

Since the 11 March 2011 Japanese Fukushima Daiichi nuclear catastrophe, the global nuclear civilian power industry has absorbed the negative publicity and is set to grow over the next several decades.

According to a [May 2012 report](#) issued by the U.S. government's Energy Information Administration, "Nuclear generating capacity additions began in the 1950s and now top 346 gigawatts worldwide. The first nuclear reactor to produce electricity was a very small experimental reactor in the United States in 1951. Currently, 30 countries have nuclear power programs... Plans to add new nuclear capacity in North America and Europe are relatively small in comparison to those in such countries as China, Korea, and India. Projected increased electricity demand in rapidly developing countries coupled with energy security awareness and the desire to limit carbon emissions are contributing to the worldwide addition of new nuclear capacity."

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China currently has 15 operating nuclear power plants (NPPs) provide roughly 12.5 gigawatts of generating capacity, and another 26 reactors currently under construction that will add another 12.5 gigawatts to the national grid. According to the pro nuclear [World Nuclear Association](#), "additional reactors are planned, including some of the world's most advanced, to give a five- to six-fold increase in nuclear capacity to at least 60 gigawatts by 2020, then 200 gigawatts by 2030, and 400 gigawatts by 2050."

Now China may be preparing to infiltrate one of the West's last technological areas of expertise, the construction of nuclear power plants. In the intense struggle for business in the Third World, Beijing may well score against such formerly high profile nuclear exporting companies as Westinghouse, Areva and Rosatomstrpoiekhspport.

Currently, there are [435 nuclear power reactors](#) operating in 31 nations, with a combined capacity of over 370 gigawatt hours. In 2011 these provided 2518 billion kilowatt hours, roughly 13.5 percent of global electricity needs, with another 60+ power reactors currently being constructed in 14 countries, including China, South Korea and the Russian Federation.

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Accordingly, the potential global nuclear energy power market is worth hundreds of billions of dollars, which advanced countries were theirs to exploit.

Enter China, which could undercut the current Western monopoly.

China has come a long way in advancing its industrial base since the early 1960s, when

Mao Tse Tung advocated that peasants build backyard steel blast furnaces, which Soviet ally Nikita Khrushchev derisively dismissed as 'samovar capitalism.'

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And now Huaneng Shandong Shidao Bay Nuclear Power Co Ltd. is developing a \$476 million civilian nuclear power project that will be the [first in the world](#) to put a reactor with fourth-generation features into commercial production.

Proponents of 4th generation nuclear reactors include Bill Gates, whose Terrapower company is collaborating with Chinese scientists on the design and who noted in December 2011, "The idea is to be very low cost, very safe and generate very little waste," with the reactor design, under study by Terrapower requiring no enriched uranium, as its fuel would be depleted uranium, greatly diminishing nuclear waste output.

Related Article: [US Sailors Sue Over Fukushima Radiation](#)

China has already proven the feasibility of its 4th generation reactor concept by bringing a small [20 megawatt prototype](#) online in July 2011 after a year of testing.

What is HSNPC constructing? [According](#) to HSNPC, the Shidao Bay nuclear power plant, with a designed capacity of 200 megawatts and "the characteristics of fourth-generation nuclear energy systems," the high-temperature gas-cooled NPP reactor will start generating power by the end of 2017, raising electricity generation efficiency to roughly 40 percent from the current 30-percent level of second- and third-generation reactors.

Why should the West be concerned?

A HSNPC public relations spokesman, speaking on condition of anonymity, said that if the project is successful "the reactor's technology and equipment can be exported to other countries in the future. That will be a great boost to China's nuclear industry, as a very high percentage of the equipment is produced domestically instead of being imported."

Originally scheduled to be launched in 2011, the construction of the Shidao Bay NPP was delayed after Fukushima, but in October 2011 [China's government](#) began to reconsider nuclear energy in its efforts to fulfill rising demands, putting the Shidao Bay project through on-site checks in accident prevention and emergency management, with the proposed facility passing government safety inspections.

Given China's unique blend of state socialism and capitalism, officials at Westinghouse, Areva and Rosatomstroiekhspport have a right to be nervous.

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