



March 2024

Japan Energy Newsletter

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

1 Cabinet Approves Hydrogen Society Promotion Bill and CCS Business Bill¹

On February 13, 2024, the Cabinet of Japan approved the “Bill on Promoting the Supply and Use of Low-Carbon Hydrogen for a Smooth Transition to a Decarbonized Growth Economic Structure” (hereafter referred to as the “Hydrogen Society Promotion Bill”), as well as the “Bill on Carbon Dioxide Capture and Storage Business” (hereafter referred to as the “CCS Business Bill”). The Japanese government considers the following two actions to be essential for Japan to achieve carbon neutrality by 2050: 1) utilizing low-carbon hydrogen and others² as an energy source, and 2) introducing carbon dioxide capture and storage (CCS), which captures CO₂ emitted from fossil fuels combustion and stores it underground.

These bills are designed to promote the transformation of Japan’s energy, economic and social systems (i.e., GX: green transformation), especially in the hard-to-abate sectors. Both bills were formulated and approved by the Cabinet to help the government take the lead in the supply and use of low-carbon hydrogen to promote early use, and to establish a business environment that will allow the private sector to start CCS projects. The bills will soon be submitted to the current Diet session for enactment.

The main highlights of each bill are as follows:

<Hydrogen Society Promotion Bill³>

- The Hydrogen Society Promotion Bill promotes the supply and use of low-carbon hydrogen and others, focusing on fuels that emit a low amount of CO₂ during production.
- The bill stipulates that the government will formulate the basic policies to promote the supply and utilization of low-carbon hydrogen and others, and will establish a certification system, which will incentivize private companies to supply and use low-carbon hydrogen. Certified businesses will have opportunities to receive governmental assistance, including compensation and funding for related activities.
- Through the Japan Oil, Gas and Metals National Corporation (JOGMEC), the bill will provide certified companies with subsidies to run their hydrogen production continuously. The subsidies will also assist them with investing in the development of their hydrogen facilities.
- Taking special measures under the High-Pressure Gas Safety Act, the Minister of Economy, Trade and Industry (METI) will issue safety inspection permits on behalf of the prefectural governors for a certain period of time. After that, it will be possible for business operators to shift to voluntary security measures. In addition, METI will develop standards for hydrogen suppliers, and will provide other guidance, advice, recommendations, and orders as necessary.

¹ <https://www.meti.go.jp/press/2023/02/20240213002/20240213002.html>

² Hydrogen and others refer to hydrogen and its derivatives such as ammonia, synthetic methane, and synthetic fuels, as defined by the Ordinance of the Ministry of Economy, Trade and Industry.

³ <https://www.meti.go.jp/press/2023/02/20240213002/20240213002-1.pdf>

<CCS Business Bill⁴>

- According to the GX Promotion Strategy approved by the Cabinet in July 2023, the CCS Business Bill will allow the Japanese government to facilitate the business environment for the private sector to initiate CCS projects nationwide by 2030.
- A permit system will be developed for the necessary storage projects. The permit system will balance maintaining public safety and preserving the marine environment.
- Storage projects and test drilling will require obtaining a business license, and business and safety regulations will be established for storage activities and carbon dioxide pipeline transportation projects.
- Regarding the business license, METI will designate certain areas where reservoirs (i.e., geological strata suitable for storing CO₂) may exist. The government will recruit and select the organizations that will carry out the test drilling and CO₂ storage projects in the specific areas, will grant permission for their use, and will establish the newly-created CO₂ storage and test drilling rights.
- The implementation plan for test drilling and storage projects is subject to approval. Operators will be required to monitor their reservoirs for leakages of stored CO₂.
- Certain obligations, including reporting, will be imposed. It will be prohibited to refuse storage requests from CO₂ emitters without justifiable reasons, or to treat specific CO₂ emitters in a discriminatory manner. In addition to safety regulations for operators, CCS businesses will be liable for damages regardless of intent or negligence (no-fault liability).

⁴ <https://www.meti.go.jp/press/2023/02/20240213002/20240213002-6.pdf>

2 Electricity and Gas Market Surveillance Commission Launches a New Study Group to Overhaul Infrastructure and Equipment in Response to Increased Demand⁵

On March 1, 2024, the Electricity and Gas Market Surveillance Commission, a supervisory and regulatory organization under the direct control of the Minister of Economy, Trade and Industry (METI), held the first meeting of the “Study Group on Local Electricity Demand Increase with Power Transmission and Distribution Networks.” There are several issues with Japan’s domestic power transmission and distribution networks, such as aging infrastructure, labor shortages, etc. As a result, there is a need to overhaul the existing infrastructure and equipment to meet the anticipated increase in localized power demands from facilities such as data centers.

The study group will examine how the existing infrastructure and equipment should be updated, and will consider system development from the customer’s perspective. The study group plans to compile its recommendations by this summer so that they can be incorporated into policy planning.

<Major Discussions during the First Meeting>

During the first meeting, the policy group discussed the current situation, including the major issues and challenges. The policy group also considered some advice/recommendations that it might provide to address these issues in the future.

- The first topic of discussion was the background and purpose of the study group.⁶ The majority of Japan’s existing transmission and distribution infrastructure was built during the period of high economic growth in the 1960s and 1970s. As a result, the equipment and facilities are now aging. It will be necessary to invest in updating the aging infrastructure, to expand the current transmission networks to accommodate the increase of widespread renewable energy generation, and to strengthen resilience against natural disasters, which are becoming more severe over time.
- The future overall demand for electricity is expected to remain at the current level or to decrease. On the other hand, the localized demand in some certain areas is expected to increase due to the construction of new data centers and semiconductor factories, and the installation of electric vehicle (EV) charging systems. It will be necessary to supply power flexibly and smoothly in response to these increases in localized power demand.
- However, since the conditions for power supply and demand connected to the grid will vary based on the location, the need to reinforce the power transmission and distribution networks is also different from location to location. This creates significant differences in the power transmission costs associated with new connections.

⁵ https://www.emsc.meti.go.jp/activity/emsc_localedemand/0001_haifu.html

⁶ https://www.emsc.meti.go.jp/activity/emsc_localedemand/pdf/0001_03_00.pdf

- While efforts have been made to suppress peaks across the entire grid on the demand side, such as peak shifting and power saving, there haven't been any measures that focus on the effects of the increase in localized demand. The study group therefore organized a list of issues and measures to help power transmission and distribution networks flexibly and smoothly accommodate increases in localized demand, and considered possible countermeasures.

Based on the above discussion items, the policy group considered the following advice/recommendations to address the issues:

- Social changes to meet the increased localized power demand:
 - Appropriately understand the current situation at 1) site locations with significant power-consuming facilities, such as data centers and semiconductor factories; 2) The deployment of EV chargers and energy storage systems associated with the electrification of mobility, and 3) the localized power demand as a result of decarbonization activities such as CO₂ capture facilities, etc.
- Impact on the power transmission and distribution networks:
 - Emphasize the necessity of verifying the cost and time that will be required to update existing transmission and distribution infrastructure and equipment.
- Measures for addressing increased localized demand:
 - Develop and undertake measures to meet the increase of localized power demand, such as establishing the mechanisms to create a grid modernization plan, considering possible responses through demand side management, etc.

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.

©2024 Japan Electric Power Information Center, USA