

REPORT  
2011

Responsible  
Development of AREVA's  
Mining Activities

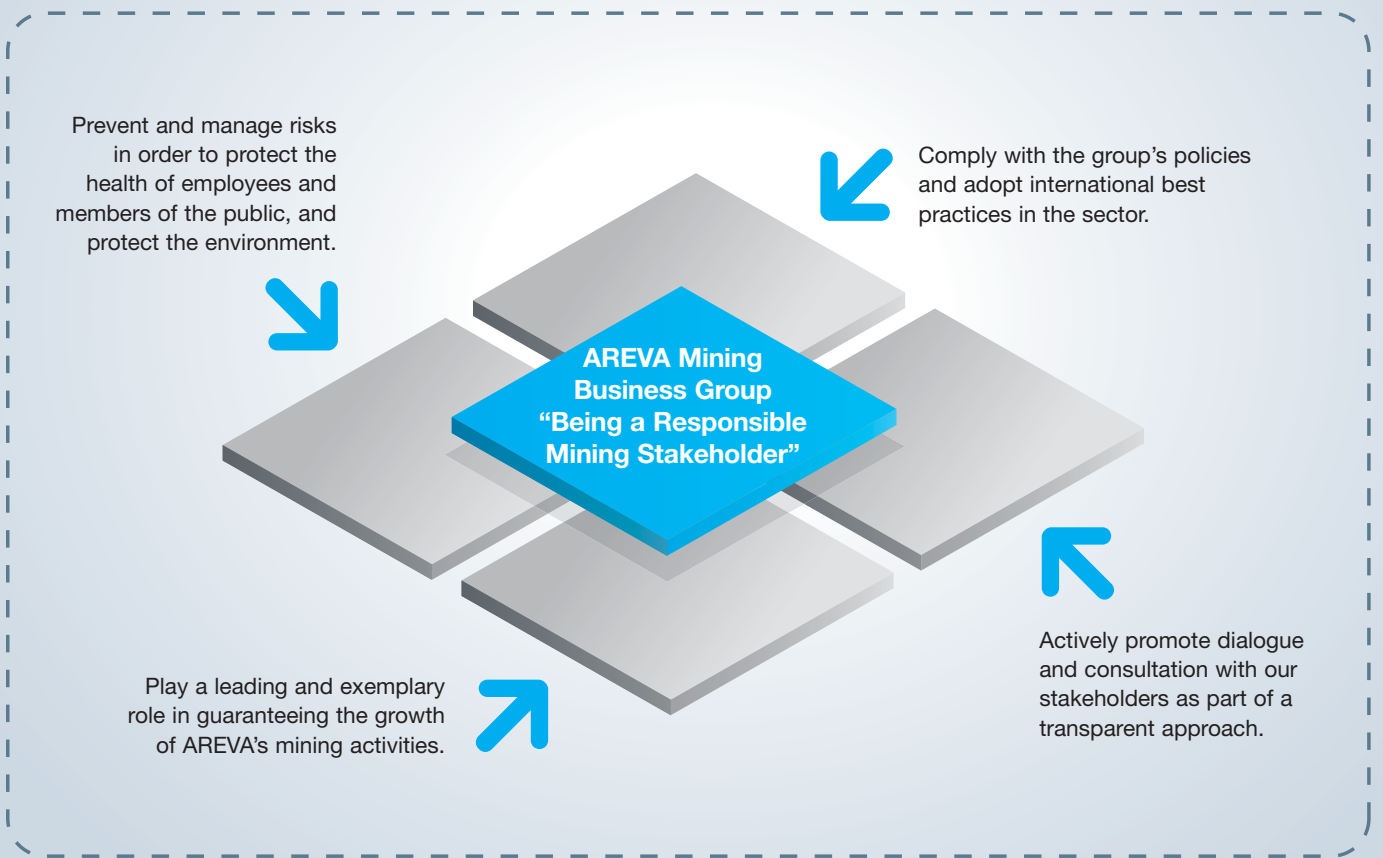
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# OUR APPROACH TO RESPONSIBILITY

*The group's commitment is founded on the conviction that nuclear and occupational safety, transparency and an ethical approach are inseparably linked conditions for the sustainable development of its activities.*

*Our teams strive on a daily basis to adhere to this approach in order to ensure that AREVA's mining activities continue to grow sustainably.*



# “BEING A RESPONSIBLE MINING STAKEHOLDER”



Working in the uranium mining business means the chance to experience and take part in a real adventure. An adventure which, from the exploration phase and the operation of the mine through to the decommissioning of a site, lasts over half a century. An adventure which requires significant investment, mobilizes a large number of workers and may cover vast areas. An adventure which in order for it to become a “success story” must be founded on a strong and shared set of values.

For over 60 years, this adventure has been part of AREVA's life and it is one of the key players in it. On our part, this implies a commitment to act responsibly in all economic, environmental, health, employment and social matters, a commitment which I make personally and which is shared by all employees of AREVA's mining activities.

This results of this commitment are presented in this 2nd responsible development report.

In terms of safety, our accident frequency rate of 1.05 now brings us into line with the best international standards in this area. Our objective of “zero accidents” nevertheless remains unchanged. With the application of and compliance with European radiation standards on all its sites, for its own employees, its sub-contractors and local populations, as well as the launch of a new Health Observatory in Niger responsible for monitoring the health of our former employees, AREVA confirms the place of central importance that it assigns to health in its development policy. We also continuing to drive adoption of the group's environmental policy forward by seeking to reduce consumption of fossil fuels and greenhouse gas emissions.

Well aware of the importance of dialogue and consultation, we are also fully involved in the bodies set up for this purpose such as the Local Information Commissions [Commissions Locales d'Information - CLIs]. With our policy of social initiatives in health or development aid, AREVA is adopting a more open attitude to community involvement in the areas where its mining activities are located.

Such actions in the fields of safety, the environment and health go hand in hand with the economic development of our business activity. In a highly competitive context, over the last five years, we have seen very rapid growth. With an increase of 70% in our production of uranium, we are now present across five continents, with our number of employees having doubled and our share in AREVA's revenue having risen from 5 to 15%. In order to maintain some of the lowest production costs on the market, we have launched an operational performance plan. Furthermore, we have also confirmed investments for the Imouraren mine in Niger and the Cigar Lake mine in Canada, accounting for 30% of investments by the group.

Looking beyond the results achieved in 2011, which you can consult in our report, we are also actively engaged in a continuous improvement initiative. The performance plan that we have set up aims to ensure the economic sustainability of our activities whilst anchoring progress in what we value most strongly, namely: safety as a priority, the commitment to reduce our environmental impact, dialogue and respect with regard to our stakeholders. I have asked all our teams to mobilize their efforts in the implementation and accomplishment of this performance plan which shall enable us to continue to progress whilst further strengthening the confidence of our customers and all our internal and external stakeholders.

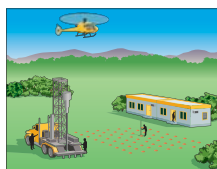
**Olivier Wantz**

*Senior Executive Vice President, AREVA Mining Business Group*

*Our uranium mining activities are generally conducted over periods of decades, with each step in the life of a mining project bringing challenges which may have an impact on our stakeholders whatever part of the world we are operating in. For AREVA, this results in an obligation to act as a responsible mining stakeholder by adhering to the fundamentals defined by the group: the Values Charter, the 10 commitments to sustainable development, the prevention and management of risks, and transparency.*

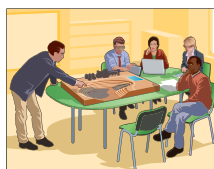
We identify these challenges as falling into the following thematic areas: the environment, health, safety, commitment to our employees and community involvement. For each of these areas, we set operational objectives to ensure that sustainable development performance continues to improve on an ongoing basis.

This is an essential factor in ensuring the acceptance of our activities: it is our "social license to operate".



10 to 15 years

**Exploration...**



5 years on average

**Development of projects...**



several decades

**Operation...**



several decades

**Reclamation**

OUR FUNDAMENTALS

VALUES CHARTER - RISK MANAGEMENT AND PREVENTION - AREVA POLICIES - BEST PRACTICES IN THE SECTOR

MAJOR ISSUES

ENVIRONMENT - COMMITMENT TO EMPLOYEES - HEALTH AND SAFETY - COMMUNITY INVOLVEMENT

**Olivier Wantz, Senior Executive Vice President of the Mining Business Group, has indicated the course to be adopted as of 2012, in line with the group's "Action 2016" strategy and the policies of AREVA:**

- **Be a major economic force in the long term** by increasing production whilst controlling costs.
- **Save 20 years of resources and reserves** thanks to an exploration program deployed in Africa, Asia, Australia and America.
- **Set an exemplary standard in key areas of responsibility** (occupational safety, environmental incidents, health initiatives, community development initiatives) in all countries where mining activities are located.
- **Be impeccable in terms of compliance with changing international standards and regulations**, and even take things further where deemed necessary.
- **Actively promote dialogue and consultation** throughout all phases of development of our mining projects.
- **Plan ahead in terms of decommissioning and the post-mining management** of sites for which AREVA is responsible.



## THE FUNDAMENTALS OF OUR APPROACH

### → THE GROUP'S VALUE CHARTER

The AREVA Values Charter, updated at the start of 2012, lays the foundations for the ethical governance of our activities. It expresses the group's commitment to addressing the major issues of our time: sustainable development, compliance with the Universal Declaration of Human Rights and adoption of the international principles defined by the OECD and the UN.

This reference document for all employees also states the rules of conduct with regard to our stakeholders: our customers, shareholders, employees, suppliers and sub-contractors, as well as the general public and of course the planet. The Values Charter is available on the website [www.aveva.com](http://www.aveva.com).

Every year, AREVA Mines, like all subsidiaries of the group, conducts an internal ethical reporting process on the proper application of the Values Charter and any infringements. The nature of corrective actions proposed varies depending on the severity of the failure to comply with the charter. These actions may range, for example, from training to dismissal of the personnel concerned.

### → THE POLICIES WHICH WE ARE DEPLOYING

Our approach is based on the AREVA group's 10 commitments in terms of economic, employment, social and environmental responsibility. These commitments (presented in the illustration opposite) represent our mindset, our vision and our way of acting. They are the engine which drives the group's performance in terms of sustainable development.

The group also ensures regulatory compliance and the application of its internal standards. In this way, AREVA ensures that it complies with the regulations of the countries in which it is located and a certain number of reference materials: the group's guides and

policies (with the results achieved for objectives set), best industrial practices in the sector, and voluntary commitments.

AREVA's international mining activities are no exception to this rule and are fully integrated into this approach. The information presented in this report in particular makes reference to the group's policies in the following areas: the environment, health and occupational safety, employment relations and the group performance plan.

### → RISK PREVENTION AND MANAGEMENT

Nuclear and occupational safety are absolute priorities for AREVA. The group defines and deploys a set of material and organizational provisions to prevent accidents from occurring and to limit their impact on persons, the environment and property in the event that they should occur. In the same way as other entities of the group, its mining activities are also committed to the application of these provisions. Two families of risk are in particular identified: chronic environmental risks and accidental risks.

The prevention of these risks at the source is illustrated by the numerous commitments for action put in place to ensure that regulatory requirements and in the internal standards of the group are met:



hazard studies, risk analyses, health risk assessments, development of a culture of risk awareness among our employees and sub-contractors, hazardous substance substitution procedure, eco-design.

In operations, the emphasis is placed upon the maintaining and verifying the performance of safety barriers stipulated in the risk analyses. Modifications of facilities or processes are also subject to risk analyses and safety measures which are updated as necessary. Discharges from installations are kept at as low a level as possible using an environmental monitoring network.

The long-term prevention of risks of environmental liabilities is another important challenge for the entities of the group and mining activities in particular. For example, several studies were conducted in 2011 and 2012 for sites for storage of residues from the processing of French uranium ore within the framework of the French National Plan for the Management of Radioactive Materials and Waste (Plan National de Gestion des Matières et Déchets Radioactifs – PNGMDR) corresponding to an investment of several hundred thousands of euros.

## → BEST PRACTICES IN THE SECTOR

### *The Extractive Industries Transparency Initiative - EITI*

Transparency is right at the heart of the approach to responsible growth adopted by AREVA's mining activities, which attach a great deal of importance to meeting their commitments.

Consequently, since 2003, by lending its support to the Extractive Industries Transparency Initiative (EITI), AREVA has continued to demonstrate its commitment to greater transparency in payments made to States in relation to the management of mining resources.

Niger, Gabon, Mongolia, Kazakhstan, the Ivory Coast and Central African Republic where the group is engaged in its mining activities have either EITI Compliant or EITI Candidate status. In these countries, our mining subsidiaries participate in the local multi-party and declare payment of taxes, mining rights and taxes on profits using specific declaration forms.

The Statutory Auditors of these subsidiaries carry out an audit which results in a certificate of compliance in

accordance with the IFAC ISRS 4400 (International Standards on Related Services) international standard.

Furthermore, AREVA's mining activity entities assess their involvement in the EITI process by means of self-assessment forms.

### *The International Council on Mining and Metals - ICMM*

The application of international standards and best practices for the extractive sector provides important sources of leverage to improve the sustainable development performance of activities of the AREVA Mining Business Group.

Since May 2011, AREVA has been a member of the International Council on Mining and Metals (ICMM). This initiative is a reflection of our desire to be part of a new movement of continuous improvement and to share our know-how more effectively with other stakeholders in the sector.

After going through the application process, our activities are required to implement progress action plans, with targets initially set to be achieved by the end of 2012. The nature of the situation post-Fukushima and its associated consequences have led us to propose a re-scheduling of this program to the ICMM.

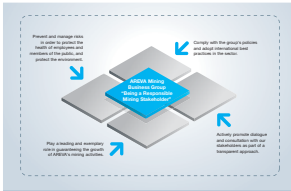
Management at the highest level of our organization has expressed its desire for AREVA's mining activities to continue to play an active role on the ICMM.

### *Public reporting and associated audit*

The verification of our sustainable development reporting by an independent third-party is an important part of our approach to ensure transparency with regard to our stakeholders.

We are currently studying implementing this approach for the scope of the Responsible Development of AREVA's Mining Activities Report.

At the present time, our mining sites may be audited as part of the external checks performed by the Statutory Auditors for the group's financial report: "Reference document". As a result, in 2011, the Nigerien sites of COMINAK and SOMAÏR were audited on several sustainable development performance indicators. The resulting information is published in the 2011 Reference document of the AREVA group (page 378).



In line with best international practice, we are also gradually incorporating the indicators of the Global Reporting Initiative (GRI Mining and Metals Sector Supplement) into our reporting system.

We also remain attentive to ensure ongoing compliance with new French and European regulations in terms of public reporting.

## → OUR CONTINUOUS IMPROVEMENT OBJECTIVES

We are actively engaged in a continuous improvement initiative, the main annual objectives of which are stated in the table below.

| ISSUES  | RESPONSIBLE DEVELOPMENT REPORT ON AREVA'S MINING ACTIVITIES 2010  | RESPONSIBLE DEVELOPMENT REPORT ON AREVA'S MINING ACTIVITIES 2011  |
|---|---|---|
| <b>Our approach to responsibility</b>   | <ul style="list-style-type: none"> <li>Implementation of an action plan by 2013 taking into account the international standards of the ICMM and the GRI.</li> </ul>   | <ul style="list-style-type: none"> <li>Propose a new plan of action to promote sustainable development to be rescheduled until 2015.</li> </ul>   |
| <b>Health and safety</b><br><i>(*inclusive of both employees and sub-contractors)</i> | <ul style="list-style-type: none"> <li>*Zero fatal work-related accidents and *zero employees exposed to an average dose of greater than 16 mSv.</li> <li>Implement Health Observatories in Gabon and Niger.</li> </ul> | <ul style="list-style-type: none"> <li>*Zero fatal work-related accidents.</li> <li>*Maximum frequency rate of TF1 set at 1.2 for the Mining Business Group.</li> <li>*Maximum dose due to exposure to ionizing radiation of less than 16 mSv.</li> </ul>         |
| <b>Employment</b>   | <ul style="list-style-type: none"> <li>Increase the percentage of women on Management Committees.</li> <li>Increase the number of hours of training per worker.</li> </ul>  | <ul style="list-style-type: none"> <li>Continue to deploy actions to promote diversity, expertise and the development of skills both in France and internationally.</li> </ul>  |
| <b>Environment</b>  | <ul style="list-style-type: none"> <li>Significantly improve the environmental performance of our activities.</li> </ul>  | <ul style="list-style-type: none"> <li>Deployment of policy levers for putting the group's updated environmental policy into practice.</li> <li>Reduce significant environmental incidents by 10%.</li> </ul>   |
| <b>Social</b>   | <ul style="list-style-type: none"> <li>Establish a sustainable presence wherever our mines are located.</li> </ul>  | <ul style="list-style-type: none"> <li>In addition to the Mining Integration Committee (Comité d'Intégration Mines - CIM - see p. 26), establish Mining Social Committees [Comités Sociétaux Mines] on sites to manage community involvement projects.</li> </ul> |



# OUR ACTIVITIES



*Well field of the KATCO In Situ Recovery mine - Kazakhstan.*



*From exploration to extraction and the processing of uranium, through to the redevelopment of sites, AREVA's mining activities are the first link in the nuclear fuel cycle. The world's second largest producer of uranium, AREVA is developing its activities to guarantee long-term security of supply to its customers.*

## ACTIVITIES EXPERIENCING STRONG GROWTH

### → AN INTERNATIONAL PRESENCE

AREVA's mining activities span five continents. Our main uranium production sites are located in Canada, Kazakhstan and Niger.

Part of our exploration activities are also conducted in Australia and Mongolia and on the African continent more generally. Two mining projects under development have been confirmed in Niger (Imouraren) and Canada (Cigar Lake).

Until August 2012, AREVA was also involved in the production of gold through its subsidiary La Mancha, which has non-majority shareholdings in operations in Sudan and the Ivory Coast, and majority shareholdings in operations in Australia.

### → 2011: PRODUCTION CONSTANTLY ON THE INCREASE

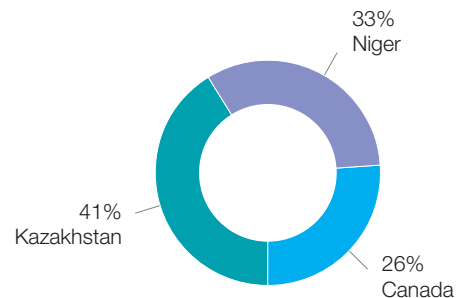
In 2011, AREVA is the second largest producer of uranium in the world with an output of 8,790 tonnes of natural uranium (world production in terms of accessible share is estimated to be 55,000 tonnes of uranium). On the basis of consolidated figures, the gold subsidiary La Mancha produced 2,394 kg of precious metal.

Revenue amounted to 1,289 million euros, accounting for 15% of the group's revenues. The total headcount for all mining activities stood at 5,319 employees.

#### AREVA'S SHARE AS OPERATOR IN URANIUM MINING ACTIVITIES

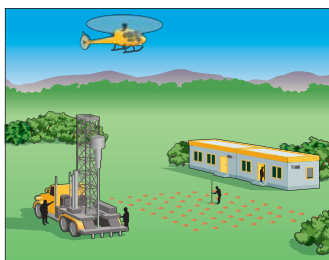
|                     |                          |        |
|---------------------|--------------------------|--------|
| <b>Kazakhstan</b>   | KATCO                    | 51%    |
| <b>Namibia</b>      | Trekopje Project         | 100%   |
| <b>CAR</b>          | Bakouma                  | 100%   |
| <b>France</b>       | AREVA Mines              | 100%   |
| <b>Mongolia</b>     | Dulaan Uul               | 100%   |
| <b>South Africa</b> | Ryst Kuil Project        | 74%    |
| <b>Australia</b>    | Koongarra                | 100%   |
| <b>Canada</b>       | McClellan Lake           | 70%    |
|                     | Midwest                  | 69.16% |
|                     | Kiggavik-Sissons Schultz | 64.80% |
| <b>Niger</b>        | SOMAÏR                   | 63.40% |
|                     | COMINAK                  | 34%    |
|                     | IMOURAREN SA             | 56.65% |
|                     | Arlit Concession         | 100%   |

Diagram showing breakdown of uranium production in 2011 by geographical area



## URANIUM AS A CORE BUSINESS

Our mining activities consist mainly of discovering and mining deposits of uranium, a raw material for the generation of nuclear electricity. There are four main activities in the life cycle of a mine: exploration, project development, mining and the decommissioning of mining sites.



### → PHASE 1: EXPLORATION OF NEW DEPOSITS

Exploration involves finding uranium deposits with sufficient grade and tonnage to mine under sustainable economic, technical, environmental and community conditions. It is an important step to establish the foundations for constructive dialogue with neighboring populations living in the area of the potential future mining project and to carry out an initial environmental assessment.

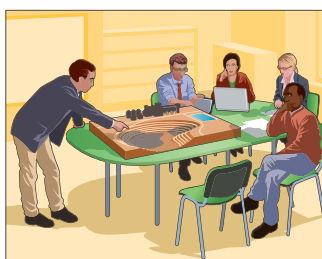
#### NEWS FOR 2011-2012

With a budget of close to 50 million euros in 2011, AREVA's mining activities continue to deploy an ambitious exploration program throughout the world.

Very active sub-soil exploration campaigns are being conducted in Canada, with the most recent studies having confirmed the potential of Shea Creek in the Athabasca Western Basin and around Kiggavik, in Nunavut.

Similarly, the results obtained in Mongolia and Australia also show some encouraging signs. In 2012, AREVA

and the Mitsubishi Corporation signed an agreement to conduct a vast exploration program together in Australia to cover several tens of thousands of km<sup>2</sup> in areas where no exploration has yet been carried out.



### → PHASE 2: DEVELOPMENT OF FUTURE MINING PROJECTS

The development of projects follows on from feasibility studies which confirm the possibility of being able to mine a deposit.

This step allows methods for extraction and processing of the ore to be defined. It is also during this phase that new facilities and the associated infrastructure are built. These development activities are accompanied by an environmental impact study presented to the authorities and the general public at public hearings and in multi-party working groups. They also make it possible to prepare the best possible level of community involvement around the future mining activity (development of local social and economic projects, creation of direct and indirect jobs, etc.).

#### NEWS FOR 2011-2012

In 2011, the preparatory work for the production startup of the Imouraren project in Niger proceeded at a slower pace as a result of the hostages taken in the north of Niger in September 2010. In partnership with the State of Niger, the French authorities have put a protection plan in place. Expatriate staff have thus been gradually returning to the country since July 2011, with the ability to guarantee the safety of employees and business activities now having been recognized.

In Canada, AREVA signed a memorandum of understanding in December 2011 with its operating partners (partners in Cigar Lake: AREVA, Cameco Corp., Idemitsu, Tepco; partners in McClean Lake: AREVA, Denison Mines Corp., Ourd Co Ltd) to process all the uranium ore extracted at Cigar Lake in



the McClean Lake plant. The Cigar Lake mine is the world's second largest high-grade uranium deposit. It is scheduled to enter production during the course of 2013.

The pilot unit of the Trekkopje project in Namibia delivered its first uranium concentrate in January 2011, which represents a major technical accomplishment given the very low grade of the ore. More than 200 tonnes of uranium have already been produced in this way.



### → PHASE 3: MINING

Strictly speaking, mining operations include both the extraction and processing of ore. Three methods are used to extract uranium ore: open-pit mining, underground mining, and in-situ recovery (ISR). These techniques are used depending on the configuration of the deposit and the nature of the ore (depth of the deposit, uranium content, safety conditions and environmental protection, etc.). The extracted ore is then mechanically and chemically processed using a process adapted to its inherent properties that turns it into uranium concentrate: "Yellow Cake". This is how uranium is sold.

The processing of the ore requires the use of chemicals, the transport, storage and use of which is covered by our risk prevention and management system. This highly industrial phase requires the implementation of all the measures necessary to ensure the health and safety of employees and neighboring populations. The environmental impact must be at a level which is as low as reasonably possible. It is also an important phase for local social and economic development, with industrial activities in general lasting for several decades.

### NEWS FOR 2011-2012

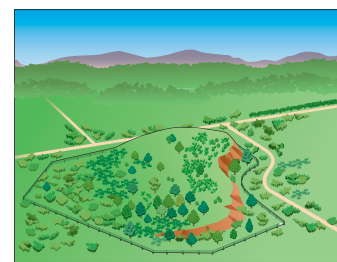
In 2011, the 8 790 tonnes of uranium produced came from the SOMAÏR and COMINAK sites in Niger, the

KATCO site in Kazakhstan and the McArthur site in Canada (the operator of the McArthur site is Cameco; AREVA holds a 30.2% share in this site). The activities of McClean Lake were in maintenance during this period and did not produce any Yellow Cake. The table below shows the breakdown of 2011 production in tonnes of uranium:

| Country                            | Sites             | Type             | Accessible share |
|------------------------------------|-------------------|------------------|------------------|
| Canada                             | McArthur          | Underground mine | 2,321            |
| France                             | Min. Div. Hérault | Not defined      | 6                |
| Kazakhstan                         | KATCO             | In Situ Recovery | 3,608            |
| Niger                              | COMINAK           | Underground mine | 571              |
|                                    | SOMAÏR            | Open pit mine    | 2,284            |
| <b>Total (en tonnes d'uranium)</b> |                   |                  | <b>8,790</b>     |

source : AREVA

An increase in the production capacities of the SOMAÏR and KATCO subsidiaries will ultimately enable them to achieve an annual production of 3,000 and 4,000 tonnes of uranium respectively.



### → PHASE 4: DECOMMISSIONING OF MINING SITES

After the production phase (if possible as far upstream of closure as possible), the group redevelops the mining sites. This consists of ensuring and maintaining public health and safety, and of limiting the residual impact of past activities on the environment and local populations.

AREVA has developed genuine expertise in this field, for all types of mine. Since the beginning of the group's mining activities, several hundreds of millions of euros

have been invested in the decommissioning and environmental monitoring of former sites in France, Gabon, the United States and Canada.

## NEWS FOR 2011-2012

In France, structures for the sharing of information, dialogue and consultation with local stakeholders on questions relating to former mining sites in France were reinforced by the government circular of July 22, 2009. This set up Local Information and Oversight Committees (Commissions Locales d'Informations et de Surveillance - CLIS). These allow the operator to present the results of environmental monitoring and the progress of redevelopment work already underway or to be carried out. In 2011, AREVA Mines Bessines took part in a dozen commissions organized throughout France. Our teams are also involved in initiatives to prevent risks of environmental liabilities over the long term (as in the case of studies associated with the French National Plan for the Management of Radioactive Materials and Waste in 2011 and 2012 – see page 6) and to correct past practices for which regulations and best practices have changed (as in the case of the campaign to survey locations for reuse of mining waste rock for which ground reconnaissance of areas of interest was carried out by an independent laboratory in Limousin in 2011).

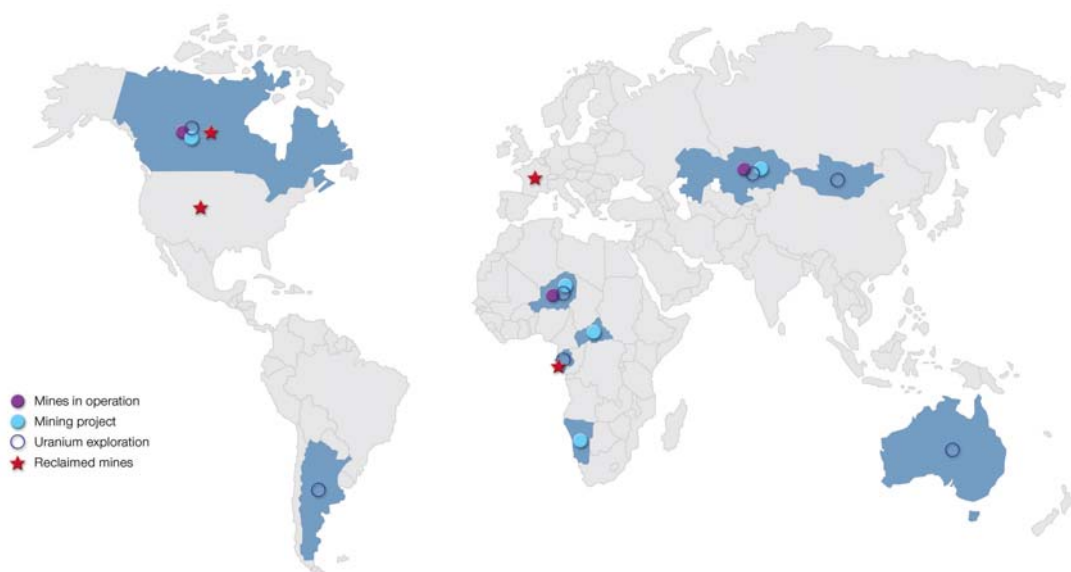
### THE CREATION OF AREVA MINES

Since October 1, 2011, AREVA's mining activities have been grouped together under a tier one subsidiary: AREVA Mines.

This new legal entity, 100% held by AREVA SA, confirms the importance of these activities for the group. In the same way as the other Business Groups of AREVA, it benefits from a raised profile on the world market whilst being equipped with stronger governance mechanisms in France and abroad.

Since April 1, 2012, Olivier Wantz, member of the Executive Board of AREVA, has held the position of Senior Executive Vice President of the Mining Business Group.

### SITES OF MINING BUSINESS GROUP



# OUR TEAMS



*Workshop during a meeting of our team  
of experts - France.*

*AREVA's fundamental energy is derived from the women and men who work here. At the heart of our mining activities, the diversity of cultures and skills is a rich source of stored and applied wealth. In the same way, our health and safety culture is shared by all and contributes proactively to preventing accidents and improving the quality of our working life.*

## A PROACTIVE EMPLOYMENT POLICY

**AREVA aims to contribute to developing its staff by pursuing a positive employment policy based on local recruitment, internal mobility, employee development and enlarging our teams' expertise.**

### → SHARED STANDARDS

Our Human Resources policy is based on activities such as annual appraisals and the People Review for assessing employees' skills and their potential for growth potential, as well as ensuring equality of treatment and opportunity.

The "Agora" annual appraisals, instituted in 2011 for mining activities in France and around the world, facilitate dialogue at all levels of the organisation and improve the effectiveness of our performance management processes.

In its turn, the People Review – a collective review carried out by senior managers in conjunction with the Human Resources teams - rationalises the development potential of their engineers and managers and identifies the actions needed for that development.

It forms the basis for the development of a succession plan for the key positions within the company.

### → DEVELOPING EXPERTISE

AREVA invests the equivalent of 3-4 % of its total salary bill on training, a considerable sum that funds the Mining College - a training centre specialising in mining activities. Its aim is to develop the staff's skills so that they can become mining specialists.

AREVA also seeks to develop and enhance its international expertise. Every two years, employees with expertise and knowledge on advanced topics in our mining operations are identified and become part of our "College of Experts".

In 2011, a new campaign for the appointment of Level 1 to Level 3 experts was organised. 7 of them work in our overseas operations, particularly in Niger and Canada.

Apart from the many internal projects anxious to make use of their skills, the College of Experts remains a powerful means for transmitting knowledge. For example, a Level 3 expert must spend 10-15 % of their time in training a Level 2 expert.

**ALL  
DIFFERENT  
ALL TOGETHER**



### → CONSTRUCTIVE EMPLOYEE DIALOGUE

In France, the bodies representing AREVA Mines' employees are: a Central Works Council and two Establishment Committees, one each for the sites at La Défense and Bessines. Since the creation of the mining subsidiary, many negotiations have taken place, resulting in the signing of social agreements in such areas as collective company agreement, profit-sharing, and attitudes towards those approaching retirement.

In other countries, employee relationships are based on the local legislation. In Kazakhstan or Niger, for example, there are also staff representatives.

“ Social dialogue at AREVA Mining is based on information being shared on a regular basis between management and elected staff representatives. The management's point of view is that we attach great importance to the committed involvement of social partners in these exchanges.”

**Hélène Derrien,**  
HR Director, Mining BG.

### → LEVERAGING PERFORMANCE THROUGH DIVERSITY

Multicultural richness and team diversity are important AREVA Group assets. In many mining activities, numerous features are in place to promote diversity, especially at technical and operational sites. Also, professional, disability, age, social, ethnic and cultural diversity are all encouraged and facilitated by the human resources and management teams.

The AREVA Mining site at Bessines was audited as part of the AFNOR Diversity Label programme, awarded to the Group in 2010 for its social responsibility initiatives in France.

This recognition is an incentive to make further progress and pledge these commitments more widely at all our locations. In Niger, for example, as part of the Imouraren project young women apprentices have been trained in driving dumpers; what began as a “small revolution” is now fully integrated in practice.

In 2011, public awareness campaigns on the theme of disability were conducted among our employees. Several measures have been adopted to improve work life balance. Staff aged over 50 receive useful advice about the final years of their careers.

In the same vein, pre-retirement interviews enable knowledge transfer to be formalised 24 to 36 months before retirement.



Young women trained in driving dumpers





## EMPLOYEE HEALTH AND SAFETY

The Group's health and safety policy is based on three commitments: to continuously improve health and safety, to recognise the importance of the quality of working life, and to monitor the impact of our activities on the health of the local populations.

### → THE NEED FOR SAFETY

Throughout the world AREVA teams share a strong safety culture, a commitment expressed in 2011 at the heart of its mining activities during a campaign entitled "I am committed to maintaining safety." In order to continuously improve our performance, an assessment of our safety culture will be carried out during 2012 at our sites in Niger, Kazakhstan, Mongolia and France.

Our safety policy has four main themes: "exemplary leadership", "standards and procedures", "organisational skills", "preparedness and response in emergency



situations". Whenever employees meet on site or at the Management Committee, safety is always a subject of attention no less than are both successes and failures.

Safety levels are monitored through reported accidents at work (near misses, first aid, accidents, injuries, fatal accidents). Monitoring is carried out every month and includes within its scope all mining activities, uranium and gold. It takes into account both our own employees and those of our subcontractors. These monthly results are routinely passed on to the Management Committee for review and operational decision making. They are also subject to lessons learned from the Group's Safety, Health, Security, and Sustainable Development department. Best safety practices are routinely shared on our intranet and in the team internal newsletter.

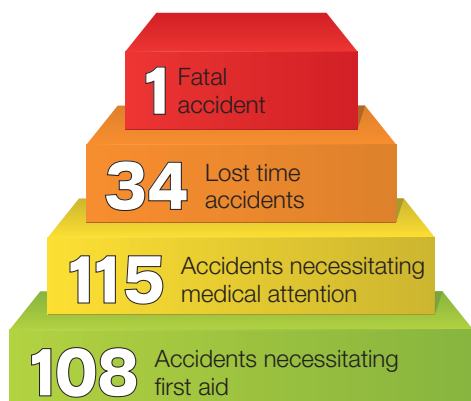
As at 31 December 2011, the consolidated rate of accidents at work was 1.05, which is below the Group target, which is set at 1.2. However, we regret the death of one of our employees in a traffic accident on the Hassaï mining site in the Sudan. It was a human drama that led to the implementation of corrective actions and the strengthening of preventive actions for our employees, such as driver training, speed checks, and bonuses for managers and teams subject to a performance indicator related to the traffic at some of our sites.

### → OUR HEALTH POLICY

The scope of the health policy at the heart of our activities concentrates on several aspects, described below:

- **Health actions responding to current pandemics:** we contribute to the implementation of the HIV AIDS policy deployed within the Group and the policy of preventing malaria in those countries which are affected and in which we operate (e.g. Niger and Gabon).
- **The deployment of activities to prevent risks to psychological health at work:** the goal is to generalise risk prevention activities on all French sites and expand them internationally. Thus, in April 2012, a helpline and support contact have been set up at AREVA Mines in Bessines and for 80 % of the French AREVA Group's establishments. In addition, a working group set up at national level has negotiated and reached an agreement at Group level on the quality of working life, signed in May 2012.

#### ACCIDENTS SUSTAINED DURING AREVA'S MINING ACTIVITIES IN 2011





- **The systematic recording of the initial state of health at our future sites and new industrial acquisitions:** this consists of carrying out a baseline study for each new industrial mining site.
- **Studies to assess radiological health risks to measure the impact of our activities:** this action is in progress for all of our sites worldwide.
- **Participation in study programmes examining the health of populations living near our sites:** the Health Observatory for the Agadez region (OSRA) was set up in Niger in 2011 and follows on from the implementation of the Health Observatory for Mounana in Gabon in 2010. The establishment of these institutions is carried out in association with members of the legal profession whose aim is to protect and defend the victims of white collar crime). It is also part of the Observatories' tasks to monitor the health of former uranium mine employees.



- **On-site medical support and the management of medical evacuations:** organised within each entity for local staff and expatriates.

## → RADIATION PROTECTION

We undertake preventive measures to limit our teams' exposure to radiation.

More specifically, French regulations state that the current maximum permissible dose of ionizing radiation to workers and subcontractors is 20 mSv per year.

The radiation protection teams within AREVA's mining activities, as well as those in the rest of the Group, always set themselves the target of ensuring that our employees are only ever exposed to the lowest possible doses.

AREVA currently sets a target within our subsidiaries of a maximum exposure of 16 mSv per year, a level below that required by law.

## → MANAGING HEALTH AND SAFETY AT WORK

The prevention of occupational risks is carried out at most of our mining sites using a health and safety management system that meets the requirements of OHSAS 18001. As at 31 December 2011 our sites operated by COMINAK and SOMAÏR in Niger, McClean Lake and Saskatoon Exploration in Canada, Bessines in France, Trekkopje in Namibia and AREVA Resources Australia were certified to OHSAS 18001.

### "I AM COMMITTED TO MAINTAINING SAFETY" - PROOF BY EXAMPLE IN NAMIBIA

On July 20 last, AREVA's Trekkopje project in Namibia had accumulated 8,010,567 hours without lost time accidents.

With an average of 1,800 employees and subcontractors working on the site every day for about 2 years, this milestone underscores the priority given to safety on the construction site.



# OUR ENVIRONMENTAL POLICY



*Prospecting camp using a hybrid power generation -  
AREVA Resources Australia.*



*Throughout its operations, AREVA aims to limit the impact of its activities on the environment and the population to as low a level as reasonably possible. This commitment is demonstrated in an environmental policy that pays due attention to the nature of the impact of our mining operations.*

## MANAGING THE CHALLENGES

AREVA aims to reduce the environmental footprint of its activities and sites. To this end, the Group has adopted a comprehensive approach: we identify the main contributors in terms of water and energy consumption, waste generation and the emission of greenhouse gases and take action to reduce, remove and/or offset the impacts of all the Group's activities. Furthermore, the Group has been carbon neutral since 2008.

In effect, AREVA offsets all of its direct residual emissions on a voluntary basis by purchasing carbon credits for equivalent quantities of emissions from projects in developing countries, primarily those in which AREVA has a presence.

Mining is one of the main contributors to the Group's environmental footprint, particularly because of its water consumption and the energy necessary to operate a mine, and in terms of GHG emissions.

Our teams are aware of these major challenges affecting the environment and local populations. These challenges therefore require us to adopt a policy of reasoned consumption of natural resources and to optimise our position regarding environmental expenditure.

### → OUR KEY POLICY LEVERS

The AREVA Group has at the heart of its environmental policy a number of key levers that the

Business Group Mines teams seek to put into action on a daily basis.

- **eco-performance:** simultaneously to consume thoughtfully, reduce emissions and innovate in eco-designing the industrial tools of tomorrow.
- **environmental management:** the objective is to acquire methods, skills and a framework for implementing and measuring environmental performance.
- **preventing and controlling environmental risks:** identify and assess environmental impacts and the mechanisms to be put in place to prevent or correct them.
- **impact studies and environmental health:** the goal is to gain a better understanding of the baseline state and to forecast more accurately the extent of the impacts on the environment and the population before activities begin.
- **environmental monitoring:** using a whole array of analysis tools and sampling campaigns the environmental impact throughout the mining lifecycle needs to be assessed, whether that impact be chemical or radiological.

### → ENVIRONMENTAL MANAGEMENT SYSTEM

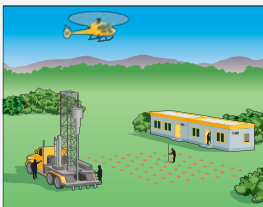
One of the levers that can be applied throughout the mining lifecycle is the implementation of an environmental management system. As at 31 December 2011, 8 mining sites had been certified to ISO 14001:

- **prospecting sites:** Saskatoon Exploration (Canada), AREVA Resources Australia (Australia)
- **development site:** Kiggavik (Canada)
- **production sites:** McClean Lake, Cluff Lake (Canada); SOMAÏR, COMINAK (Niger)
- **site in the course of being redeveloped:** Bessines (France)

## THE ENVIRONMENT THROUGHOUT THE ENTIRE MINING LIFECYCLE

### → EXAMPLES FROM 2011

Let us examine some of the actions taken in 2011 throughout the mining lifecycle.

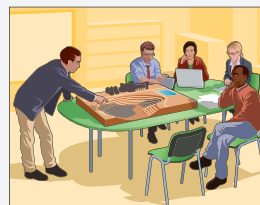


↗ In 2011, as part of an internal competition (see Focus), AREVA Resources Australia prospecting teams introduced a system of hybrid energy production to drastically reduce their fossil fuel consumption and their greenhouse gas emissions

↘ A decision was made to create a working group of environmental and prospecting teams which would provide better documentation of the practices to be adopted when, for example, a drilling platform was to be closed.

Eco-design was used in the design of SOMAÏR'S new PUMA sulphuric acid production plant in Niger. This project was also the subject of an environmental impact study, the results of which were presented to the authorities and civil society.

Working groups met in 2011 to define project-level Group procedural guidelines for preventing accidental spillages (Imouraren in Niger, tailings at McClean Lake in Canada, the KATCO pipeline network in Kazakhstan).



↗ Risk analyses, based on methods such as HAZOP or HAZID, have been updated for all production sites.

↘ In 2011, a lessons learned system for the reporting of environmental incidents was carried out by our team and is currently being improved. Also, a target of a 10 % reduction in these incidents from 2012 was set by the Business Group Mines Management Committee.

Our teams have developed a method for improving the passive water treatment at the Lombre (Allier - France) site. The goal is to reduce the iron content of the water by first passing it through a barley straw drain and then through a limestone bed.

Following the submission of a report to the administrative authorities on the environmental behaviour of the Bauzot (Saône et Loire - France) site, AREVA has proposed various studies including the completion of a drilling programme to characterise more accurately the industrial radioactive waste storage's structure and current composition.



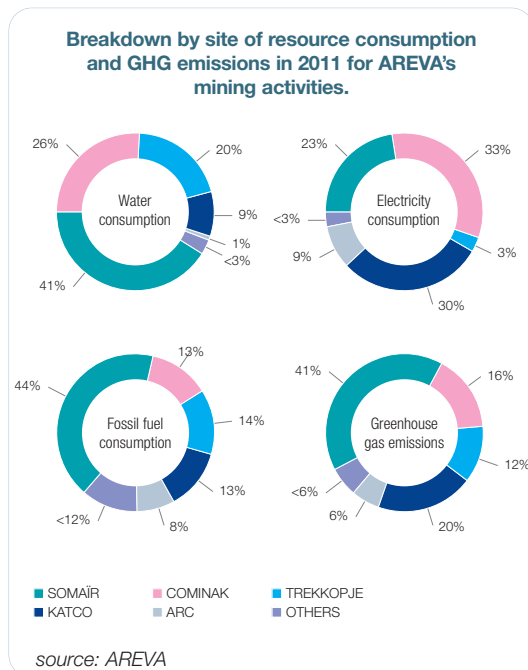


→ **OVERALL CHANGES IN SITE CONSUMPTIONS AND THEIR EMISSIONS**

In general, whether it is the consumption of water, electricity or fossil fuels, the cessation of activities at McClean Lake (Canada) in 2011 for maintenance has altered environmental performance ratios \*. The 2010 figures showed that the Canadian site accounted for 15% of the Business Group Mines' water and electricity consumption. Its gross consumption of fossil fuels also fell by nearly 39%, thereby affecting the overall volume of greenhouse gas emissions.

The rise in activity at the KATCO (Kazakhstan) and SOMAÏR (Niger) sites has led to a rise in overall water (+ 5.32%\*) and electricity (+2.97%\*) consumption. Consumption of fossil fuels has increased by 1.19% and is expected to increase in 2012 if the Imouraren (Niger) construction project gains momentum. Direct emissions of greenhouse gases (+1.08%) are calculated by adding the emissions coming mainly from fossil fuels (82% of the total) to those from industrial processes and from on-site waste incineration (12%). The remainder are emissions linked to coolants and fire retardants.

\* performance ratio: consumption or gross emission / tU within the scope of the main operational sites.



→ **ACTING TO PROMOTE BIODIVERSITY**

The strategic objectives that our teams set in 2010 for 2011 were met in part and these have been carried over for the coming years.

At the operational level, the Canadian teams (McClean Lake and Saskatoon) are in the process of finalizing the biodiversity program which follows on from the findings of studies carried out in 2008. In fact, Canadian law requires that an environmental and biodiversity monitoring program be set up every 3 years. In 2008, statistically significant differences had been revealed on criteria related to the fish and benthic invertebrate population between the control area and the exposure area. As a result an investigation into the cause of these findings was initiated in 2010 and will continue through 2012. The teams have also launched an offset project initiative to promote aquatic biodiversity which will be implemented for the Midwest mining project if the decision is taken to exploit it.

**FOCUS: HYBRID ELECTRICITY GENERATION SYSTEM FOR PROSPECTION CAMPS IN AUSTRALIA**

Electricity for AREVA exploration camps in Australia is now produced 24/7 by a hybrid system using solar panels and a diesel generator, combined with battery storage. This innovative project was identified through the 2011 edition of the "AREVA Sustainable Development and Innovation Awards". Many improvements to the system have been introduced over a period of three years. Use of the diesel generator has been reduced from 24 hours to only four hours per day, resulting in an improvement in working conditions. The use of more energy efficient equipment has also benefitted the project. A few key figures: diesel consumption has been reduced by 60 litres per day with a concomitant reduction in greenhouse gas emissions, now representing 39 kg per day compared to 230 kg in 2007. In addition, the fact that the generator now only operates for 4 hours per day means noise pollution has been greatly reduced, and this has improved living conditions in the camp.

# OUR SOCIAL COMMITMENT



*Meeting with the Baker Lake Community Liaison Committee  
for the Kiggavik project in the Nunavut basin – Canada.*



*AREVA's policy is to integrate its activities into the economic and social fabric of the territories in which it operates and to promote community development at the earliest opportunity. It is also a priority to develop its projects in cooperation and dialogue with all its stakeholders.*

## TRANSPARENCY AND OPENNESS TO DIALOGUE

**In France and abroad, our stakeholders express their expectations with respect to our business and the group addresses and engages with these expectations through channels for dialogue and consultation which may be regulatory or voluntary in character. Our teams are aware that sustainable development is a growing preoccupation for civil society and for our customers. We wish to respond to these concerns transparently and with an ongoing framework for continuous improvement, in order to build a trusting and ongoing relationship with all our stakeholders.**

### → POST-MINING IN FRANCE

Between 1947 and 2011, 76,000 tonnes of uranium were extracted from French soil. Post-mining in France represents around 215 former mining sites spread across the country. Over 80% of the mines were located in the Limousin, Pays de la Loire and Languedoc-Roussillon regions. The AREVA group (through CEA or COGEMA) operated 55% of these sites and today these have all been reclaimed.

#### **Local Information and Oversight Committees (CLIS).**

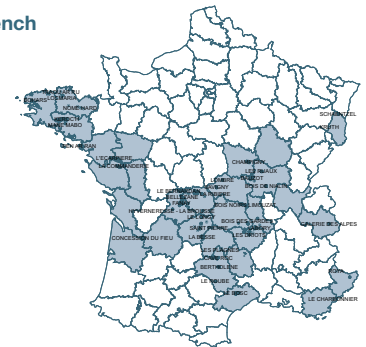
The Local Information and Oversight Committees (CLIS) are a forum for sharing information and a place for dialogue and consultation with local stakeholders. The organization and creation of the CLIS committees was reinforced by the government circular of 22 July 2009.

The Prefect appoints the members of the CLIS and convenes a meeting at least once a year or more often if necessary.

The committee is composed of representatives of the public authorities involved, the operator, the local and regional authorities and local associations.

In 2011, the AREVA Mines Bessines establishment took part in a dozen commissions organized throughout France. Through these commissions, AREVA presented the different environmental results and the work remaining to be done to improve the environmental monitoring of former mining sites, in consultation with members of the CLIS.

#### **Location of French mining sites 15 CLIS**



#### **National plan for the management of radioactive materials and radioactive waste (PNGMDR).**

In 2011 and 2012, the teams in charge of post-mining and research & development conducted and submitted several studies on the former mining sites and the sites for storage of residues from processing of French uranium ore, within the framework of the French National Plan for the Management of Radioactive Materials and Waste (PNGMDR). The PNGMDR is a reference document providing a comprehensive and regular assessment of policy for management of radioactive materials and waste. It also evaluates emerging needs and sets goals in terms of studies and research on the management of radioactive materials and waste.



The main findings of the studies conducted by AREVA were presented at meetings of the multi-party working group which brings together environmental protection associations, elected officials, assessing and supervisory authorities and the major players in the nuclear industry.

#### **Identification of all locations where mining waste rock was reused in France.**

The campaign to locate mining waste rock from the former mining sites in France began in 2009.

This campaign aims to identify the locations where tailings and waste rock from former mining operations were reused. It was in 2009 that the Ministry of Ecology, Energy, Sustainable Development and the Sea asked AREVA to identify the places in France where tailings from all uranium mines operated by AREVA and other companies in the mining sector had been reused.

The first stage began in 2009 with an aerial survey. A helicopter equipped with measuring equipment overflew relevant French departments at very low altitude. The technology used provided measurements of radiation energy enabling concentrations of uranium and also thorium and potassium to be determined. AREVA's geophysics department exploits the results as they come in and doing mapping work necessary to hone in on areas that need to be controlled on the ground. The second stage of the survey is now also underway, consisting in ground reconnaissance of areas of interest localized. This is being carried out by an independent laboratory. The ground reconnaissance exercise was completed for Limousin at the end of 2011. It is underway this year in the department of Nièvre.

Ultimately, the results collected will be compiled per department and presented to the Ministry and to the IRSN, DREAL, ARS, ASN, and then to the CLIS. Remedial action will be implemented as necessary, in consultation with stakeholders.

### **→ INITIATIVES WITH OUR STAKEHOLDERS ABROAD**

#### **Meetings with our European customers.**

Our European utility customers expressed the wish to meet with our teams in 2011 so that we could show them what we were doing within our mining operations

in the area of environmental, social and societal responsibility. In several cases we were able to welcome customers on site (at KATCO in Kazakhstan) to conduct audits targeting sustainable development issues.

#### **Vehicles for dialogue and consultation in Niger.**

Subsidiaries of SOMAÏR and COMINAK have implemented an annual local Information committee (or CIL). This structure is designed to promote dialogue and offers a forum to raise awareness among local stakeholders about issues relating to the performance of their activities, in particular focusing on the environmental management system, occupational health and safety, and impacts on local communities around the sites in terms of social and economic development.

2011 also saw the inauguration of the Health Observatory of the Agadez region (OSRA), whose vocation is post-professional monitoring of former employees of uranium mines and health surveillance among the communities neighboring our mining sites. The Observatory is administered by a multi-party committee composed of representatives of civil society, the NGO Sherpa and AREVA members.

Meanwhile, every new mining and industrial project is subject to an environmental impact study. In 2012, this is the case for PUMA, SOMAÏR's sulfuric acid production facility project. This study has been submitted to the authorities and is now going through the process of public hearings.

#### **Visit of KATCO site by Non-governmental organizations**

On January 11, 2011, our teams welcomed to the KATCO site in Tortkuduk – Kazakhstan, representatives of five Kazakh NGOs specializing in the environment.

This site visit or "eco tour" was held within the framework of uranium industry promotion activities in Kazakhstan. It was organized jointly by Kazatomprom and KATCO. The visitors represented the Nuclear Society of Kazakhstan and environmental associations TABIGAT, IRIS, ECO FORUM and CAREC (Regional Environmental Centre for Central Asia). The delegation visited the Tortkuduk compound, one of the well fields and the processing plant. Exchanges about the environmental and societal issues raised were constructive on both sides.



**Participation in the Uranium Stewardship Committee in Namibia**

The Namibian teams renewed their commitment to the Uranium Stewardship Committee of the Namibian Chamber of Mines. This participation contributes to dialogue and the implementation of best practices in occupational health and safety, environmental management and radiation protection.

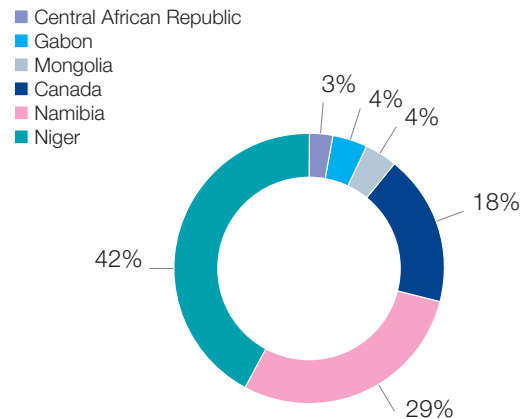
**Social commitment in Canada**

The teams at AREVA Resources Canada are engaged in several ways with the communities of Northern Saskatchewan and Nunavut. Structures for dialogue, multi-party consultation and engagement with stakeholders have been set up to foster constructive exchanges on all matters relating to the progress of mining projects, the impact of our activities locally and the social and economic development of the communities. Many communication channels have been set up (internet, blogs, meetings, forums etc.) to help meet and answer all the local concerns. Actions in 2011 related to the Athabasca Working Group are reported in the Focus section "Working group with communities in the province of Saskatchewan in Canada."

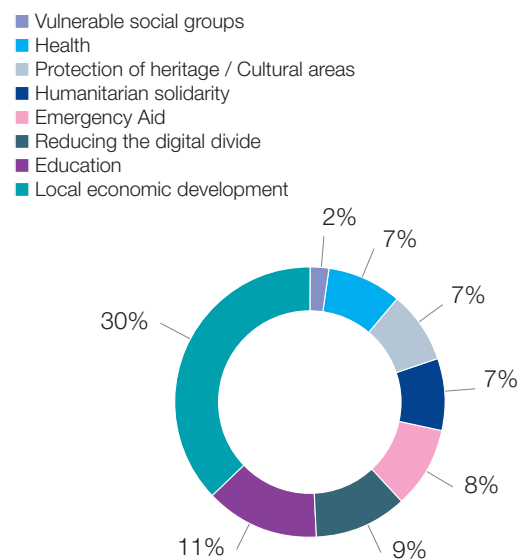
In 2011, AREVA committed a budget of € 544,173 (excluding contributions from subsidiaries) to support social projects within its mining scope. This support has enabled a total of 22 projects to be undertaken in six countries, 30% of them for local economic development, which is a major concern for the neighbouring communities of the group's mining sites.

In addition to projects funded by the Mining Integration Committee, in the coming years we intend to report on the financial contributions made by our subsidiaries to promote the development of the local communities.

**Budget breakdown by country**



**Budget breakdown by category of social project**



DEVELOPMENT AID IN  
MINING TERRITORIES

Since 2009, the Mining Integration Committee (CIM) has been self-funding (in some cases with contributions from the AREVA Foundation) a number of integration projects in the regions where our operations are located.

The vocation of the Mining Integration Committee is to centralize social or societal demands within the scope of AREVA's mining activities, which have been formulated and addressed to central entities of the group or to the Mining BG's management directly. The CIM examines the importance of these requests, validates the actions chosen and authorizes the necessary financial commitments. It also monitors the progress of approved projects.

**FOCUS: “WORKING GROUP WITH COMMUNITIES OF THE PROVINCE OF SASKATCHEWAN IN CANADA”.**

**Presentation**

The “Athabasca Working Group” was set up at Wollaston Lake on March 29, 1993 at a meeting involving the communities in the Athabasca region, in the north of the province of Saskatchewan, and representatives of mining companies AREVA Resources Canada Inc. operating the McClean Lake site and Cameco Corporation operating Rabbit Lake and in a joint venture with AREVA for the proposed Cigar Lake project.

Six of the seven Athabasca communities and both of the mining companies are signatories to the IMA (Impact Management Agreement) on the management of impacts on communities, concluded in 2001. The IMA covers issues of employment, training, economic development and protection of the environment.

The communities in the Athabasca Basin are each represented by two people: one main contact and one deputy. Communities include: Black Lake Denesuline First Nation, Fond du Lac Denesuline First Nation, Hatchet Lake Denesuline First Nation, Camsell Portage, Wollaston Lake, Uranium City and Stony Rapids.

In 2011, the Athabasca Working Group, which met on a quarterly basis, was involved in many initiatives such as, for instance, the Athabasca students’ award, the multiparty training plan, the partnership for monitoring the vitality of the communities and the Environmental Quality monitoring committee.

**Orientations for 2012**

Since the beginning of 2012, delegates from the communities of Athabasca, Cameco and AREVA Resources have begun negotiations aiming to establish a new cooperation agreement based on five pillars: the development of the work force within the communities, investment in the communities, environmental management, economic development and involvement in the communities.

**Society and environment**

The environmental monitoring program implemented by the communities continued for its 11th year. The mining companies provide the funding for this project which trains the members representing each community in how to take environmental samples, including air, water, fish, animals and sediments. The mining companies also fund independent analysis of the samples by an agency chosen by the committee. None of the sampling areas has been the subject of environmental concern in 2011.

**Funding within the Athabasca Working Group (AWG)**

The owners of the McClean Lake, Rabbit Lake and Cigar Lake operations cover expenses related to the activities of the AWG. Items covered include liaison with the communities, costs for consulting and production of reports, travel, training and other costs associated with the development and application of the management agreement on community impacts.

| <i>in Canadian dollars</i>   | <b>2011</b>  | <b>2010</b>  |
|--|--------------|--------------|
| <b>Community investments by AREVA and McClean Lake partners* <sup>(1)</sup></b>  | 480,813.33   | 166,895.86   |
| <b>Education <sup>(2)</sup></b>  | 15,000       | 33,000       |
| <b>Athabasca students’ award</b>   | 55,907       | 29,375       |
| <b>Total payroll for AREVA employees <sup>(1)</sup></b>                          | 1 489,609.48 | 1 489,609.37 |
| <b>Number of employees of AREVA subcontractors <sup>(1)</sup></b>                | 58           | 12           |
| <b>Total financial impact toward the communities of Athabasca <sup>(2)</sup></b> | 2 991,978.67 | 6 043,329.77 |

\* McClean Lake partners (McClean Lake Joint Venture: AREVA Resources Canada 70% (operator), Denison Mines Inc. 22.5%, OURD Canada Co. Ltd. 7.5%)

(1) the individual contribution of Cameco is not reported in this table

(2) consolidated contribution of AREVA and Cameco with partners

# OUR PERFORMANCE



*Reclaimed site at Puy de l'Age, France*

## KEY SUSTAINABLE DEVELOPMENT INDICATORS 2011

| OUR TEAMS                             |   | 2010      | 2011      |
|---------------------------------------|---|-----------|-----------|
| <b>Professional gender diversity</b>  | Number of employees   | 5 221     | 5 319     |
|                                       | Ratio of women employed   | 16.20%    | 11%       |
|                                       | Ratio of women in management                                    | 22%       | 21%       |
| <b>Occupational safety</b>            | Incidence ratio for lost time industrial accidents (IR1)        | 1.55      | 1.05      |
|                                       | Severity rate for lost time industrial accidents                | 0.07      | 0.05      |
|                                       | Number of fatal accidents in the workplace                      | 3         | 1         |
| <b>Exposure to ionizing radiation</b> | Average dose for employees                                      | 3.38 mSv  | 3.23 mSv  |
|                                       | Average dose for contractors                                    | 3.65 mSv  | 4.18 mSv  |
|                                       | Maximum individual dose for employees                           | 17.15 mSv | 18.04 mSv |
|                                       | Maximum individual dose for contractors                         | 16.02 mSv | 15.71 mSv |
|                                       | Number of employees and contractors exposed to a dose exceeding | 6         | 4         |

| OUR ENVIRONMENTAL POLICY                     |  | 2010                        | 2011                        |
|--|--|-----------------------------|-----------------------------|
| <b>Water</b>                                 | Volume of water consumed per tonne of uranium  | 906.3 m <sup>3</sup> /tU    | 980.1 m <sup>3</sup> /tU    |
| <b>Energy (electricity and fossil fuels)</b> | Amount of energy consumed per tonne of uranium | 110.7 MWh/tU                | 127.5 MWh/tU                |
| <b>Greenhouse gas emissions</b>              | Direct emissions per tonne of uranium          | 26.9 tCO <sub>2</sub> eq/tU | 28.6 tCO <sub>2</sub> eq/tU |

| OUR SOCIAL INVOLVEMENT           |  | 2010            | 2011            |
|----------------------------------|--|-----------------|-----------------|
| <b>Investment to communities</b> | Amount of social projects funded by the Mining Integration Committee (CIM) | € 0.655 million | € 0.544 million |

N.B.: data presented above corresponds to consolidated results for the AREVA Mining Business Group.

Calculation rules are presented in AREVA's sustainability reporting protocol STAR (Sustainability Tool for Advanced Reporting).

Scope of results for indicators on exposure to ionizing radiation does not include Central African Republic, Gabon and La Mancha.

Ratios for environmental indicators are calculated on the basis of 100% of production sites where AREVA is the operator (7,762 tU).



## SCOPE OF THIS REPORT

### → ITEMS INCLUDED OR EXCLUDED FROM THE SCOPE

The results consolidated at Mining Business Group level and presented in this document mainly relate to the uranium production sites for which AREVA is the majority operator.

Sustainable development performance for La Mancha gold production activities is partially reported in 2011 and will no longer be so in 2012 following the sale AREVA shares in this company.

For each stage of the mining life cycle (exploration, project development, operation, closure, redevelopment) much of the data is also reported on a national and international reporting level, and is presented in this document when deemed necessary for the understanding of our activities.

Objectives related to the "Action 2016" strategic action plan are not covered in this document.

Because AREVA's mining activities now take the legal form of a subsidiary, Mining Business Group information is published separately from the Front End Business Group information, unlike in previous years.

### → PERIOD OF ACTIVITY

This document reports the extra-financial performance of AREVA's mining activities for the period from 1 January to 31 December 2011. The first report on the responsible development of AREVA's mining activities was published in July 2011. Information related to the period between January and June 2012 will be shared when considered important to the understanding of activities.

### → CONSTRUCTION OF THE REPORT

The extra-financial performance of mining activities presented in this report is underpinned by the AREVA

group reporting process called STAR (for Sustainability Tools Advanced Reporting). It is supplemented by information collected from in-house experts or from other reporting documents deemed to be valid sources of reference for the subjects discussed. Information relating to the financial performance of mining activities and the verification of certain data by the Statutory Auditors is extracted from the AREVA reference document 2011. Some information presented in this document is also reported in the group's sustainable development activity report for 2011.

### → PROPOSED CHANGES FOR THIS TYPE OF REPORT

We wish to align future versions of this report on responsible development of AREVA's mining activities with the guidelines set out in the GRI Mining and Metals Sector Supplement. The conducting of an audit of this document by an independent third party is also under consideration. Implementation of quality criteria for the report defined by the GRI (balance, comparability, accuracy, timing, clarity, reliability) is also an area for improvement which we wish to progress in future editions.

The scope of some indicators (environmental or societal for instance) was expanded in 2011 and an internal study is underway to include these results in future versions of this Responsible Development Report on AREVA mining activities.

#### GRI Indicators partially carried over in this report

| Indicator category  | References                  | Pages of 2011 RDR      |
|---|-----------------------------|------------------------|
| Profile (the management approaches for the performance indicators - point 5 of the "Profile" - are described in the sections below) | 1 to 4                      | 4 to 13; 24 to 27; 30. |
| Economic performance  | EC1 to EC8                  | EIT1 - 7; 26; 29       |
| Environmental performance   | EN1 to EN30                 | 20 to 22; 29           |
| Employment performance  | LA1 to LA15                 | 14 to 18; 29           |
| Human rights/Society performance  | HR1 to HR11 and SO1 to SO10 | 4 to 8; 29             |
| Product responsibility performance  | PR1 to PR9                  | Not available          |

# APPENDICES



*Open pit mine - Niger*



## GLOSSARY

### EXPOSED EMPLOYEES AND CONTRACTORS

Employees and contractors who have been assigned a dosimeter, irrespective of the period of time for which they wear it. Interns are also considered employees of AREVA for the purposes of the indicators related to exposure to ionizing radiation.

### EXTERNAL EXPOSURE

Denotes the results of individual passive dosimetry (film, Thermo Luminescent Dosimeter (TLD) or other) expressed in accordance with the requirements of national regulations. If unable to obtain passive dosimetry information, individual operational dosimetry results are taken (direct reading electronic dosimeter, pocket dosimeter).

### EXTRACTIVE INDUSTRIES TRANSPARENCY INITIATIVE (EITI)

EITI, launched in 2003, aims to promote improved governance in resource-rich countries through the verification and full publication of payments made by companies and revenues received by governments derived from oil, gas and ores. EITI has established an international standard to assist companies in reporting what they pay and for governments to disclose their revenues.

### GLOBAL REPORTING INITIATIVE (GRI)

The GRI was established in late 1997 with a mission to develop globally applicable guidelines for sustainability reporting, as well as reporting on economic, environmental and social performance, initially for corporations and subsequently for any governmental or non-governmental organization.

### HAZID

HAZard IDentification (HAZID) is a method for identifying hazards of all types (fire, collision, falling objects, etc.) and for verifying measures to control risks. This method is designed primarily to identify the consequences of failure scenarios and measures to be implemented to control the associated risks.

### HAZOP

The HAZOP method offers a systematic approach to analyzing parameter drift on a process or installation, in order to identify causes and consequences. This

method is particularly useful for the examination of thermal-hydraulic systems for which parameters such as flow rate, temperature, pressure, etc. are particularly important for the safety of the installation.

### HEAP LEACHING

Leaching is the extraction effect of drop-by-drop watering with an appropriate solution. This solution is passed through the mineral ore in order to dissolve the uranium which is subsequently recovered by chemical processing.

Heap leaching is so-called because of the initial piling of the ore for this leaching process.

### INTERNAL EXPOSURE

Evaluations of committed dose due to internal exposure are obtained by application of national regulations. Evaluations in France are provided by occupational physicians on the basis of results of whole-body radiometry examinations and radiotoxicological analyzes. In the mining sector, exposure results include external doses and internal doses associated with radon and its decay products.

### INTERNATIONAL COUNCIL ON MINING AND METALS (ICMM)

ICMM, founded in 2001, is an industry organization run by entrepreneurs which focuses on key priorities and emerging issues in the mining and metals industry.

### LOST-TIME INDUSTRIAL ACCIDENTS

Accident occurring due to / during work, during working hours or at the workplace, consequences of which result in lost time of one calendar day or more (the day of the accident is not counted). This is an undesirable, sudden and unforeseen event causing one or more lesions. The event must be dated, situated and recorded by the entity at the time of its occurrence.

### MEAN DOSE

Mean dose resulting from external exposure and internal exposure to ionizing radiation in the workplace, expressed in millisieverts (mSv).

### TAILINGS

Tailings are made up of earth, sand or rocks not containing exploitable uranium ore or not containing uranium at all. This material has to be extracted in order to access the ore itself. These substances are either not radioactive or present low levels of radioactivity.



## COMMUNICATIONS ASSOCIATED WITH THIS REPORT

### → AREVA FINANCIAL AND EXTRA-FINANCIAL REPORTS

Annually, the group presents its results in terms of financial performance and in terms of sustainable development respectively, in reports entitled "Reference document" and "Sustainable development and activity report". They are available on the website [www.aveva.com](http://www.aveva.com)



*Rapport d'activité et de développement durable AREVA - 2011*



*Document de référence 2011 du groupe AREVA*

### → AREVA POLICIES

Policy documents and a charter published by the AREVA group set the direction and guidelines to be followed throughout the group. They are also made available on the website [www.aveva.com](http://www.aveva.com)



*AREVA group Occupational Health and Safety Policy*



*AREVA group Environmental Policy*



*AREVA group values charter*

### → REPORT ON SUSTAINABLE DEVELOPMENT OF AREVA'S MINING ACTIVITIES

Since 2010, the Mining Business Group has been providing its stakeholders with information on extra-financial performance. This report is entitled "Responsible development report on AREVA's mining activities".



*Responsible Development Report on AREVA's mining activities 2010*

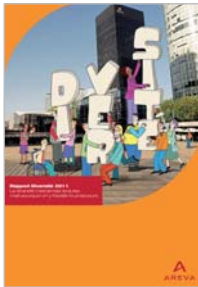


*Responsible Development Report on AREVA's mining activities 2011*

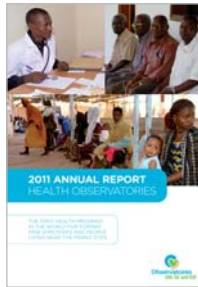


## → ADDITIONAL REPORTS

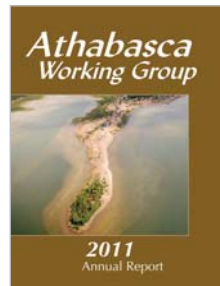
Some of the subjects relating to the sustainability performance of the AREVA Mining Business Group can be looked at more in depth through other communication media. We offer you a non-exhaustive selection below (available to the public or on request).



2010 AREVA Diversity Report



Health Observatories Report 2011



2011 report on the actions of the AWG in Canada

## → WEB COMMUNICATION

Our teams are developing more and more online media to make information on our activities more easily available for our stakeholders. As with the additional reports, we offer below a number of captures from [www.aveva.com](http://www.aveva.com), from our employees' intranet and from various blogs on the topics discussed in this 2011 responsible development report.



Website on activities in Niger



AREVA Mining Intranet. Section devoted to "Our responsibility"



AREVA dialogue space



Blog on progress of the Kiggavik project in Canada.



Information related to the EITI and our mining subsidiaries



Blog on the progress of McClean Lake project (Canada)

**CONTACT US FOR MORE INFORMATION:**

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SEPTEMBER 2012  
Photo credits: © AREVA Media Center

Production: AREVA Mining CSR department  
Authoring: Accord et Ecrit  
Graphic design: BLEU CERISE

AREVA supplies solutions for power generation with less carbon. Its expertise and unwavering insistence on safety, security, transparency and ethics are setting the standard, and its responsible development is anchored in a process of continuous improvement.

Ranked first in the global nuclear power industry, AREVA's unique integrated offering to utilities covers every stage of the fuel cycle, nuclear reactor design and construction, and related services. The group is also expanding its operations to renewable energies – wind, solar, bioenergies, hydrogen and storage – to be one of the leaders in this sector worldwide.

With these two major offers, AREVA's 48,000 employees are helping to supply ever safer, cleaner and more economical energy to the greatest number of people.

**[www.aveva.com](http://www.aveva.com)**

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Energy is our future, don't waste it!