Newspaper Column Introduction

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Global Warming Measures and Nuclear Energy's Roles*

Tsutomu Toichi
Senior Adviser for Research

As Donald Trump, a skeptic of climate change, has been elected as U.S. president, concerns have grown about the effectiveness of the Paris Agreement. In order to limit the average global temperature rise from pre-industrial levels to less than 2 degrees Celsius, however, each country will have to further improve its voluntary greenhouse gas emission reduction target in the long term. This is because the world is required to cut GHG emissions by 50% by 2050, with developed countries reducing their emissions by 80%, to achieve the 2 C goal.

Japan plans to reduce GHG emissions in 2030 by 26% from 2013. Just before the Group of Seven summit in Ise-Shima last May, the government decided on a long-term target of cutting GHG emissions by 80% by 2050. The target is based on a long-term energy supply and demand outlook revised in July 2015. The revised outlook includes a target share of the electricity mix in 2030 at 22-24% for renewable energy and at 20-22% for nuclear energy. If electricity demand in 2030 remains unchanged from the present level with nuclear reactors' capacity utilization rate standing at 70%, more than 30 reactors with total capacity of 31-34 GW should be operating in the year. This will require Japan to extend the operation of more-than-40-year-old reactors, replace some reactors and build new ones. However, new risks have emerged for nuclear energy projects.

First, there are policy change risks. Full electricity market deregulation has eliminated the concept of full cost and regional monopolies. The feed-in-tariff system has been revised to lead FIT electricity to be sold through the power transmission operators to the wholesale power exchange (JEPX). If wholesale electricity prices decline substantially as seen in Germany, it will become difficult to make nuclear reactor renewal investment decisions. A plan is under consideration to require some electricity from nuclear and other baseload sources to be provided to the market to stimulate competition in the retail market. It is uncertain whether power producers could recover fixed costs including additional investment in measures to meet new safety requirements for the nuclear power plant.

Second, there are judicial risks. Kansai Electric Power Co. was forced to suspend the operation of Units 3 and 4 at its Takahama nuclear power station last March as the Otsu District Court issued a civil suit injunction on the two reactors that were authorized by the Nuclear

＊ The Denki Shimbun carried this report on November 30, 2016, and has permitted it to be reprinted here.

Regulation Authority as meeting new safety requirements, with their operation approved by relevant local governments. The Fukui District Court had cancelled its injunction on the reactors in late 2015. Civil suits have been filed against the restart of other nuclear reactors in Japan. Nuclear and other facilities given administrative approval may not be suitable for any civil suit but should be subjected to administrative suits. The judicial risk for nuclear reactors will remain until higher courts rule on the injunction.

Third, there are political risks. A politician critical of nuclear power generation won a gubernatorial election in nuclear plant-hosting Niigata Prefecture in October 2016 after a similar development in Kagoshima, another nuclear plant-hosting prefecture, in July 2016, making the restart of nuclear reactors more uncertain. Prefectural governors have no authority to decide on the operation of nuclear reactors but can exert great influences on the operation through safety agreements with nuclear plant operators. Some opposition parties are moving to make the restart of nuclear plants an issue for national elections, creating a major risk for nuclear business.

Behind these risks is people's anxiety over the safety of nuclear power generation even six years after the Fukushima Daiichi nuclear plant accident. Other contributors to the risks include media reports saying that the decommissioning of the Fukushima Daiichi nuclear power station will fail to make progress as planned earlier, boosting decommissioning and damage compensation costs. The government should not shelve these problems but seriously tackle the negative legacy of the Fukushima accident.

Nuclear power generation, though plagued with various risks, is an indispensable option to realize public interests including global warming measures, stable electricity supply and the suppression of electricity prices. The government and electric power companies must try to mitigate new risks for achieving the nuclear power generation target in the long-term outlook. They must also make every efforts to explain nuclear energy's public roles to citizens in an easy-to-understand manner to restore public confidence in nuclear energy.

Contact: report@tky.ieej.or.jp