

A French nuclear exit?

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France has been held up, worldwide, as the forerunner in using nuclear fission to produce electricity. However, a third of the nation's nuclear reactors will need replacing in the next decade, and public opinion has shifted toward reducing reliance on nuclear power. In a special issue of the *Bulletin of the Atomic Scientists*, published by SAGE four articles explore whether France has the means or desire to unplug from nuclear power.

Nuclear arms experts Patrice Bouveret, Bruno Barrillot, and Dominique Lalanne argue that phasing out Frances' civilian nuclear program would entail costs both to military funding streams, and to the nation's identity. In their provocative article, "Nuclear chromosomes: The national security implications of a French phase-out," they explain that weapons channels are distinct from the power industry. However, as civilian and military nuclear programs have been intertwined for decades, cutting financing for civilian [nuclear research](#) projects would increase the cost of maintaining the [nuclear arsenal](#). The extent to which the military and civilian budgets are shared and expenses transferred between them is impossible to quantify – a deliberate move by defense staff to maintain secrecy.

"From its beginnings after [World War II](#), the French nuclear effort has occupied an exalted position in the country's national identity. In fact, one could reasonably argue that it would take a reimagining of that identity, and a reconsideration of France's nuclear deterrent, before a French exit from civilian [nuclear power](#) could become a serious possibility," Bouveret argues.

France's nuclear program has been closely linked to the idea of a strong and economically independent France since its introduction following World War II. State-controlled Électricité de France SA (EDF) provides three-quarters of the country's electricity via [nuclear power plants](#); another majority-state-owned firm, Areva SA, is a supplier of nuclear reactors and other nuclear technologies, such as nuclear submarines, worldwide. As a result, France has invested heavily in nuclear infrastructure, and has not yet followed its neighbor Germany in moving to reduce reliance on nuclear power in the wake of the 2011 disaster at the Fukushima Daiichi Nuclear Power Station.

But Paris-based energy expert Mycle Schneider highlights serious financial difficulties on the horizon for both EDF and Areva as the French nuclear fleet ages: 22 of the country's 58 reactors will reach their 40-year lifetimes inside a decade. Extending the lives of these reactors or scaling down the nuclear sector to focus on alternative energy and energy-efficiency programs would seem viable options.

Yet the politics of such a choice are complex, as Schneider writes in a separate article. France's new president, François Hollande, is the first in French history to advocate reducing reliance on nuclear power, and to instigate an extended multi-stakeholder debate on this subject. The legalities are not simple either: According to Paris-based environmental lawyer Alexandre Faro, laws, regulations, or amendments would have to be carefully drawn to avoid large damage claims from the nuclear operator, EDF.

John Mecklin, deputy editor of the [Bulletin of the Atomic Scientists](#), concludes in his introduction that "Economics, politics, and legalities notwithstanding, before France can exit the nuclear power industry, it may have to change its idea of itself."

More information: "Nuclear chromosomes: The national security

implications of a French nuclear exit" by Patrice Bouveret, Bruno Barrillot, and Dominique Lalanne published January 2013 in The Bulletin of the Atomic Scientists.

"The French Nuclear Exit?" by John Mecklin published January 2013 in The Bulletin of the Atomic Scientists.

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