



Uranium from Niger: A key resource of diminishing importance for France

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France's recent military interventions in Africa have once again led commentators to wonder how much the need to guarantee access to local uranium resources is part of Paris' calculus about such operations. There is no evidence to support this. While Niger remains a prominent source of uranium for France, its importance has diminished in recent years.

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In France, natural uranium is immediately associated with the relationship to African countries. Uranium has always fed rumours, fantasies and conspiracy theories set against the background of all the colourful stories of what is known in France as the “*Françafrique*”; the web of personal and economic relations between Paris and its former colonies.

Uranium from Niger was in the news a decade ago when it was alleged that Iraq had sought to import natural uranium from there. Since early 2013, new French interventions in Mali and in the Central African Republic have led many to wonder what role, if any, the security of strategic supplies has played in French strategy, in particular of uranium mines exploited by Areva in Niger.

Areva's operations in Niger have been highly visible in recent years. French nationals working for Areva have been among a number of workers taken hostage. Following the beginning of the Serval operation in Mali, Paris made it known that its special forces would contribute to the security of Areva's operations in Niger, an exceptional measure.

However, it would be a considerable stretch to suggest that French military interventions in Mali and Central Africa

were triggered by the need to protect Areva's mining sites. Those sites are nearly 2000 kilometres away from either Bamako or Bangui. In fact, although uranium from Niger remains important for Areva, it is not as important for the French national nuclear programme as many believe.

RECOMMENDATIONS

- In light of growing instability in the Sahel region, France should continue to diversify its imports of natural uranium.
- French firms Areva and EDF should be encouraged to communicate regularly and publicly about the annual amounts of natural uranium they import from former French colonies and the share it represents of all fuel for nuclear power plants.



A SHORT HISTORY OF FRENCH URANIUM PRODUCTION AND IMPORTS

It was realised early on that France's ambitious nuclear programme would require significant quantities of uranium and France was quick to exploit foreign sources of uranium. There was no certainty that domestic sources would fulfil all French needs and uranium mined from French soil was expensive to produce. By the late 1950s the richest ores had been mined and there was a need to maintain domestic reserves. Moreover, a different reason for seeking foreign sources emerged in the late 1960s: Paris was seeking to become a global supplier.

So Paris very early on pursued French or joint exploitation of uranium in French colonies or former colonies of Morocco, Madagascar, Gabon, Niger and Canada. In addition, it imported significant quantities from South Africa.

The oil shock of 1973 led to a rapid and massive expansion of the power plants programme, and consequently of uranium needs. In 1976 the French government created COGEMA (Compagnie Générale des Matières Nucléaires) as an offshoot of the CEA (Commissariat à l'Énergie Atomique).

From 1975 on France imported more uranium from abroad than it produced on its own territory. That year, due to the expansion of the power plants programme, the CEA ceased to be the sole owner of nuclear materials in France.

The 1990s saw France shifting decisively to foreign supplies of uranium. In 1989 domestic production peaked at 3,720 tonnes, allowing France to meet half of its demand for reactors. Domestic mining started to decrease in 1989, foreign mining being more cost effective. COGEMA was merged with other state-owned entities to create Areva in a two-step process in 1983 and 2001. Areva is a private company but the French state holds most of its capital.

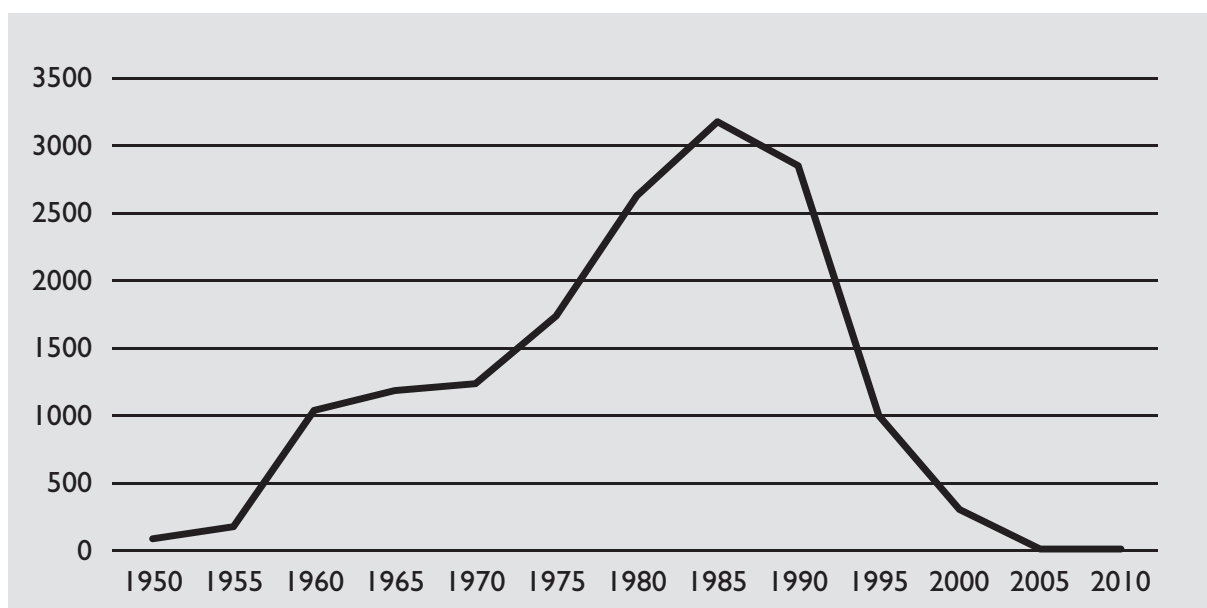
French nuclear power plants today require 1000–1200 tonnes of fuel, depending on the year. Areva and Westinghouse fabricate the fuel. This requires about 8000 tonnes of natural uranium a year.

As for military needs, these are very limited in quantity since Paris only requires fuel for a small number of naval reactors (modern French nuclear weapons do not require significant quantities of uranium). Military use requires the agreement of the country from whose soil the uranium is mined.

FRANCE AND NIGERIEN URANIUM

Niger quickly became a prominent source of natural uranium for France. Discoveries started as early as 1956, and proved fruitful in 1964 after Nigerien independence (1960). By that time France had secured preferential access to Nigerien uranium through an addendum to a 1961 bilateral defence agreement.

French domestic uranium production 1950–2010 (in tonnes of natural uranium)





Workers at the uranium mine at Arlit, northern Niger. © AP Photo/AREVA/HO

Two ad hoc Franco-Nigerien companies were created: the SOMAÏR (Société des Mines de l’Aïr, 1968) for the Arlit mine, and the COMINAK (Compagnie Minière d’Akouta, 1974) for the Akokan mine. Today SOMAÏR is owned by Areva (63.6%) and the Nigerien state company SOPAMIN (36.4%); and COMINAK is owned by Areva (34%), SOPAMIN (31%), the Japanese company OURD (25%), and the Spanish company ENUSA (10%). Production began in 1971.

Niger’s mines produce more than 4000 tonnes of natural uranium a year, thus about 7–8% of global production, making Niger the fourth-biggest uranium producing country in the world.

In Niger, uranium has to travel by truck to Parakou in Benin, which is 1600 kilometres distant from the Arlit mine. Outside cities, the first major paved roads were constructed in the 1970s and 80s especially for transporting uranium from the northern town of Arlit to the Benin border. This road, dubbed the ‘Uranium Highway’, runs through Arlit, Agadez, Tahoua, Birnin-Konni and Niamey, and is part of the trans-Sahara highway system. In Parakou yellowcake drums are loaded onto trains which travel another 400 kilometres up to Cotonou harbour, from where they are shipped to France. Cotonou harbour is also the place where Areva checks the drums stored in a buffer zone: following containment failure issues in 2004–2005 drums were re-

designed with a secured locking system. For nuclear and human security reasons, road transportation security measures from the mines to the harbour have been strongly reinforced. (Over the years, an alternative road through Algeria is said to have been considered. However, the current security situation in the Sahel has made such an option unrealistic). The whole journey takes place under a double monitoring process: a supervisor is present on site while the convoy is monitored from the operational response centre near Paris. The journey takes place under the armed escort of the Nigerien military to the border and then the Beninese military.

HOW DEPENDENT IS FRANCE ON AFRICAN URANIUM?

Niger is less important to France than it used to be; it remains a key partner, but less so than was the case in the past.

EDF (Electricité de France), which operates the French nuclear power reactors, has long-term contracts with the industry for supplies of natural uranium from Australia, Canada, Niger, and Kazakhstan. Taken together, these four countries represent today 80–90% (depending on the year) of natural uranium used, once converted and enriched, in the 58 French power plants. Their hierarchy varies from one year to another.



Uranium delivered by Areva represented at least 60% of the total needs of EDF until recently. However, with the shift from the EURODIF enriching plant to the new George Besse II enrichment facility, Areva now supplies only 40% of EDF's needs. Given that 40–50% of Areva's uranium comes from Niger, it is possible to say that French nuclear power plants rely on Nigerien uranium for no more than 20% of their consumption. Should uranium supplies from Niger be cut off with little warning, Areva would be able to cover France's needs from their stockpile or through buying on the spot market.

In fact, in recent years Niger has ranked only second or third among EDF main suppliers, behind countries such as Australia, Canada and Kazakhstan. As is also the case for other African countries (Namibia and South Africa), they have been near the bottom of the list.

It is true that the total quantity of natural uranium imported by France comes first mostly from Niger (more than 5000 tonnes in 2012) followed by Kazakhstan, Australia, Uzbekistan, and Namibia. But that is because Niger remains today an important part of Areva's business as a global company. Because France also exports uranium (raw and processed), it often imports much more than just the 8000 tonnes a year that are needed for EDF power plants. Thus, from 2006 to 2012, total French imports have ranged from 8000 to 14 000 tonnes a year.

The extent of Areva's future activities in Niger (as well as in Gabon, where it has exploration activities) will be largely dependent on the costs of mining, transportation and security. Such costs will be balanced against revenue, which depends on the market price and negotiations with local partners. By its own account, in the past 40 years Areva has gained only 13% of the revenues of its exploitation of Nigerien uranium (against 70% for the Nigerien state and 2% for foreign partners).

In fact, after having heavily invested in the opening of a giant new open-pit mining site at Imouraren, Areva is now said to be considering closing down its operations in Niger altogether. These may be just rumours, aimed for instance at putting pressure on the Nigerien government, which is said to be asking for more benefits from the French firm. However, it would not be surprising if, given the combi-

nation of a structurally low market price and of difficult political and strategic conditions in Niger, Areva were not at least seriously reconsidering its overall strategy in Africa.

As for the Central African Republic, Areva stopped conducting exploration activities there in 2012.



Part of the uranium mine at Arlit, in northern Niger. © AP Photo/AREVA/HO

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