AREVA and NIGER
A strong partnership
A mineral-rich country with substantial uranium resources

AREVA has been present in Niger for over 50 years

Mining

→ An important economic sector
→ A source of several thousand direct and indirect jobs
The western edge of the Air Mountains

- **Mining**
  - Open-pit mine
  - Underground mine
  - Mine under development

- **Ore processing**
  - Dynamic
  - Acid heap leaching

- **Exploration in the Agadez region**
  - Agebout
  - Anoun Agerouf
  - Afouday
  - Tagaït 1, 2, 3
  - Zéline 3
Producing Mining Companies
>> A growing uranium producer
SOMAÏR

- Created: 1968
- Start of production: 1971
- Open-pit mine: 50 to 70 m deep
- Average ore grade: 2.8‰
- Processing method:
  - Acid heap leaching: low grade ore
  - Dynamic: ore grade > 1‰

2012 Figures

- Annual production: 3,065 tU
- Total production: > 55,700 tU
- Workforce: > 1,200 employees, 98% are Nigerien

Producing mining companies

AREVA in Niger - p.6
Second-largest underground uranium mine in the world
COMINAK

- **Created:** 1974
- **Start of production:** 1978
- **Underground mine:** at a depth of 250 m
- **Average ore grade:** 3.35‰
- **Processing method:** dynamic

2012 Figures

- **Annual production:** 1,506 tU
- **Total production:** > 64,400 tU
- **Workforce:** > 1,200 employees, 98% are Nigerien
Record results in 2012, to be maintained in 2013
Total production in 2012

**COMINAK**
Production 2012

- **Target**: 1500 tU
- **Production**: 1506 tU
- **Delta**: +6 tU

**SOMAÏR**
Production 2012

- **Target**: 2910 tU
- **Production**: 3065 tU
- **Delta**: +155 tU

**TOTAL**
Production 2012

- **Target**: 4410 tU
- **Production**: 4571 tU
- **Delta**: +161 tU

Record!
Targets for 2013 = production maintained

**SOMAÏR**

- 3065 (December 2012)
- 3040 (December 2013)

**COMINAK**

- 1506 (December 2012)
- 1500 (December 2013)
A flagship project: Imouraren
A flagship project: Imouraren

The largest open-pit uranium mine in West Africa
Created: 2009

Start of production: 2015

Deposit:
- At a depth of 105 to 170 m
- 8 km long by 2.5 km wide
- Extracted with an open-pit mine

Average ore grade: 0.66%

Processing method: acid heap leaching

Production capacity: 5,000 tonnes/yr during 35 years

CAPEX: 1.9 billion euros

Workforce in 2012: 1,500 (270 AREVA employees, 1,250 subcontractors)

Workforce during mining:
- 1,800 direct jobs
- 3,500 induced jobs
3 CENTERS OF ACTIVITY

- **Overburden stripping**
  - A fleet of specially designed mining equipment: tank trucks, loaders, bulldozers, graders, shovels, etc.
  - Pit head (maintenance, washing, supply facilities)

- **Construction of the leach pad and processing plant**
  - Excavation of the area = 42 hectares
  - Numerical modeling of the chemical processing equipment

- **Construction of other mine installations**
  - Infrastructures
    - Living quarters, airstrip, road, electrical and telecommunications networks, etc.
IMOURAREN IN 2012-2013

- **January 2012**: Overburden stripping at the open-pit mine begins
- **January 2012**: Disassembled heavy mining equipment arrives
- **April 2012**: The first piece of equipment is tested on the second bench of the “Imfout” pit
- **April 2012**: The dewatering pumping system is tested
- **June 2012**: Re-assembly of mining equipment is completed
- **End 2012**: Civil engineering work begins

**Objectives for 2013**
- Put the fleet of mining equipment into operation
- Complete the airstrip
- Complete explosives storage building and carry out the first blasting
- Complete work on the surface facilities
- Etc.
AREVA, a responsible company
Working conditions and radiation protection of workers

**International standards**
- OHSAS 18001 certification
- Company doctor specifically for the mining activity
- Medical installations

**Results**

<table>
<thead>
<tr>
<th></th>
<th>AFR 2012 (vs 2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOMAIR</td>
<td>0.94 (1.30)</td>
</tr>
<tr>
<td>COMINAK</td>
<td>0.62 (1.59)</td>
</tr>
<tr>
<td>IMOURAREN SA</td>
<td>1.48 (1.49)</td>
</tr>
<tr>
<td>TOTAL NIGER</td>
<td>1.01 (1.43)</td>
</tr>
</tbody>
</table>

**Workplace health and safety: an absolute priority**
- Total AFR of 1.01 for AREVA and its partners in 2012
- A sole objective: zero accidents
Working conditions and radiation protection of workers

Radiation exposure standards identical to those in Europe and Canada

- Information and awareness campaigns conducted regularly
- Exposure limit in Niger: 20 mSv per year
- AREVA’s objective at the Nigerien mines: < 16 mSv per year
  - Attained in 2012
  - To be maintained in 2013

<table>
<thead>
<tr>
<th></th>
<th>COMINAK Employees</th>
<th>COMINAK Subcontractors</th>
<th>SOMAÏR Employees</th>
<th>SOMAÏR Subcontractors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average dose at end-2012</strong></td>
<td>5.33 mSv</td>
<td>4.1 mSv</td>
<td>2.47 mSv</td>
<td>1.56 mSv</td>
</tr>
<tr>
<td><strong>Max dose at end-2012</strong></td>
<td>15.71 mSv</td>
<td></td>
<td>8.55 mSv</td>
<td></td>
</tr>
</tbody>
</table>

AREVA, a responsible company
Mining and the environment

Preservation and sustainable management of the environment

SOMAÏR and COMINAK: certified to ISO 14001

Preservation of ecosystems

Limiting the impact of mining activities on the environment and on populations by:

- Qualitative and quantitative monitoring of water resources
- Limiting airborne dust
- Fighting against waste
- Limiting effluent discharges
- Recycling and storing waste from the mining activities
Mining and the environment

- Radiation protection of the local populations
  - European public radiation limits: a max added dose of 1 mSv per year
    - Exposure of the populations in Niger: < 0.5 mSv per year
  - A radiation monitoring network for the environment and the populations around the mining sites. It monitors:
    - Air
    - Water
    - The food chain
    - Soil
Transparency in mining

Information and external monitoring

- Publication of environmental and social reports
- Annual inspections in multiple areas
  - Environmental Evaluation Office (BEEEI)
  - National Radiological Protection Center (CNRP)
- Regular visits by:
  - Organizations from Nigerien and international civil society
  - NGOs
  - Media and journalists

Dialogue with stakeholders

- Several structures for dialogue and communication
  - Local information commissions
  - Public hearings
  - A special website: www.niger.areva.com
Mining: a source of economic and social development
Economic development

- **Economic impact and financial benefits**
  - Uranium = No. 1 export product (> 70%)
  - Purchasing in Niger = 53% from local suppliers
  - A win-win partnership
    - Breakdown of revenues:
      - 70% for the State
      - 27% for AREVA
      - 3% for other partners

- **Priority to local employment and the transfer of skills**
  - More than 5,300 jobs created
  - More than 98% of the jobs held by Nigeriens, including 90% of management positions
  - More than 100,000 people dependent directly or indirectly on the mines for their livelihood
  - Training programs for young workers
Economic development

Support for local initiatives and the development of local resources

- **Microfinance**
  - A way to promote private initiatives by the most disadvantaged members of the communities
  - A way to fight poverty
  - A way to contribute to the development of income-generating activities

- **IRHAZER project**
  - Development of agriculture (crops and livestock) in northern Niger
  - Pilot farms

- **IFRI project**
  - Partnership with the government to create an institute for industrial occupational training
Support for education

- Primary and secondary schools in the Arlit area
  - Financing of schools
  - Construction of buildings, supply of materials and equipment
  - Schooling for the children of the nomad population

- Higher education
  - Study grants
    - For students at the Mining and Geology School of Niamey (EMIG)
    - For high school graduates

- For everyone
  - Creation of a library at Arlit
Strengthening the health system

- Free medical care for employees and their families
- 2 hospitals built and managed by AREVA at Arlit and Akokan
  - Consultations with nurses
  - Consultations with doctors
  - Minor surgery
  - Major surgery
  - Baby deliveries

- Health Observatory for the Agadez Region
  - A worldwide first in the industrial sector
  - Post-employment medical monitoring of former mine workers and health monitoring of communities around the mines
  - Set up in December 2011
  - Some 135 consultations performed
  - No work-related illnesses observed
Infrastructure development

- **Facilitating access to drinking water**
  - SOMAÏR and COMINAK have produced and distributed drinking water at Arlit and Akokan for 40 years

- **Extending access to energy**
  - An electrification project at Arlit with social and economic impact
    - 50,000 people benefit
    - A collective initiative (ARVEA, government organizations, and civil society)

- **Developing the road network**
  - Construction of a 68-km paved road between Tahoua and Arlit between 1978 and 1980
  - Construction of a paved road between Arlit and Akokan
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, bioenergy, energy storage – to be one of the leaders in this sector worldwide.

With these two major offers, AREVA’s 47,000 employees are helping to supply ever safer, cleaner and more economical energy to the greatest number of people.

www.areva.com