

## **Chinese Nuclear Energy Development Showing New Moves?**

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While it is needless to point out that developments in China represent one of the most important factors influencing the international energy situation, the nation's nuclear energy development is attracting attention after a media report that China could raise its nuclear power generation capacity target for 2020.

The China Securities Journal reported on February 14 that China's nuclear power generation capacity target for 2020 could be raised to 80 GW. This reported target far exceeds the 70 GW cited among experts over the past year since the March 2011 Fukushima Daiichi Nuclear Power Plant accident. As is well known, China has proceeded with aggressive nuclear energy development to meet the growing energy demand including electricity. As of August 2011, 14 nuclear reactors with a total capacity of 11.8 GW were in operation in China. In addition, reactors with a total capacity of more 30 GW, tripling the existing capacity, were under construction.

Even in China that has proceeded with rapid nuclear energy development, discussions have grown with regard to the development in response to the Fukushima accident. At a meeting of the State Council Standing Committee last March 16 just after the accident, plans were announced to emphasize the need for enhanced safety in nuclear power generation, to prepare a relevant nuclear safety enhancement program, and to suspend the examination and approval of new nuclear plant construction projects during the preparation. While nuclear plants under construction have remained unaffected and thus it is expected that China's nuclear power generation capacity will substantially expand with the completion of plants under construction, the fate of new nuclear plant construction projects and the capacity expansion target have attracted global attention. In this sense, the abovementioned report, as a sign indicating a new move regarding nuclear energy in China, is very important, although it fails to represent any confirmed facts or an official government announcement and also includes uncertainties.

In our institute's "Asia/World Energy Outlook 2011" published last October, future prospects for nuclear power generation were a key point. The outlook projected China's nuclear

power generation capacity in 2020 at 60 GW for the Reference Scenario, where the present trends will continue, and at 70 GW for the Advanced Technologies Scenario, where various advanced technologies will be introduced for energy security and environmental conservation. The abovementioned report means that China could have a very ambitious target exceeding our projection.

The reported new move regarding the nuclear power generation capacity target indicates that China has given priority to nuclear energy in its energy supply/demand measures and policy and that China has made no change to its basic recognition of the priority given to nuclear energy even after the Fukushima accident.

As a matter of course, China may give top priority to the enhancement of safety in response to the Fukushima accident. Nevertheless, China might have positioned aggressive nuclear energy development in addition to the promotion of energy conservation, natural gas and renewable energy as a key option to improve its electricity supply structure, which now depends heavily on coal thermal power generation, and implement global warming prevention and other environmental measures.

Following the abovementioned report, attention will be paid to official comments by the government or senior-level government persons on the 2020 nuclear power generation capacity target. At the same time, we may have to pay attention to a specific nuclear energy target for 2015 under the 12th five-year development plan.

China's policy of promoting nuclear energy development on the premise of enhanced safety is very significant. China is required to retain the premise. The present nuclear plant construction and nuclear power generation targets for 2015 and 2020 for China indicate the world's largest and fastest ever progress in nuclear energy development in history. This point is of great importance. Such rapid nuclear energy development has never been seen in the United States, France or Japan. In this sense, China now faces great challenges including the introduction of advanced technologies, the securement and investment of appropriate personnel, and the thorough promotion of safety-oriented culture.

In response to the rapid energy demand expansion since 2000, China has so far increased energy infrastructure, including coal thermal power plants and oil refineries, substantially and rapidly. The country has demonstrated its capacity to meet the rapid energy demand expansion. As it has been recognized anew through the Fukushima accident that nuclear energy includes sources of great potential hazard while also featuring large-scale, efficient electricity supply, however, the thorough enhancement of safety is an urgent top priority for nuclear energy development.

In this sense, the integrated and harmonized combination of nuclear energy development and safety enhancement is significant not only for China but also for the entire world. Therefore, not only China's own efforts and measures but also its cooperation with relevant countries with advanced technologies and personnel are of great significance. For Japan, it is inevitable to make best use of lessons learned from the Fukushima accident. Such Japanese efforts will make important contributions to the international community including China. Based on such efforts, Japan may be required to proceed with international cooperation as much as possible to further enhance safety.

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