



LOW-CARBON H2 SUPPLY CHAIN SUBSIDY IN JAPAN

Japan is promoting international supply chains for low-carbon hydrogen and derivatives

The immaturity of the markets for the supply of hydrogen and its derivatives, coupled with their higher cost of production compared with fossil fuels, pose a barrier to adoption and a risk for investors in the supply chain. To allay these concerns, the Japanese government is developing a subsidy scheme to encourage investment in robust international supply chains for low-carbon hydrogen and its derivatives pursuant to the Act on Promotion of Supply and Utilisation of Low-Carbon Hydrogen and its Derivatives for Smooth Transition to a Decarbonized, Growth-Oriented Economic Structure (the Hydrogen Society Promotion Act), which was passed on 17 May 2024. Full details of the subsidy scheme will be provided in subordinate regulations, which are expected to be published in summer 2024. This briefing summarises some key aspects of the proposed supply chain subsidy based on discussion materials published by the Japanese government up to 31 July 2024.

What is "low-carbon" hydrogen?

The Japanese government's objective is to increase the supply in Japan of "low-carbon" hydrogen, ammonia, e-fuel and e-methane (Low-Carbon H2) meeting the carbon intensity requirements set out below. Hydrogen and its derivatives produced with "green" (using electrolysis) as well as "blue" (using carbon capture, utilisation and storage) production methods meeting these requirements will be considered "low-carbon".

	System Boundary	Carbon Intensity
Hydrogen	Well-to-Gate	3.4kg-CO2e/kg-H2 (or less)
Ammonia	Well-to-Gate	0.87kg-CO2e/kg-NH3 (or less)
E-fuel	Whole supply chain	39.9g-CO2e/MJ (or less)
E-methane	Whole supply chain	49.3g-CO2e/MJ (or less)

Source: Ministry of Economy, Trade and Industry (METI) paper published on 7 June 2024 (https://www.meti.go.jp/shingikai/enecho/shoene_shinene/suiso_seisaku/pdf/014_01_00.pdf)

Supply chain subsidy

The Japanese government, through Japan Organization for Metals and Energy Security (JOGMEC), will subsidise the amount by which the cost of production (and, in the case of imports, transportation) of Low-Carbon H2 (the

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Base Price) exceeds the applicable reference price to be set and calculated for each type of Low-Carbon H2 (the Reference Price). The subsidy will be paid in Japanese Yen. JOGMEC is expected to conduct a competitive bidding process to determine which supply businesses will benefit from the supply chain subsidy, taking into consideration, among other things, the Base Price and the business plan presented and prepared by each applicant.

An applicant for the supply chain subsidy will need to present its Base Price in the form of a fixed price or a calculation formula in accordance with requirements to be set by the Japanese government. The Reference Price for each type of Low-Carbon H2 will be determined by the Japanese government and will be based on:

- (a) if such type of product (for example, hydrogen) will be used in an industry where it has not been generally and commercially used, the cost of comparable "conventional" products landed in Japan (including the cost of carbon pricing, such as the Japanese global warming countermeasure tax); and
- (b) if such type of product has been generally and commercially used in the relevant industry, its historic cost.

In respect of low-carbon hydrogen and ammonia for power generation, the Japanese government has indicated that the Reference Price will be linked to LNG and coal prices, respectively.

During the first 15 years of the relevant Low-Carbon H2 supply period, to the extent the Base Price exceeds the Reference Price the supply chain subsidy will be paid to the supplier (subject to an annual cap). Conversely, if the Reference Price exceeds the Base Price, the supplier will be required to pay the difference to JOGMEC. In essence, the supply chain subsidy will work like a contract for difference (CfD) regime. Suppliers will need to factor these features of the subsidy scheme into their supply contracts, in particular the pricing provisions.

At this stage the Japanese government has not said that a supply chain project seeking the supply chain subsidy cannot also benefit from subsidies provided by other countries, such as the production tax credits under the United States' Inflation Reduction Act or Australia's Hydrogen Production Tax Incentive scheme.

Who is eligible for the supply chain subsidy?

A supplier (i.e. who either produces in Japan or imports into Japan Low-Carbon H2) may apply for the subsidy. It is unlikely that a foreign producer or exporter supplying Low-Carbon H2 to Japan will be eligible to apply directly for the subsidy, as the Hydrogen Society Promotion Act refers to the subsidy being paid with respect to "importation" of Low-Carbon H2. Under the Customs Act of Japan, importation involves transferring goods across the customs boundary on Japanese territory. An exporter selling Low-Carbon H2 to Japan is unable to carry out importation for the purposes of the Customs Act, only a Japan-based importer or supplier (which could be a majority or wholly foreign-owned entity) can do so.

Approval of business plan

As part of its application for the supply chain subsidy, a supplier of Low-Carbon H2 must prepare and submit a business plan to the Ministry of

Economy, Trade and Industry (METI) and (if the supply facility will be located in a port area and/or involve installing pipelines on, above or under roads) to the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) for approval. The business plan will need to describe, among other things, the objective of the supply business, certain details such as the duration and implementation structure of the supply business, and the source of funding for the development and operation of the supply business. If the business plan is approved, METI will notify JOGMEC.

The business plan must also (1) be prepared jointly with the offtaker(s)/end-user(s) of the Low-Carbon H2, which suggests that the business plan will need to include information about the intended use of the Low-Carbon H2, (2) demonstrate that the supply of the Low-Carbon H2 will start by the prescribed time (which is expected to be in FY2030) and will continue for at least the prescribed duration (which is expected to be 25 years – the initial 15-year subsidy period plus a further period of 10 years) and (3) include a plan for capital investment and/or business innovation by the offtaker(s)/end-user(s) of the Low-Carbon H2.

The business plan will only be approved if METI (and, if applicable, MLIT) is satisfied that the following requirements (among others) are satisfied:

- (a) the business plan meets the criteria set out in the basic policy on promotion of supply and use of Low-Carbon H2 to be published by the Japanese government pursuant to the Hydrogen Society Promotion Act;
- (b) the business plan is economically viable and reasonable and will be implemented smoothly and successfully; and
- (c) the proposed supply business will contribute to strengthening the international competitiveness of Japanese industries associated with the supply and use of Low-Carbon H2.

Remarks

The Japanese government's supply chain subsidy scheme has gained widespread attention both inside and outside Japan. The Japanese government has indicated its intention to commence the first round of applications for the supply chain subsidy in summer 2024 and to select the first supply business to benefit from the supply chain subsidy by the end of calendar year 2024. However, important details of the scheme remain unclear as the required subordinate regulations have not yet been implemented and this timeline appears ambitious. It seems probable that selection of the first supply business to receive the subsidy will be postponed at least until the end of the current Japanese financial year (i.e. 31 March 2025). Notwithstanding potential delays, the application process is likely to move quickly once it commences. Prospective applicants should therefore closely monitor announcements from the Japanese government, in particular METI, and ideally already be formulating their business plan in collaboration with other stakeholders to ensure they can swiftly prepare their bids when the first application round opens.

ABOUT

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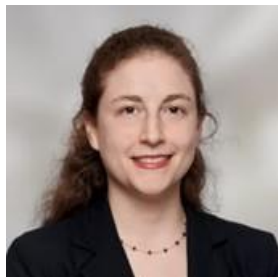
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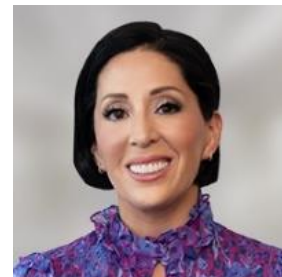
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