

Nuclear Power Persistence

Despite troubles in Japan, Eastern Europe needs to lessen reliance on fossil fuels for electricity

By *per* Concordiam Staff

A growing appetite for clean, reliable energy has persuaded most Eastern European governments to abandon their aversion to nuclear power, stemming from the 1986 Chernobyl disaster. Countries from Poland and Lithuania to Romania and Bulgaria, many of which generate electricity from coal and fickle supplies of Russian gas, are not only updating old nuclear power plants but also constructing new reactors. A nuclear revival promises these countries a steady supply of domestic energy that meets European Union clean-air requirements and reduces the role of fossil fuels.

Japan's struggle to contain a radiation leak at a nuclear plant following the March 2011 earthquake and tsunami has somewhat tarnished the image of nuclear energy, but few deny, least of all the Japanese themselves, that the world needs nuclear as part of its energy blend. "In Europe and across the world, more and more voices can be heard about the renaissance of nuclear energy," said Zygimantas Vaiciunas of the Lithuanian Energy Ministry in *Lithuania in the World* magazine.

Cleanliness is key. Poland gets more than 90 percent of its electricity from burning lignite, a particularly sooty type of soft coal, but its Eastern European neighbors are similarly reliant on hydrocarbons for power generation. Since much of that supply comes from Russia, which occasionally used oil and gas exports as a geopolitical pressure point, nuclear power appears to be the best bet for ending that dependency.

Lithuania, for example, shut down its archaic Soviet-era Ignalina Nuclear Power Plant in 2009. The plant supplied three quarters of the nation's electricity. The closure made Lithuania more reliant on Russian gas, a situation it hopes to remedy by building new reactors that would also supply Baltic neighbors Latvia and Estonia.

Farther south in the Czech Republic and Slovakia, old Soviet-style reactors that the EU considers unsafe are being decommissioned, to be replaced by modern nuclear plants using French, American and Japanese technology. Bulgaria, too, is set on replacing old nuclear power plants closed by the EU with a modern one in the town of Belene on the Romanian border. Until the old plant closed, Bulgaria had exported electricity to its neighbors. Even oil- and gas-rich Azerbaijan has proposed adopting nuclear energy for power generation. Kazakhstan, which possesses some of the world's largest deposits of uranium, has discussed a similar move.

In its 2010 Nuclear Technology Review, the International Atomic Energy Agency (IAEA) reported new construction on 12 civilian reactors worldwide, the largest number since the Chernobyl accident in 1986 in Ukraine, then part of the Soviet Union. The IAEA suggested that the growth stemmed from nuclear's good safety record combined with instability in the availability of competing fuels. "Concerns persisted about global warming, energy supply security, and high and volatile fossil fuel prices. All studies still projected persistent energy demand growth in the medium and long term," the report said.

Nevertheless, the expansion of electricity-by-nuclear-fission inevitably invites comparisons to Chernobyl, the widely-reported Soviet nuclear tragedy that killed hundreds of people when a reactor containment system failed and spewed radioactive dust into the sky. Fears generated by Chernobyl have contributed to halting nuclear plant construction in Germany and shutting down Italy's program entirely.

Italy is the only major industrial power in the world without a nuclear plant, helping make it the largest net importer of electricity in the world. As a result, Italy's electric rates are 45 percent above the EU average, according to the World Nuclear Association, a trade group representing the atomic energy field. Ukraine, despite shutting down Chernobyl, still gets nearly half of its electricity from nuclear.

Japan's difficulties stemming a near-disaster at its Fukushima Daiichi power plant in the spring of 2011 provided more fodder for critics of nuclear energy. The German government reacted by

A view of Lithuania's Soviet-era Ignalina Nuclear Power Plant, two weeks before it closed at the end of 2009, at the insistence of the European Union. The Baltic nation of 3.3 million is planning to build a new nuclear plant to replace Ignalina.

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Left: A view of Lithuania's Soviet-era Ignalina Nuclear Power Plant, two weeks before it closed at the end of 2009, at the insistence of the European Union. The Baltic nation of 3.3 million is planning to build a new nuclear plant to replace Ignalina.

Right: Kyrgyz men lug coal out of a mine in the town of Markay in 2009. Coal powers electric turbines throughout Eastern Europe and Central Asia, though clean air rules have raised the profile of nuclear power generation, which produces no smoke or fumes.

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promising to shut down the country's 17 nuclear reactors by 2022. These anti-nuclear sentiments drew a scolding response from former German Chancellor Helmut Kohl, who wrote a March 2011 article in the magazine *Bild* that declared the moves “over-hasty” and predicted it would lead Germany down a “dead end.” Kohl wrote, “As long as there is no credible, competitive and eco-friendly alternative to nuclear energy, there will also be no global phase-out of nuclear energy.”

Poland wants to avoid its neighbors' nuclear aversion as it charts a future less dependent on coal. After the Russian-Ukrainian gas standoff in 2009, Poland fast-tracked development of two nuclear plants. *Polska Grupa Energetyczna*, the country's largest power company, will likely build the first plant on the Baltic Sea north of Gdansk, the intended site of a never-built Soviet reactor in the 1980s.

A new law passed in February 2011 formalized Poland's commitment to nuclear power. The country's goal is to get at least 10 percent of its electricity from nuclear energy by 2030 and reduce coal's share of power generation to 60 percent. It must do so to meet EU pollution requirements. Poland is seeking foreign partners to assist with the technology and also help defer costs that could

exceed 20 billion euros. Belarus and Russia have proposed transmitting electricity to Poland – some of it nuclear generated – but Polish leaders suggest that would ultimately undermine rather than increase energy independence.

The Baltic States share similar concerns. Lithuania, Latvia and Estonia, which remain linked to the old Soviet power network, asked the EU for help in ending their isolation from the main European energy grid. Nuclear energy could be a large part of that strategy. Even after the Fukushima Daiichi disaster, Russia announced plans to manufacture relatively inexpensive ship-borne “floating nuclear power plants” for installation in remote areas like the Arctic. Each could power up to 200,000 homes, *Jane's Intelligence Review* reported in August 2011.

“Germany and Italy have made this choice, but many other European countries have not reversed their nuclear policies,” European Commission energy spokeswoman Marlene Holzner said in a May 2011 *Wall Street Journal* article. “In the long run, you will still see nuclear and it will be part of the energy mix.”

The European “green” movement, which focuses its energy production hopes on windmills and solar panels, remains an obstacle to developing nuclear



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**Percentage of electricity supplied
by NUCLEAR GENERATION in select
countries (as of 2009)**

ARMENIA:	45%
BULGARIA:	36%
CZECH REPUBLIC:	34%
FRANCE:	75%
GERMANY:	26%
HUNGARY:	43%
POLAND:	0%
ROMANIA:	21%
RUSSIA:	18%
SLOVAKIA:	38%
UKRAINE:	49%

Source: International Atomic Energy Agency

power. Though wind and solar power remain expensive and reliant on the whims of weather, green supporters view them as the best way for Europe to cut greenhouse gases blamed for global warming.

Such thinking provoked criticism from French President Nicholas Sarkozy, who in a March 2010 speech in Paris trumpeted his support for peaceful nuclear energy. Sarkozy expressed chagrin that financing agencies such as the World Bank and the European Bank for Reconstruction and Development (EBRD) have tended to shun nuclear power. The EBRD, for example, has clamored for the closure of old nuclear reactors in Eastern Europe over the protests of some national governments. More than anything else, the vast expense of nuclear power plants can sidetrack construction. "I can't understand why nuclear power is ostracized by international finance," Sarkozy announced before representatives of dozens of nations. "It's the stuff of scandal."

Despite the cost of the myriad safety features that go into building nuclear reactors, few doubt that such plants will play a role in helping Eastern Europe cut emissions and enhance energy security, opined Petr Zavodsky, head of nuclear construction for the Czech Republic's largest electric utility, in a 2010 *Bloomberg Business News* article. "Nuclear plants are the most profitable sources of energy in the long term," Zavodsky said. "We want to be more independent." □