



International Partnership
for Hydrogen and Fuel Cells
in the Economy

Japan Update

41st IPHE Steering Committee Meeting

19 - 20 March 2024

New Delhi, India

Announcements / New Initiatives *Japan*

Policies/Initiatives

January

- “Interim Summary Report” by the external committee in relation to hydrogen strategies
 - Summarized the external committee's discussion so far to describe the recommended policy design to introduce hydrogen at scale
 - Includes the skeleton concept of support schemes (supplier support and cluster development support), plans to induce using low-carbon hydrogen among the existing use-cases, and suggestion to refine safety rules

February

- Cabinet Office approved the “Hydrogen Society Promotion Bill (*tentative name*)”
 - Expected to be enacted in the current Diet session ending in June
 - Enables the Government to implement the support schemes
 - Funding from the proceeds of GX Economy Promotion Bond (allocated circa \$20 billion for 15 years)

Announcements / New Initiatives *Japan*

Key Collaborations

2023 October - December

- Memorandum of Cooperation (MOC) on hydrogen, ammonia and derivatives with Denmark
- Green Strategic Partnership Joint Communique with Norway, which encompasses hydrogen and ammonia.

2024 February

- MOUs between H2Global and (1) JOGMEC and (2) Tokyo Metropolitan Government
- Director-General level meeting with MOTI, Republic of Korea



MOUs between H2Global and JOGMEC (up) and Tokyo Metropolitan Gov (right)



MOC with Denmark



Australia Excursion



October

The liquefied hydrogen carrier “*Suiso Frontier*” tour was held at the Port of Hastings, Victoria, Australia, as part of the Aus-JP Ministerial Economic Dialogue.



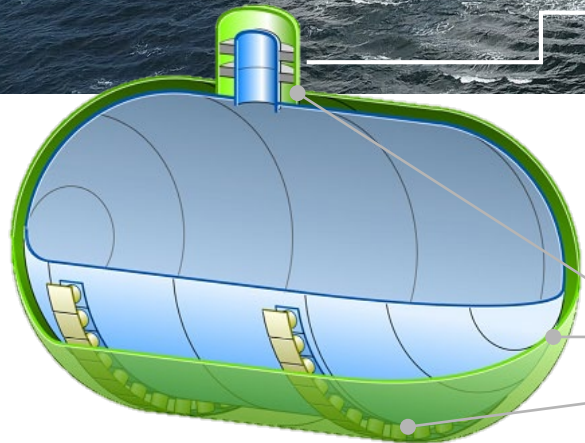
Photos provided by Kawasaki Heavy Industries



Announcements / Liquefied Hydrogen Technology *Japan*



SUISO FRONTIER



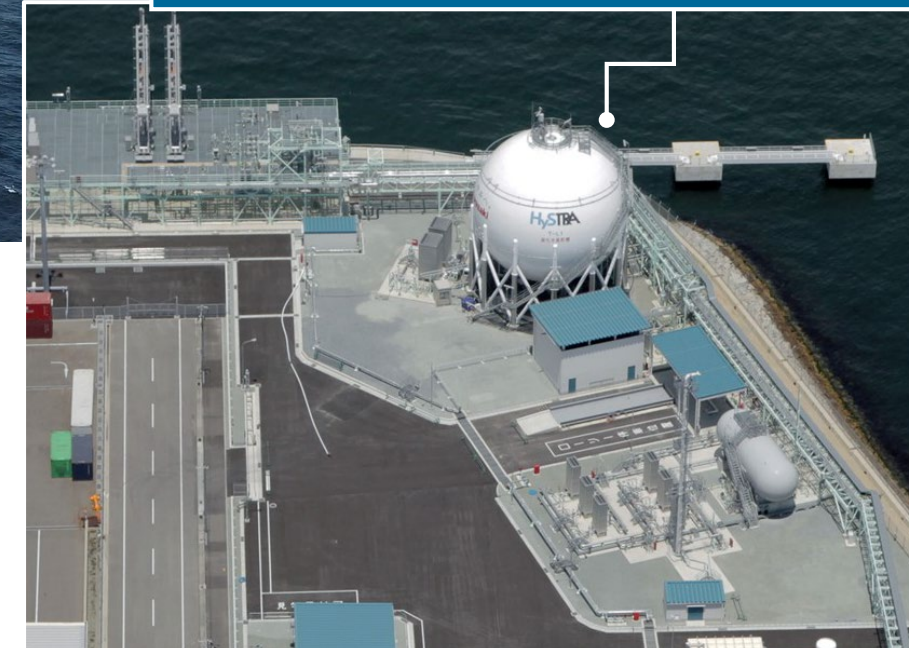
Liquefied hydrogen tank (1,250m³)

- Special dome structure to maintain vacuum
- Stainless steel Vacuum insulated double shell
- High-insulation support structure

⇒ BOR* : 0.3%/d (proven)

Source: https://global.kawasaki.com/en/corp/newsroom/news/detail/?f=20231211_8742

Liquefied hydrogen tank (2,500m³)



⇒ BOR* : 0.06%/d (proven)

* Boil Off Rate



Announcements / Demonstration project *Japan*



SUNTORY

Suntory and Yamanashi Prefecture to produce green hydrogen by installing Japan's largest 16 MW-size Power-to-Gas System at Suntory's Hakushu facilities by 2025. The green hydrogen produced will not only be used as fuel for heat energy at the company's Hakushu facilities but are also planned to be utilized in the surrounding communities.



*Manesar Plant of Maruti Suzuki
Heat Supply at Automobile Manufacturing Plant Hariana, India*

India's first 10 MW-class PEM water electrolyzer will be installed at an automobile plant to demonstrate the production, storage, and utilization (low and high-temperature heat demand) of green hydrogen using surplus electricity from the 50 MW-class PV on site.

Japan – Profile October 2023



Status of Deployments

- Fuel Cell Vehicles: 8,133 as of Feb. 2024
- FC Bus: 149 as of Dec. 2023
- Forklifts: 417 as of Mar. 2023
- 70MPa HRS: 162 operational as of Feb. 2024
- Stationary residential fuel cells (ENE-FARM): 503,276 as of Dec. 2023

Leading Government Initiatives

- “Interim Summary Report” in relation to its hydrogen strategies was released.
- Japanese government approved “Hydrogen Society Promotion Bill (tentative name)”.

Goals or Focus Areas

- Cost (JPY/Nm³ – H₂)
JPY 30 /Nm³ by 2030
JPY 20 /Nm³ by 2050
- Hydrogen supply & demand
3 M tones by 2030
20 M tones by 2050

Deployment Goals

- Deployment target by 2030:
- Fuel Cell Vehicles: 800,000
 - H₂ Refueling Stations: 1,000
 - Fuel Cell Buses: 1,200
 - Stationary residential fuel cells: 3 million

Funding – 2024FY budgetary request

- Fuel Cells R&D: JPY 8 billion
 - H₂ Supply Chain RD&D: JPY 8.6 billion
 - H₂ Hub demonstration: JPY 6.2 billion
 - High-Efficient Boiler Subsidy, including stationary residential fuel cells: JPY 31.4 billion
- Green Innovation Fund
- Large-scale H₂ supply chain: JPY 300 billion
 - Large electrolyzer development: JPY 70 billion



Thank you



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