



September 2022

Japan Energy Newsletter

**Japan Electric Power
Information Center, USA**

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1 Japan's Prime Minister Kishida Asks Ministries and Agencies to Consider the Development of Next-Generation Nuclear Reactors

On August 24, Japan's Prime Minister (PM) Fumio Kishida held the second public-private-academic green transformation (GX) meeting, which focused on economic, social, and industrial reforms. During the meeting, PM Kishida asked the relevant ministries and agencies to consider developing and constructing next-generation, innovative nuclear reactors with new safety mechanisms to achieve a decarbonized society.¹ PM Kishida appealed to the ministries to mobilize all possible measures to overcome the tight power supply crisis that Japan is facing this year. To address the crisis, Japan aims to restart its existing nuclear power plants, extend the operating period of active nuclear power plants while ensuring their safety, and develop next-generation nuclear reactors, which are expected to be safer than existing nuclear reactors. Japan plans to formulate concrete measures by the end of the year based on opinions from stakeholders and industry experts.

The Kishida government has stated its willingness to lay the groundwork for the full use of nuclear power in order to resolve the power supply crisis this summer and winter. Mr. Yasunori Nishimura, the newly appointed Minister of Economy, Trade and Industry in the second Kishida Cabinet, stated in an interview with Nihon Keizai Shimbun on August 12 that he would like to secure a stable electricity supply starting from next summer onwards. He stressed the importance of restarting nuclear power plants.²

Of the 17 nuclear power plants in Japan that have passed the Nuclear Regulation Authority's (NRA) safety review, ten have been restarted at least once with the local community's consent, and seven are currently in operation. The Japanese government is now attempting to have nine reactors in operation to prepare for this winter's energy demands. Minister Nishimura also noted that Japan will promote the development of small modular reactors (SMRs) through research and development (R&D), human resources development, and strengthening the nuclear power supply chain.³

Kishida's government will replace Japan's existing policy, which has been in place since the Great East Japan Earthquake and did not plan any future construction of new nuclear power plants, with a new policy promoting the development of next-generation nuclear reactors. Kishida's government realizes that the utilization of nuclear power is urgent due to the effect of Russia's invasion of Ukraine on the global energy market. At a press conference on August 24, NRA Chairman Toyoshi Fuketa pointed out that developing safety standards for the next-generation nuclear power plants will take years. To address Japan's tight electricity supply, a series of specific measures for utilizing nuclear power, including consideration of the development and construction of next-generation nuclear reactors, will be drawn up by the end of the year.

¹https://www.kantei.go.jp/jp/101_kishida/actions/202208/24gx.html

²<https://www.meti.go.jp/speeches/kaiken/2022/20220810002.html>

³https://www.nikkei.com/article/DGXZQOJA123NN0S2A810C2000000/?n_cid=NMAIL006_20220812_Y

2 Ministry of Economy, Trade and Industry Formulates its Storage Battery Strategy, Aims to Secure a Workforce of 30,000 Workers

On August 31, 2022, the Storage Battery Industry Strategic Council (referred to as 'the Council') under the Ministry of Economy, Trade and Industry (METI) held a public-private council meeting to finalize the strategy and policy to strengthen Japan's storage battery technology and manufacturing base. The strategy aims to advance Japan's competitiveness in the international storage battery market, acquiring a 20% share of the global market while pursuing the realization of a decarbonized society. As a key part of the plan, Japan seeks to enhance its storage battery manufacturing capacity and expand the workforce to 30,000 workers by 2030.

The Council has sought to re-establish the global competitiveness of Japan's storage battery industry as part of the overall strategy to achieve Japan's 2030 greenhouse gas reduction targets and meet the national goal of carbon neutrality by 2050. The Council held its first meeting in November 2021. At the 4th meeting in April 2022, the Council released an interim proposal with plans to increase the production of storage batteries to 10 times the current level by 2030.

To improve manufacturing capacity in Japan and overseas, the finalized strategy document has proposed various measures, such as securing sufficient resources and providing human resources training. The Council also announced the establishment of the Kansai Storage Battery Human Resource Development Consortium, with support from industry, educational institutions, local governments, and related agencies.

2.1 Objectives of the Storage Battery Industry Strategy⁴

The main objectives of the Storage Battery Industry Strategy are as follows.

- (1) **Strengthening Japan's storage battery manufacturing base:** Establishment of a domestic production base for liquid lithium-ion batteries, with annual production capacity reaching 150 gigawatt hours (GWh) by 2030.
- (2) **Securing Japan's global presence:** By 2030, the annual manufacturing capacity of Japanese companies in the global market will reach 600 GWh, and Japan will seek to acquire a 20% share of the global market.
- (3) **Attaining the next-generation battery market:** Japan will seek to realize the full-scale commercialization of all-solid-state batteries around 2030 and secure a leading role in developing storage battery technologies after 2030.

The Council proposed the following measures to achieve the above objectives.

- (1) Developing a policy package for expanding domestic manufacturing bases,

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https://www.meti.go.jp/policy/mono_info_service/joho/conference/battery_strategy/battery_saisyu_torimatome.pdf

- (2) Participating in global strategic alliances and formulating global standards,
- (3) Securing upstream supply chain resources,
- (4) Facilitating the next generation of research and development,
- (5) Creating a domestic storage battery market,
- (6) Advancing human resources development and securing personnel, and
- (7) Improving the domestic business environment.

The highlights of each measure are as follows.

(1) Developing a policy package for expanding domestic manufacturing bases

Japan seeks to establish a domestic battery storage production base of 150 GWh/year by 2030, maintaining its competitiveness in the international market. The Council has proposed to strengthen public and private investment, foster advanced manufacturing technologies through digital transformation (DX) and green energy transformation (GX), examine and improve the consistency of battery cells, and optimize the storage battery control system.

(2) Participating in global strategic alliances and formulating global standards

In order to create a safe and sustainable global storage battery supply chain, the Council proposed to formulate a partnership strategy and partner with global alliances. Japan will also support businesses and enterprises that offer storage batteries to the global market, particularly in developed countries such as Europe and the U.S., by helping those companies to secure financing. The Council noted that Japan will support the development of international rules and standards on storage battery safety and functionality.

(3) Securing upstream supply chain resources

To establish a domestic production base of 150 GWh/year by 2030, Japan will need to secure upstream resources and mining materials, including annual supplies of 100,000 tons of lithium, 90,000 tons of nickel, 20,000 tons of cobalt, 150,000 tons of graphite, and 20,000 tons of manganese. The Council noted that the Japanese government will expand its support to companies that secure these resources and strengthen its cooperation with resource-holding countries and regions, such as Australia, South America, and Africa, to build a stable supply chain and secure upstream interests.

(4) Facilitating the next generation of research and development

Given the highly competitive international storage battery market, the government, industry, and academia have been working together on developing next-generation storage batteries, including all-solid-state batteries, to ensure Japan's leadership in the field. The government will support the research and development of new battery designs with a focus on all-solid-state batteries and recycling technologies through the

Green Innovation Fund.⁵ The government will also boost the development of performance testing and evaluation facilities for next-generation batteries.

(5) Creating a domestic storage battery market

The Council noted the importance of stimulating the domestic demand for battery storage while strengthening the supply capacity. It will promote the widespread adoption of electric vehicles (EVs) and stationary power storage systems and will take measures to further ensure the safety and security of battery storage systems. Japan will also provide incentives to purchase EVs and improve the charging infrastructure in order to achieve its goal of 100% electric passenger car sales by 2035.

(6) Advancing human resources development and securing personnel

To meet its goals for a domestic production capacity of 150 GWh/year by 2030, the Council will support the training and hiring activities to secure a total of 22,000 technical personnel and a total of 30,000 personnel in the supply chain, from battery materials to battery production lines.

(7) Improving the domestic business environment

The Council aims to enhance the domestic business and production environment for storage batteries in many aspects, including ensuring sustainability through implementing battery recycling and reuse initiatives and addressing human rights and environmental issues. The Council will also consider how to increase the renewable energy power supply capacity while reducing renewable energy costs and will review and modify the related regulations, such as the Fire Service Act, which regulates the safety issues for battery production, distribution, and storage.

⁵ In October 2020, Japan's government published its 2050 Carbon Neutral declaration, which set a goal of reducing greenhouse gas emissions to virtually zero by 2050. Based on this declaration, the Japanese government then created the Green Growth Strategy Through Achieving Carbon Neutrality in 2050. An unprecedented 2 trillion yen "Green Innovation Fund" was established at NEDO: <https://green-innovation.nedo.go.jp/feature/to-business/>

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