



May 2023

Japan Energy Newsletter

**Japan Electric Power
Information Center, U.S.A.**

1 G7 Ministers' Meeting on Climate, Energy, and Environment in Sapporo¹

On April 15 and 16, 2023, Japan's Ministry of Economy, Trade and Industry (METI) and Ministry of the Environment co-hosted the International Group of Seven (G7) Climate, Energy, and Environment Ministers' Meeting in Sapporo, Hokkaido, where a joint communiqué was adopted. The G7 Ministers agreed to increase their efforts to phase out the use of some types of fossil fuels that have not taken steps to reduce their carbon dioxide (CO₂) emissions, such as natural gas and coal. On the other hand, the G7 postponed specifying the timing for the abolition of coal-fired power plants due to objections from the Japanese government.

The meeting was co-chaired by METI Minister Yasutoshi Nishimura and Minister of the Environment Akihiro Nishimura. From the United States, Special Presidential Envoy for Climate John Kerry was also present. Following the meeting, participating ministers adopted a communiqué and its annexes. Key goals adopted in the joint communiqué are:

- Reduce greenhouse gases (GHG) by 60% by 2035 compared to 2019
- Phase out the use of fossil fuels that have not implemented CO₂ reduction measures
- Reinforce efforts to reduce CO₂ emissions from automobiles in the G7 countries by 50% by 2035 compared to 2000
- Increase offshore wind power generation by 2030 to 7 times that of 2021, and expand photovoltaic power generation to 3 times the current level
- Build a stable supply network for important minerals such as rare earth elements
- Eliminate new marine plastic pollution by 2040
- Recognize nuclear power as a low-cost energy source that can mitigate the dependence on fossil fuels in some countries

Details of the Joint Communiqué Concerning the Energy and Power Sector²

The joint communiqué emphasized G7 countries' commitment to accelerating the phase-out of fossil fuels where emission reduction measures have not been undertaken to achieve net zero in the energy sector by 2050. The G7 countries also reaffirmed their commitment to accelerating the phase-out of coal-fired power generation that does not have any domestic emission reduction measures by 2035, which is consistent with their goals to achieve a full or mostly decarbonized power sector. The G7 countries called on other countries to adopt these measures.

Regarding the use of hydrogen and ammonia for power generation, the joint communiqué noted that considering the 2035 power sector decarbonization goal, some countries are considering the use of low-carbon and renewable-derived hydrogen and

¹ <https://www.meti.go.jp/press/2023/04/20230417004/20230417004.html>

² <https://www.meti.go.jp/press/2023/04/20230417004/20230417004-2.pdf>

its derivatives in the power sector as an approach to zero-emission thermal power generation.

When it comes to nuclear power generation, the joint communiqué emphasized that it provides low-cost, low-carbon energy that can mitigate the dependence on fossil fuels in countries that have chosen to utilize nuclear power. In addition, the communiqué recognizes nuclear power's potential to ensure global energy security as a source of baseload power and grid flexibility. The G7 countries are committed to promoting safe long-term operations and maximizing the safe, reliable, and efficient use of existing nuclear reactors to address the current energy crisis.

For carbon management, the deployment of carbon dioxide removal (CDR) processes to achieve net zero plays an essential role in offsetting residual emissions in hard-to-decarbonize sectors. The communiqué recognizes the potential for creating regional carbon capture and storage (CCS) hubs and the need to monitor and analyze the development of geological storage infrastructure and CO2 transport schemes. The G7 countries also decided to develop exchanges, such as joint industry-academia-government workshops on Carbon capture and utilization (CCU) /carbon recycling technologies such as carbon recycling fuels (RCFs).

2 Japanese Government Presents its Draft Action Plan for the Introduction of Renewable Energy and Policy to Revise Hydrogen Strategy³

On April 4, 2023, the Japanese government held the third meeting of the Ministerial Council on Renewable Energy, Hydrogen, and Related Issues. The meeting was held at the Prime Minister's Office. Meeting participants discussed a draft action plan to further expand the introduction of renewable energy, in collaboration with relevant government ministries and agencies, based on the basic policy for realizing the Green Transformation (GX). In addition, the draft action plan includes a revision to the basic strategy on hydrogen, which was formulated as a national strategy in 2017, as well as new considerations regarding the government's plans to increase the amount of hydrogen introduced to 12 million tons by 2040, which would be six times the current level.

Draft Action Plan⁴⁵

The draft action plan describes the efforts that each government agency, including the Ministry of Economy, Trade and Industry, will undertake to implement the "Basic Policy for Realizing GX" decided by the Cabinet on February 10, 2023. The policy aims to accomplish the Japanese government's goal of becoming carbon neutral by 2050, with a 46% reduction by 2030. The "Basic Policy for Realizing GX" provides 20 trillion yen in government support by utilizing GX economic transition bonds to promote the introduction of renewable energy.

The draft action plan focuses on measures to accelerate innovation. For example, concerning perovskite solar cells, which are created by Japanese technology and are expected to become a next-generation type of solar cell, establishing a mass production technology, creating the demand, and establishing a production system will be promoted together. In addition, regarding "floating offshore wind power," which can take advantage of Japan's coastlines, the action plan recommends the start of large-scale demonstration experiments and promotes the construction of a cost-competitive production system.

The following measures will be taken for the introduction of renewable energy:

- **Construction of the next-generation networks that are necessary for the large-scale introduction of renewable energy**
 - Activities include completing an underwater direct current power transmission connecting Hokkaido and the main island of Japan (Honshu) by FY2030, performing the research and adjustments to create the layout route for the

³ https://www.cas.go.jp/jp/seisaku/saisei_energy/kaigi_dai3/gijisidai.html

⁴ https://www.cas.go.jp/jp/seisaku/saisei_energy/kaigi_dai3/shiryu1-2.pdf

⁵ https://www.cas.go.jp/jp/seisaku/saisei_energy/kaigi_dai3/shiryu1-1.pdf

cable, establishing a framework for financing (investments, loans, and debt guarantees), and launching the implementing body by the end of FY2023.

- **Ensuring adjustability**

- Create a mechanism that allows electric vehicles and household storage batteries to participate in the supply and demand adjustment market starting by FY2026.
- Formulate the outlook for the introduction of stationary storage batteries around the summer of 2023.

- **Efforts on the demand side**

- Regarding demand response (DR) by large-scale consumers, the draft action plan aims to increase annual capacity by 500,000 kW through DR efforts that are required by the revised Energy Conservation Act, which will be mandatory from FY2023 onwards.
- To achieve both the promotion of renewable energy and business discipline in energy usage, each government agency will implement the Fukushima Plan for a New Energy Society⁶ formulated in September 2016. The key components of the Fukushima Plan for a New Energy Society are:
 - (1) Measures to expand the introduction of renewable energy such as solar, wind, hydro, geothermal, and biomass
 - (2) Efforts by each government agency to ensure business discipline, such as through the disposal and recycling of solar panels
 - (3) Expanded deployment of renewable energy for the reconstruction of Fukushima Prefecture

Revision of the Basic Strategy on Hydrogen⁷

The Basic Strategy on Hydrogen (including ammonia) will be compiled by the end of May 2023. The plan will set new measures to design and implement a system for achieving a hydrogen society. The main points are:

- 1) Accelerate the realization of a hydrogen society by setting ambitious new introduction volume targets for hydrogen, etc. Going beyond the current goal to introduce 3 million tons in 2030, the plan will consider a new goal of around 12 million tons in 2040, which is six times the current level.
- 2) Set a target for the introduction of hydrogen electrolyzers related to Japanese companies in Japan and overseas in 2030. The plan will consider a target of around 15 GW, which is about 10% of the projected introduction of water electrolyzers in the world in the same year.
- 3) Develop a support system for building a large-scale and resilient supply chain and supply base. The plan aims to start commercial use by around 2030 and will

⁶ https://www.nef.or.jp/keyword/ha/articles_fu_01.html

⁷ https://www.cas.go.jp/jp/seisaku/saisei_energy/kaigi_dai3/shiryou2.pdf

promote a supply chain investment plan with 15 trillion yen over 15 years for the public and private sectors.

- 4) Japan will lead the formulation of global standards for “clean hydrogen” to clarify the transition to clean hydrogen. Specifically, Japan will formulate criteria for evaluation based on “carbon intensity,” which is the amount of CO₂ emitted during hydrogen production per unit, rather than the source of hydrogen production. This will require Japan to develop new regulatory measures to transition to clean hydrogen.

DISCLAIMER

This publication was prepared by the Japan Electric Power Information Center, USA (JEPIC-USA), based on publicly available information. While we presume this information to be accurate and reliable, we provide no guarantee as to the accuracy of the data or information contained herein. JEPIC-USA shall therefore assume no legal responsibility for any trouble, loss, or damages resulting from any actions taken based on the content of this publication.

All rights reserved.

©2023 Japan Electric Power Information Center, USA