



International Partnership
for Hydrogen and Fuel Cells
in the Economy

Japan Update

37th IPHE Steering Committee Meeting
26 – 27 April 2022
Virtual Meeting

Announcements / New Initiatives *Japan*

• The Bill for energy-related act (including hydrogen)

The Cabinet decision has been made on the Bill for the Act of Partial Revision of the Act on the Rationalization etc. of Energy Use and Other Acts in Order to Establish Stable Energy Supply and Demand Structure. The bill will be submitted to the ongoing 208th ordinary session of the Diet.

The hydrogen-related bill is following:

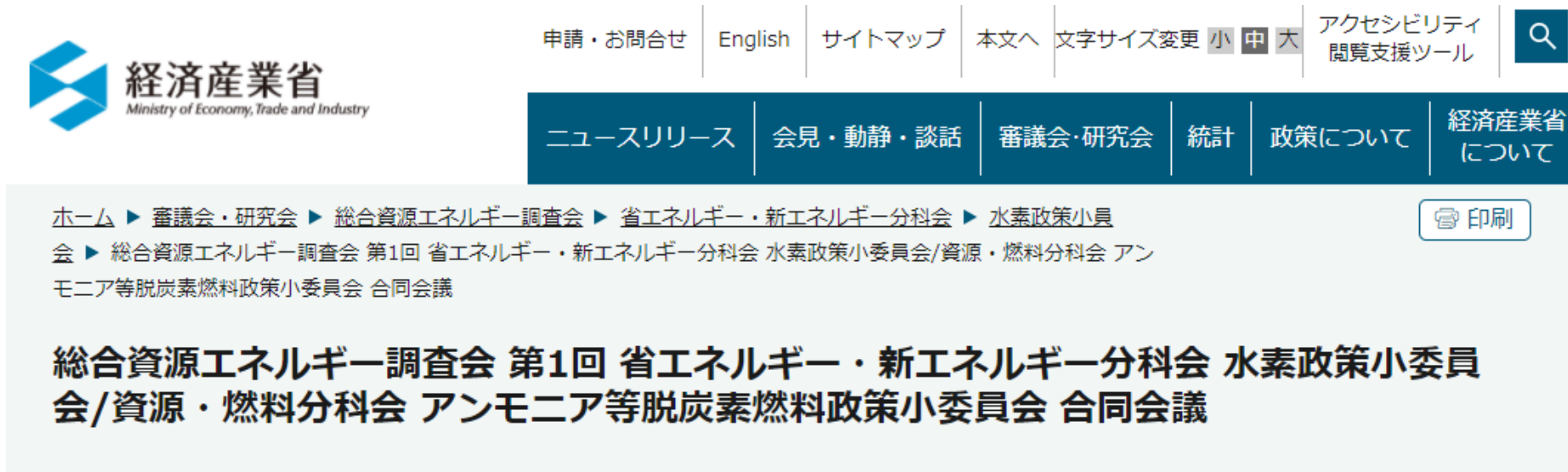
- ***Act on the Promotion of Use of Non-fossil Energy Sources and Effective Use of Fossil Energy Materials by Energy Suppliers***
 - Promotes the use of decarbonized fuels by including hydrogen and ammonia as non-fossil energy sources.
 - Promotes the use of thermal power with CCS.
- ***Act on the Rationalization etc. of Energy Use***
 - Expands the Act on the Rationalization of Energy Use (e.g., improving energy consumption per unit) to include non-fossil energy. Promotes the use of decarb
 - Calls for factories to transition from fossil energy to non-fossil energy (increase the ratio of non-fossil energy use). Specifically, it calls for specific operators, etc., to develop medium- to long-term plans to transition to non-fossil fuel energy.

Announcements / New Initiatives *Japan*

- Launched "Hydrogen Policy Committee"

The committee mainly focuses on infrastructure development and addressing cost differences between hydrogen and current energy (e.g., fossil fuel).

We are discussing based on Japanese situation and circumstances, and we also learn from developing hydrogen market framework, such as H2Global.



Announcements / New Initiatives *Japan*

- **The completion of World's first liquefied hydrogen vessel voyage**

A ceremony to mark the completion of the world's first maritime transport of liquefied hydrogen, including its loading and unloading has been held in Kobe, Japan.

The demonstration voyage by the world's first liquefied hydrogen carrying vessel, Suiso Frontier, proved that an international liquefied hydrogen supply chain is possible, marking a significant step towards the utilization of hydrogen as a new energy source.

Large demonstration projects for developing commercial phases with using the Green Innovation Fund, including developing hydrogen power generation.



Prime Minister



The Ceremony was held at Kobe on 9 April 2022



"Suiso Frontier"

Examples of Lessons Learned and Impact *Japan*

Program initiative, policy, regulation or mandate	Lessons Learned/Outcomes
Green Innovation Fund	<ul style="list-style-type: none"> • JPY 300 billion (\$2.7 billion) project to establish large-scale hydrogen supply chain and JPY 70 billion (\$530million) project to produce hydrogen using renewables in Japan and to reduce cost of electrolyzers have started and are ongoing
The Sixth Strategic Energy Plan	<ul style="list-style-type: none"> • In power generation sector expected to large amount of hydrogen demand, aiming at introduction/expansion of 30%-hydrogen co-firing in gas-fired power generation or hydrogen-fired power generation and 20%-ammonia co- firing in coal-fired power generation, demonstration of co-firing/single fuel firing will be promoted and the environment for appropriate assessment of non-fossil value will be prepared. In addition, 1% hydrogen/ammonia will be positioned in power generation mix in FY2030 EXPO
Act on the Promotion of Use of Non-fossil Energy Sources and Effective Use of Fossil Energy Materials by Energy Suppliers	<ul style="list-style-type: none"> • Promotes the use of decarbonized fuels by including hydrogen and ammonia as non-fossil energy sources • Promotes the use of thermal power with CCS
Act on the Rationalization etc. of Energy Use	<ul style="list-style-type: none"> • Expands the Act on the Rationalization of Energy Use (e.g., improving energy consumption per unit) to include non-fossil energy.Promotes the use of decarb • Calls for factories to transition from fossil energy to non-fossil energy (increase the ratio of non-fossil energy use). Specifically, it calls for specific operators, etc., to develop medium- to long-term plans to transition to non-fossil fuel energy.



Japan – Profile April 2022

Status of Deployments

- Fuel Cell Vehicles: 7,106 as of Feb. 2022
- FC Bus: 120 as of Feb. 2022
- Forklifts: 397 as of Mar. 2022
- 70MPa HRS: 157 operational as of Mar. 2022

Leading Government Initiatives

- The Sixth Strategic Energy Plan was approved by the Cabinet on October 22, 2021

Goals or Focus Areas

- Cost (\$/kg)
\$3/kg by 2030
less than \$2/kg by 2050
- Hydrogen demand
up to 3 Mts by 2030
around 20 Mts by 2050

Deployment Goals

These are as of 2030:

- | | |
|-------------------------------------|---------|
| • Fuel Cell Vehicles | 800,000 |
| • H ₂ Refueling Stations | 1,000 |
| • Fuel Cell Buses | 1,200 |

Funding

JPY 300 billion (\$2.7 billion) project to establish large-scale hydrogen supply chain
 JPY 70 billion (\$530million) project to produce hydrogen using renewables in Japan and to reduce cost of electrolyzers

Thank you



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