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# **Japan Energy Newsletter**

**Japan Electric Power  
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## 1. The Nuclear Energy Subcommittee Held a Meeting on Developing Japan's Nuclear Policy Based on the 6<sup>th</sup> Basic Energy Plan

On February 24, 2022, the Nuclear Energy Subcommittee, under the Agency for Natural Resources and Energy (ANRE) of the Ministry of Economy, Trade and Industry (METI), held a meeting for the first time since April 2021. The subcommittee was established in June 2014 by the 4<sup>th</sup> Basic Energy Plan, which was approved by the Abe Cabinet after the Fukushima Daiichi Nuclear Power Station incident. The subcommittee's most recent meeting was its 24<sup>th</sup> meeting and was the first meeting since the 6<sup>th</sup> Basic Energy Plan was released in October 2021. The goal of the meeting was to develop a new nuclear policy based on the updated energy plan.

During the meeting, ANRE presented the current domestic and international nuclear power trends. According to the U.S. Nuclear Energy Institute (NEI), the global nuclear energy market is expected to reach \$331 billion in 2050. Innovative reactors are predicted to account for a quarter of the global market by that time. Japan sees the need to improve its energy security strategy in anticipation of major changes in the international resources situation due to the Russia-Ukrainian crisis and the recent increase in climate change measures. ANRE also presented its latest perspective on the future of the nuclear energy market, such as the recent emergence of a tight electricity supply, increasing electricity prices, the stagnation of the restarting of nuclear power plants, the progress toward decommissioning plants, and the current state of the nuclear industry supply chain. Electricity prices (average unit price) in 2020 are reported to have increased by about 28% for both households and the industrial sector compared with the prices prior to 2010. ANRE also mentioned some issues around maintaining a technological base in nuclear energy since more than ten planned nuclear power plants were suspended, withdrawn, or have not started construction since the 2011 Tohoku earthquake. Additionally, overseas nuclear energy projects have been canceled in the United Kingdom, Turkey, and Vietnam.

Based on this situation, ANRE has listed the following six fields that should be discussed and addressed in the future.

- (1) Promoting the steady restart of nuclear power,
- (2) Innovative efforts to improve safety,
- (3) Building a relationship of trust with the people and local governments,
- (4) Maintaining and strengthening the human resources, technology, and industrial infrastructure that supports nuclear safety,
- (5) Promoting international cooperation on the peaceful use of nuclear energy,
- (6) Efforts to tackle back-end issues, including the steady promotion of the nuclear fuel cycle and final disposal of nuclear fuel.<sup>1</sup>

Item	Main proposal contents
(1) Promoting the steady restart of nuclear power	<ul style="list-style-type: none"> <li>• Efforts to improve safety, based on lessons learned from the accident at Tokyo Electric Power Company's (TEPCO's) Fukushima Daiichi Nuclear Power Station,</li> </ul>

<sup>1</sup> [https://www.meti.go.jp/shingikai/enecho/denryoku\\_gas/qenshiryoku/pdf/024\\_03\\_00.pdf#page=60](https://www.meti.go.jp/shingikai/enecho/denryoku_gas/qenshiryoku/pdf/024_03_00.pdf#page=60)

	<ul style="list-style-type: none"> <li>• Efforts to realize stable operations through a steady process of restarts and safety improvements</li> </ul>
(2) Innovative efforts to improve safety	<ul style="list-style-type: none"> <li>• Understanding the changes in social needs that should be considered prior to the development and implementation of new nuclear power policies</li> <li>• Carry out the development and practical application of policies that can contribute to social change</li> <li>• Maximize nuclear energy's potential</li> <li>• Encourage the national government, research institutes, and industry members to strengthen their international cooperation on safety issues</li> </ul>
(3) Building a relationship of trust with the people and local governments	<ul style="list-style-type: none"> <li>• Address and solve problems in specific areas</li> <li>• Strengthen the cooperation and communication between the national government, business operators, and local government</li> <li>• Promote understanding not only for local residents near nuclear power plants' siting areas but also for the public</li> </ul>
(4) Maintaining and strengthening the human resources, technology, and industrial infrastructure that supports nuclear safety	<ul style="list-style-type: none"> <li>• Deepen the understanding of challenges for human resources development and improving Japan's nuclear technology base</li> <li>• Facilitate efforts by the national government and industry to maintain and strengthen the supply chain</li> <li>• Strengthen the human resources development in industry, academia, and government</li> </ul>
(5) Promoting international cooperation on the peaceful use of nuclear energy	<ul style="list-style-type: none"> <li>• From the perspective of promoting countermeasures to global warming, Japan will facilitate international cooperation with countries that have introduced new countermeasures.</li> </ul>
(6) Efforts to tackle back-end issues, including the steady promotion of the nuclear fuel cycle and final disposal of nuclear fuel	<ul style="list-style-type: none"> <li>• Promote efforts by the national government and the industrial sector to complete six fuel reprocessing plants, and support the execution of measures to manage used fuel.</li> <li>• Conduct surveys on the realization of the final disposal of fuel and promote dialogue activities nationwide</li> <li>• Japan will promote efforts and measures by the national and the private sector to achieve the full-scale decommissioning of reactors</li> </ul>

Source: METI

Professor Akira Yamaguchi of the Graduate School of Engineering of the University of Tokyo, the former Deputy Chairman of the subcommittee, has been newly appointed as the Chairman of the Nuclear Energy Subcommittee, and several members have been replaced. Members of the subcommittee include academic researchers from universities and research institutes, the governor of Fukui Prefecture (Fukui Prefecture is home to several nuclear power plants), and representatives from the Citizens' Nuclear Information Center (CNIC), a nonprofit organization dedicated to securing a safe, nuclear-free world. Expert Subcommittee members include Mr. Shiro Arai, the Chairman of the Japan Atomic Industrial Forum (JAIF); Mr. Koji Sakata, the Chairman

of the Federation of Electric Power Related Industry Worker's Unions of Japan; and Mr. Takao Muramatsu, the Vice President of Kansai Electric Power (KEPCO) and Chairman of the Federation of Electric Power Companies of Japan.

## **2. Cabinet Approved a Bill to Partially Revise the Act on the Rational Use of Energy in Order to Establish a Stable Energy Supply and Demand Structure**

On March 1, 2022, Japan's Cabinet approved new legislation to revise the Act on the Rational Use of Energy. The amendment will require companies with high energy consumption to set targets for non-fossil energy sources and will encourage a structural conversion from fossil fuels. It is currently being reviewed through a regular Diet session and is scheduled to receive approval and come into effect on April 1, 2023.<sup>2</sup>

On the demand side, the bill requests factories to improve their usage ratio of non-fossil energy sources by shifting from fossil fuels to renewable energy, hydrogen and ammonia, and nuclear power. It also requires businesses that exceed a certain size to create medium to long-term plans for their energy usage. The bill requires utilities to create a plan for electricity pricing measures to optimize electricity demand and requires retail electricity providers to offer a tariff plan with a fluctuating retail electricity price based on the energy supply and demand. The tariff plans are designed to make electricity bills cheaper when there is an electricity surplus or higher if the electricity supply is tight. Homes and businesses can decide whether or not to choose the plan.

In order to ensure a more stable electric power supply, the existing arrangement that allows companies to notify the government about the suspension or closure of a power plant after their closure has been changed to require advance notification. This change will allow the government to better manage power plants' suspension and closure and will provide more time to take the necessary measures to secure the supply capacity. Under the revised Electricity Business Act, large storage batteries will be positioned as power generation sources, and owners are encouraged to enhance their integration with power grids. Hydrogen and ammonia, which do not emit carbon dioxide (CO<sub>2</sub>) even when burned, are also considered to be non-fossil energy sources. Businesses involved in the production, liquefaction, and storage of hydrogen and ammonia will receive an investment and debt guarantee from the Japan Petroleum and Natural Gas and Metal Mineral Resources Organization (JOGMEC).<sup>3</sup>

The bill proposes to partially amend several pieces of legislation, such as: (1) the Act on the Rational Use of Energy, (2) The Act on Sophisticated Methods of Energy Supply Structures, which promotes the use of non-fossil energy sources and the effective use of fossil fuels' raw materials by energy supply providers, (3) the JOGMEC Act, 4) Mining Act, and 5) the Electricity Business Act. Based on the 6<sup>th</sup> Basic Energy Plan, Japan aims to achieve carbon neutrality by 2050 and has set ambitious greenhouse gas reduction targets for 2030 by transforming the energy demand structure and improving the

<sup>2</sup> [https://www.shugiin.go.jp/internet/itdb\\_gian.nsf/html/gian/menu.htm](https://www.shugiin.go.jp/internet/itdb_gian.nsf/html/gian/menu.htm)

<sup>3</sup> <https://www.meti.go.jp/press/2021/03/20220301002/20220301002-1.pdf>

stability of the power supply system.<sup>4</sup> The primary purpose of the pending bill is to facilitate the improvement of the energy supply and demand structure. The main changes in the bill are as follows.

<b>Act</b>	<b>Main amendments</b>
Act on the Rational Use of Energy	<ul style="list-style-type: none"> <li>• Expands the energy use target from fossil energy only to include non-fossil fuel energy</li> <li>• Requests businesses and factories of a certain size or larger to shift to non-fossil energy sources and obliges them to formulate medium to long-term plans for their energy usage</li> <li>• In order to optimize electricity demand, such as demand response, utilities and retailers are required to create rate plans that promote the optimization of electricity demand</li> </ul>
Act on Sophisticated Methods of Energy Supply Structures	<ul style="list-style-type: none"> <li>• Positions hydrogen and ammonia as non-fossil fuel energy sources</li> <li>• Thermal power plants equipped with Carbon Capture and Sequestration (CCS) will be included under the legislation</li> </ul>
JOGMEC Act	<ul style="list-style-type: none"> <li>• Expands JOGMEC's investment targets to include overseas exploration projects for large-scale geothermal power generation that have been approved by METI</li> <li>• Extends JOGMEC's investment and debt guarantees to include businesses related to 1) hydrogen and ammonia manufacturing, liquefaction, and storage, 2) CCS business and geological exploration projects, and 3) mineral processing and smelting of rare metals in Japan</li> </ul>
Mining Act	<ul style="list-style-type: none"> <li>• Adds rare earth minerals as a target for mining rights under the legislation. It is not allowed to mine for rare earth minerals without permission from METI</li> </ul>
Electricity Business Act	<ul style="list-style-type: none"> <li>• The post-notification system for the closure of power plants will be changed to an advance notification system</li> <li>• Considers large storage batteries as power generation sources under the Act and improves their integration with the power grid</li> </ul>

Source: METI<sup>5</sup>

<sup>4</sup> <https://www.meti.go.jp/press/2021/03/20220301002/20220301002.html>

<sup>5</sup> <https://www.meti.go.jp/press/2021/03/20220301002/20220301002-1.pdf>