system	m <sup>3</sup>	1,951,725 <sup>(3)</sup>	2,564,808	47,568	593,834	542,956	213,948	451,114	715,388	99%
	Total volume of water used (excluding cooling water)	m <sup>3</sup>	29,173,681 <sup>(3)</sup>	30,242,694	67,316	20,753,782	1,046,931	6,444,919	1,047,237	882,510	99%
	Total volume of water used (with cooling water)	m <sup>3</sup>	162,216,871 <sup>(3)</sup>	164,849,944	67,316	47,688,932	1,046,931	114,117,019	1,047,237	882,510	99%
	<b>EN3</b>	Electricity bought (excluding EURODIF)	MWh	1,516,408 <sup>(3)</sup>	1,688,947	20,366	600,823	103,656	597,838	162,561	203,703
Thermal energy bought		MWh	49,275 <sup>(3)</sup>	137,312	6,638	52,380	19,737	5,633	49,686	3,239	100%
Energy exported		MWh	105,649	83,004	0	8,901	10,944	56,940	6,219	0	99%
Natural gas consumed		MWh	462,745 <sup>(3)</sup>	539,875	5,497	188,309	63,530	119,480	130,585	32,472	100%
Fuel oil consumed (heavy and light, engine fuel)		MWh	876,891 <sup>(3)</sup>	889,504	2,022	438,710	2,350	380,381	47,031	19,001	100%
Total energy consumed (excluding Eurodif)		MWh	2,800,767 <sup>(3)</sup>	3,180,638	34,523	1,279,334	178,329	1,046,392	383,645	258,415	97%
<b>EN8</b>		Direct GHG emissions	Metric tons CO <sub>2</sub> eq.	540,421 <sup>(3)</sup>	994,685	1,812	562,330	14,158	144,182	256,850	15,353
	Indirect GHG emissions	Metric tons CO <sub>2</sub> eq.	401,831 <sup>(3)</sup>	488,742	8,695	254,779	26,360	43,910	63,802	91,197	97%
<b>EN1</b>	Copper and copper alloys consumed	MT	16,581	28,210	4	13	87	0	15,976	12,130	100%
	Plastics consumed	MT	15,766	15,155	0	0	0	0	0	15,155	100%
	Lead consumed	MT	6 <sup>(3)</sup>	20	0	0	0	0	7	13	100%
	Pure nitric acid (HNO <sub>3</sub> ) consumed	MT	17,012	17,330	0	13,409	26	3,840	2	53	100%
	Sulfuric acid (H <sub>2</sub> SO <sub>4</sub> ) (H <sub>2</sub> SO <sub>4</sub> ) consumed	MT	78,364	87,457	0	87,210	15	8	3	220	100%
	Pure tributyl phosphate (TBP) consumed	MT	49	44	0	22	0	23	0	0	98%
	Pure hydrofluoric acid (HF) consumed	MT	7,407	7,663	0	7,662	1	0	0	0	100%
	Pure ammonia (NH <sub>3</sub> ) consumed	MT	4,852	4,832	0	4,823	0	2	0	6	100%
	Gaseous chlorine (Cl) consumed	MT	7,533	8,181	0	8,177	0	0	2	1	100%
	Pure chlorinated solvents consumed	MT	92 <sup>(3)</sup>	222	0	72	1	13	48	88	94%

GRI <sup>(1)</sup> Corresp.	Data	Unit	2003 AREVA	2004 AREVA	2004						Coverage rate <sup>(2)</sup>	
					Corporate Depts	Front End division	R&S division	Back End division	T&D division	Connectors division		
<b>EN10</b>	Volatil organic compounds emitted (chlorinated, fluorinated and benzene solvents, among others)	kg	486,998 <sup>(3)</sup>	965,016	220	642,163	7,264	6,241	197,455	111,672	98%	
	Air emissions of SO <sub>2</sub>	MT	666 <sup>(3)</sup>	847	0	217	0	578	52	0	83%	
	Air emissions of NH <sub>3</sub>	MT	558	334	0	334	0	0	0	0	78%	
	Air emissions of HF	MT	3.2	1.8	0	1.7	0	0	0	0.1	85%	
	Air emissions of HCl	MT	0.9 <sup>(3)</sup>	0.2	0	0.2	0	0	0	0	86%	
<b>EN12</b>	Air emissions of NO <sub>2</sub>	MT	531	672	0	251	4	316	24	77	87%	
	Total nitrogen (NO <sub>3</sub> , NO <sub>2</sub> , NH <sub>4</sub> OH, hydrazine) released to aquatic environments	MT	1,098 <sup>(3)</sup>	930	0	358	1	561	1	9	84%	
	Copper (Cu) released to aquatic environments	kg	126 <sup>(3)</sup>	68	0	2	14	11	1	39	98%	
	Zinc (Zn) released to aquatic environments	kg	2,325 <sup>(3)</sup>	2,390	0	2,180	13	164	17	16	97%	
	Tin (Sn) released to aquatic environments	kg	27.3 <sup>(3)</sup>	61.6	0	0	0	2.1	0.1	59.5	87%	
	Chromium (Cr) released to aquatic environments	kg	91.8 <sup>(3)</sup>	94.1	0	37.8	17.9	30	0.6	7.8	97%	
	Lead (Pb) released to aquatic environments	kg	47.1 <sup>(3)</sup>	43.2	0	0	1.6	28.7	0.3	12.7	98%	
	Cadmium (Cd) released to aquatic environments	kg	11.7 <sup>(3)</sup>	11.9	0	0	1.8	9.7	0	0.4	97%	
	Mercury (Hg) released to aquatic environments	kg	12.5 <sup>(3)</sup>	8.1	0	0.1	0	8	0	0	95%	
	Uranium (U) released to aquatic environments	kg	2,380 <sup>(3)</sup>	2,011	0	1,986	0	24	0	0	76%	
	<b>EN11</b>	Hazardous industrial waste (HIW) volume	MT	15,567 <sup>(3)</sup>	18,995	34	9,571	840	1,400	3,116	4,034	98%
		Common industrial waste (CIW) volume	MT	29,585 <sup>(3)</sup>	77,363	1,026	32,708	4,697	3,248	21,793	13,891	98%
Volume of radioactive waste shipped to licensed disposal facilities		m <sup>3</sup>	5,636	7,424	0	2,445	312	4,667	0	0	100%	

(1) A detailed table of correspondence with the guidelines of the Global Reporting Initiative is available on our website, [www.aveva.com](http://www.aveva.com).

(2) In % of the AREVA group's total workforce.

(3) 2003 figures corrected in 2004.

✓ Figures verified by Ernst & Young at six sites in 2004.



# GLOSSARY

## **BECQUEREL (BQ)** (see also Radioactivity)

Unit of measure for radioactivity (1Bq = 1 atomic particle disintegration per second).

## **CLF<sub>3</sub>**

Chlorine trifluoride. Industrial gas used for maintenance of uranium enrichment facilities due to its reactivity (to eliminate uranium deposits).

## **CO<sub>2</sub>**

Carbon dioxide (carbonic acid gas). The leading greenhouse gas\*, produced primarily by burning fossil fuels (coal, oil, natural gas, etc.).

## **COMMON INDUSTRIAL WASTE (CIW)**

Waste listed as non-hazardous in the European catalogue of waste. For non-European countries, the list of common industrial waste must comply with relevant local regulations.

## **CONNECTORS**

Component at the end of an electrical or optical conductor used to connect or disconnect them from another compatible component.

## **DECOMMISSIONING**

Term covering all of the stages that follow the shutdown of a nuclear facility, from final closure through the removal of radioactivity\* from the site, including physical dismantling and decontamination of all non-reusable facilities and equipment.

## **DIRECT EMISSIONS OF GREENHOUSE GASES**

Greenhouse gases emitted by processes and/or equipment owned or controlled by a company, such as company vehicles, raw materials inventories, industrial manufacturing processes, emissions stacks, etc.

## **DOSE**

Measurement used to characterize human exposure to radiation\*. The term "dose" is often erroneously used in place of "dose equivalent".

**Absorbed dose:** amount of energy absorbed by living or inert matter exposed to radiation. It is expressed in grays (GY).

**Dose equivalent:** in living organisms, the same absorbed dose has different effects, depending on the type of radiation involved. A dose multiplier, or "quality factor", is used to take these differences into account in calculating the dose, giving a "dose equivalent".

**Effective dose:** the sum of equivalent doses delivered to various organs and tissues of an individual, weighted using a factor specific to each organ and tissue. The effective dose unit is the sievert (Sv).

**Lethal dose:** mortal dose of nuclear or chemical origin.

**Maximum allowable dose:** dose that should not be exceeded over a given period.

## **DOSIMETRY**

An assessment or measurement method used to determine the radiation dose\* absorbed by a substance or an individual.

## **ECO-DESIGN**

Refers to the integration of the environment into the design of goods and services. All products affect the environment at one point or another in their life cycle. The goal of eco-design is to reduce those impacts while preserving, or indeed improving, product utility. In the eco-design process, environmental parameters are added to other design parameters, such as technical feasibility, cost effectiveness, and customer requirements.

## **ENRICHMENT, URANIUM\* ENRICHMENT**

Process by which uranium's content of fissile isotopes is increased. Natural uranium consists of 0.7% U<sup>235</sup> (fissile isotope) and 99.3% U<sup>238</sup> (non-fissile isotope), as well as very small quantities of U<sup>234</sup>. The proportion of U<sup>235</sup> is increased to 3-4% to make it usable in a pressurized water reactor\*.

## **ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)**

An Environmental Management System is a systematic process for identifying and improving environmental performance that may culminate in certification.

## **EPR (EVOLUTIONARY PRESSURIZED REACTOR)**

A new generation of pressurized water reactor with a rated capacity of 1600 MWe developed by Framatome ANP.

## **FREQUENCY RATE FOR WORK-RELATED ACCIDENTS**

Indicator used to measure the frequency of work-related accidents, expressed in the number of accidents with one day or more of lost time per million hours worked.

## **GOVERNANCE**

Designates the organization of authority within a company (corporate governance) and seeks the right mix of management bodies, oversight bodies and shareholders. In terms of sustainable development, good governance presupposes transparency, dialogue with stakeholders, and addressing stakeholder expectations. It means corporate commitment to guiding principles, which give rise to internal charters.

## **GREENHOUSE EFFECT** (see Greenhouse gases)

## **GREENHOUSE GASES (GHG)**

Gases present in the atmosphere that may be produced naturally or by human activity. They create a greenhouse effect, helping to warm the earth and make it livable. But beyond a certain threshold, their build-up in the atmosphere causes global warming, which interferes with the climate. The main greenhouse gases are carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>), hydrofluorocarbons (HFC), sulfur hexafluoride (SF<sub>6</sub>) and perfluorocarbons (PFC).

## **HAZARDOUS INDUSTRIAL WASTE (HIW)**

Waste listed as hazardous as defined by the European Union Council directive 2000/532/CE of May 3, 2000 (transposed into French law by decree No. 2002-540 of April 18, 2002) and, for non-European countries, in accordance with relevant local regulations.

## **HHA (HEALTH HAZARDS ASSESSMENT)**

## **HTR**

High temperature reactor.

## **INDIRECT EMISSIONS OF GREENHOUSE GASES**

Greenhouse gas emissions relating to a company's business, but that are emitted by sites or operations owned or controlled by an entity other than the company. Example: emissions resulting from purchased power or heat.

## **INES (INTERNATIONAL NUCLEAR EVENT SCALE)**

International scale used to define the seriousness of an event at a nuclear facility.

## **ISO (INTERNATIONAL STANDARDS ORGANIZATION)**

International standards. The ISO 14000 standards set requirements for environmental management organizations and systems designed to prevent pollution and reduce the environmental effects of an activity. The ISO 9000 standards set organizational and management system requirements to demonstrate the quality of a product or service in terms of customer requirements.

## **ISOTOPES**

Elements whose atoms have the same number of electrons and protons, but a different number of neutrons. Uranium, for example, has three isotopes: <sup>234</sup>U (92 protons, 92 electrons, 142 neutrons), <sup>235</sup>U (92 protons, 92 electrons, 143 neutrons), and <sup>238</sup>U (92 protons, 92 electrons, 146 neutrons). A given chemical element can therefore have several isotopes with a differing number of neutrons. All of the isotopes of a given element have the same chemical properties, but different physical properties (mass in particular).

## **MOX ("MIXED OXIDES")**

A blend of uranium and plutonium oxides used to fabricate certain types of nuclear fuel.

## **N<sub>2</sub>O**

Nitrous oxide (see Greenhouse gases)

## **NGO (NON-GOVERNMENTAL ORGANIZATION)**

Non-profit association or group that is unaffiliated with States and whose purpose is to promote and defend collective interests.

## **OECD (ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT)**

Organization of 30 member nations that offers governments a framework for examining, developing and refining economic and social policy. The OECD also provides non-binding instruments such as its Guidelines for Multinational Enterprises.

## **PACKAGING OF NUCLEAR WASTE**

Operation consisting of converting waste into a form suitable for transport and/or storage and/or final disposal.

– Very low-level radioactive waste (vinyl, cleaning rags, etc.) is placed in steel drums.

– Low- and medium-level waste is first compacted to reduce its volume as much as possible, then packaged, i.e., encapsulated in a special material (concrete, bitumen or resin matrix) to form solid blocks capable of withstanding environmental conditions.

– For high-level waste, a glass matrix is used (vitrification\* process).

– The vitrified waste is placed in stainless steel canisters.

## **PLUTONIUM**

Chemical element with the atomic number 94 and conventional symbol Pu. Plutonium 239, a fissile isotope\*, is produced in nuclear reactors from uranium 238.

## **RADIATION, IONIZING RADIATION** (see also radioactivity)

Flux of electromagnetic waves (radio waves, light waves, ultraviolet or X rays, cosmic rays, etc.), of particles of matter (electrons, protons, neutrons), or of a group of such particles. The flux carries energy in proportion to the wave frequency or to the particle speed. Their effect on irradiated objects is often to strip electrons from their atoms, leaving ionized atoms in their wake, which carry electrical charges, hence the generic name of "ionizing" radiation.

## **RADIATION PROTECTION** (see also radioactivity)

Term commonly used to designate the branch of nuclear physics pertaining to the protection of individuals from ionizing radiation\*. By extension, the term "radiation protection" covers all of the health measures taken to protect the health of members of the public and workers from such radiation and to comply with laws and regulations.

## **RADIOACTIVE HALF-LIFE**

The time it takes for half of the atoms contained in a given quantity of radioactive substance to disintegrate naturally. The radioactivity\* of the substance is thus divided in half. The radioactive half-life of each radioelement is constant:

– 110 minutes for argon 41;

– 8 days for iodine 131; and,

– 4.5 billion years for uranium 238.

## **RADIOACTIVE WASTE**

Non-reusable sub-products of the nuclear industry. There are four categories of waste, based on their activity level:

– very low-level waste (VLLW);

– low-level waste (LLW) from industrial operations and maintenance, such as gloves, booties, face masks, etc., which make up 90% of the waste sent to specialized disposal facilities;

– medium-level waste (MLW), such as dismantled production equipment, measurement instrumentation, etc. (8%);

– high-level waste (HLW), mainly fission products that have been separated during used fuel treatment and recycling operations (2%).

## **RADIOACTIVITY** (see also dose, becquerel, radiation)

Emission by a chemical element of electromagnetic waves and/or particles caused by a change in the configuration of its nucleus. Emission can be spontaneous (natural radioactivity of certain unstable atoms) or induced (artificial radioactivity).

## **REACTOR, NUCLEAR REACTOR**

System in which controlled nuclear reactions are conducted, producing heat that is used to make steam. The steam activates a turbine, which drives an electric generator. Different reactor types use different fuel, moderators (to slow neutrons) and coolants (to remove heat used to generate power). The pressurized water reactor (PWR) currently used by EDF uses slightly enriched uranium fuel and pressurized light water as the moderator and coolant.

• Boiling Water Reactor (BWR): nuclear reactor in which boiling pressurized water is used to remove the heat from the reactor.

• Pressurized Water Reactor (PWR): nuclear reactor moderated and cooled by light water maintained in the liquid state in the core through appropriate pressurization under normal operating conditions.

## **SEVERITY RATE FOR WORK-RELATED ACCIDENTS**

Indicator used to measure the severity of work-related accidents, expressed in the number of days lost following a work-related accident with one day or more of lost time per thousand hours worked.

## **SEVESO**

European directive aimed at preventing major accidents involving hazardous materials and requiring in particular the development of emergency response/management plans, public information and urban zoning near high-risk industrial sites.

## GLOSSARY

### SF<sub>6</sub>

Sulfur hexafluoride. Industrial gas classified as a greenhouse gas\* with a high global warming potential (22,200 times that of CO<sub>2</sub>\*). Widely used in the metallurgical and electronics industry as insulation for electrical equipment.

### SIEVERT (SV)

Official unit of measure for dose equivalent, i.e. the fraction of energy from radioactive radiation received by 1 kilogram of living matter. The dose is calculated by taking into account the type of radiation and the organ in question. The sievert measures the biological effects of radioactivity.

### SITES WITH SIGNIFICANT ENVIRONMENTAL ASPECTS (SEA)

In AREVA's frame of reference, sites with significant environmental aspects include our nuclear sites, sites with facilities representing major man-made risk per Seveso\* regulations, mining sites, plants with facilities subject to public inquiry, and industrial or service sites whose consumption, releases and pollution carry significant weight in the group's environmental accounting.

### SRA (SIMPLIFIED RISK ASSESSMENT)

Method used to rank sites according to three levels of risk for human health and the environment:

Class 1: sites whose risks are such that in-depth investigations and detailed risk assessment are required;

Class 2: sites with limited impacts or risk that require monitoring (periodic sampling and analysis, piezometers, etc.) and may require urban zoning measures;

Class 3: sites that do not require additional special investigations or studies as long as their environment and usage does not differ from those covered by the SRA.

### STAKEHOLDERS

Stakeholders are individuals or groups of individuals concerned by the company's business, for a variety of reasons: shareholders, employees, suppliers, customers, the government, communities near plant sites, environmental associations, NGOs, etc. Their interests impact or are impacted by those of the company in the various areas that concern them.

### TREATMENT

Treatment of used fuel to separate fissile and fertile materials (uranium and plutonium) for reuse and to package the different types of waste into a form suitable for disposal. Fission products and transuranics are vitrified.

### UF<sub>6</sub>

Uranium hexafluoride. This uranium\* compound is gaseous at low temperatures and is used for uranium enrichment\* operations.

### URANIUM

Chemical element with the atomic number 92 and conventional symbol U, which has three natural isotopes: <sup>234</sup>U, <sup>235</sup>U and <sup>238</sup>U. The only naturally occurring fissile nuclide is <sup>235</sup>U, a quality that makes it useful as a source of energy. Natural uranium contains 0.7% of this isotope.

### USED FUEL

Nuclear fuel that has been used in a reactor\*.

### VOLATILE ORGANIC COMPOUND (VOC)

Chemical compound, such as gasoline or acetone, that evaporates at ambient temperature. When exposed to sunlight, VOC reacts with other gases in the atmosphere to form ozone and other photo-oxidants.

## TO LEARN MORE

This brochure, "Sustainable development facts and figures", aims to provide factual information and explain our sustainable development performance. Many other sources supplement and delve further into the information needed to understand and document these challenges.

All of the selected sources and reports presented hereunder are available on the Internet at the addresses provided, or can be accessed via links on the AREVA group's website, [www.aveva.com](http://www.aveva.com), to the websites of our main subsidiaries, production sites, partners and stakeholders, and others.

### For more information...

#### > On the AREVA group, its operations and its sustainable development commitments:

- AREVA Values Charter
- 2004 Activity and Sustainable Development Report
- 2004 Annual Report
- Website of the AREVA group, [www.aveva.com](http://www.aveva.com)
- Websites of the group's main subsidiaries, [www.cogema.fr](http://www.cogema.fr), [www.fciconnect.com](http://www.fciconnect.com), [www.framatome-anp.com](http://www.framatome-anp.com), [www.aveva-td.com](http://www.aveva-td.com) and [www.technicatome.com](http://www.technicatome.com)

#### > On performance measurement and tracking by the AREVA group:

- Sustainable Development Indicators Guidelines (available on our website, [www.aveva.com](http://www.aveva.com))
- 2003 Environmental Reports, which include social and societal aspects, from the main production sites with significant environmental aspects in France (COGEMA-Cadarache, EURODIF Production, COGEMA-La Hague, COGEMA-Marcoule, MELOX at Marcoule, COGEMA-Miramas, COGEMA-Pierrelatte, COGEMA-SOCATRI, Cezus-Jarrie, COMURHEX-Pierrelatte and COMURHEX-Malvési) and in Niger (Compagnie minière d'Akouta, Société des mines de l'Air).

#### > On the challenges of and key players in the energy and nuclear power sectors, in particular:

- International Atomic Energy Agency (IAEA), [www.iaea.org/worldatom/](http://www.iaea.org/worldatom/)
- ANDRA, the French waste management agency (*Agence Nationale pour la gestion des Déchets Radioactifs*), [www.andra.fr](http://www.andra.fr)
- Nuclear Energy Agency of the Organization for Economic Cooperation and Development (OECD), [www.nea.fr](http://www.nea.fr)
- Observ'ER, the renewable energies research institute, [www.energies-renouvelables.org](http://www.energies-renouvelables.org)
- CEA, the French Atomic Energy Commission (*Commissariat à l'Energie Atomique*), [www.cea.fr](http://www.cea.fr)
- World Energy Council, [www.worldenergy.org](http://www.worldenergy.org)
- World Nuclear Association, [www.world-nuclear.org](http://www.world-nuclear.org)

- ADEME, the French environmental and energy conservation agency (*Agence française de l'environnement et de la maîtrise de l'énergie*), [www.ademe.fr](http://www.ademe.fr)
- BRGM, the French geologic survey (*Bureau français de recherches géologiques et minières*), [www.brgm.fr](http://www.brgm.fr)
- Alternatives magazine, "Talking differently about energy", which can be ordered at [www.aveva.com](http://www.aveva.com)
- All about Nuclear Energy, from Atom to Zirconium, Bertrand Barré, 2003, which can be ordered at [www.aveva.com](http://www.aveva.com)

#### > On the partners, liaisons and stakeholders mentioned in this report:

- Afrique Initiatives, [www.afrique-initiatives.com](http://www.afrique-initiatives.com)
- World Bank, [www.worldbank.org](http://www.worldbank.org)
- Comité 21, the French environment and sustainable development committee, [www.comite21.org](http://www.comite21.org)
- World Atlas of Sustainable Development (*Atlas mondial du développement durable*), Autrement Editions
- Global Compact, [www.unglobalcompact.org](http://www.unglobalcompact.org)
- Global Reporting Initiative, [www.globalreporting.org](http://www.globalreporting.org)
- Innovest, [www.innovestgroup.com](http://www.innovestgroup.com)
- ONUDI, [www.unido.org](http://www.unido.org)
- Transparency International, [www.transparency.org](http://www.transparency.org)
- Vigeo, [www.vigeo.fr](http://www.vigeo.fr)
- World Business Council for Sustainable Development (WBCSD), [www.wbcsd.org](http://www.wbcsd.org)

### ... and to continue the dialogue

We value your opinions. Sharing them with us will help us to address your concerns. Please take the time to send us your comments via the "Dialogue" box on the AREVA website, or contact us by mail:

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