

日本の力を、世界のために。

Supporting Your Global Challenges



Financing the Hydrogen Value Chain for Development

World Bank – Hydrogen for Development (H4D) Webinar

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Profile

Name	Japan Bank for International Cooperation (JBIC)
Founded	April 1, 2012*
Governor	AMAKAWA Kazuhiko
Capital	USD15.6 billion** (Wholly owned by Government of Japan)
Outstanding Facilities (Loans and Equity Participations)	USD105.6 billion**
Outstanding Facilities (Guarantees)	USD8.89 billion**
Operations	Export Loan, Import Loan, Overseas Investment Loan, Untied Loan, Equity Participation, Guarantee etc.

Our Missions



① Development and Securement of Resources

② Maintaining and Improving the International Competitiveness of Japan



③ Preserving the Global Environment

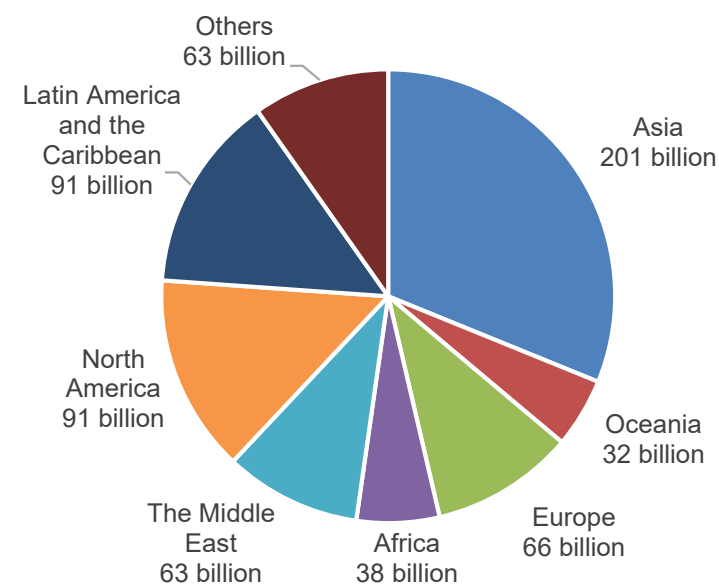
④ Preventing Disruptions to International Financial Order



Overseas Network

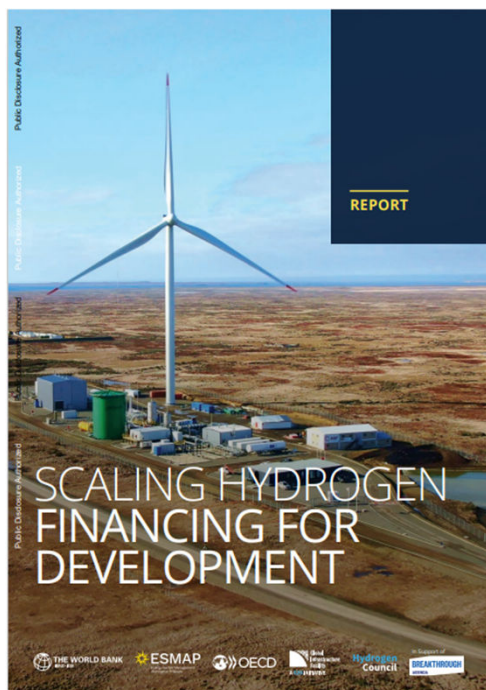
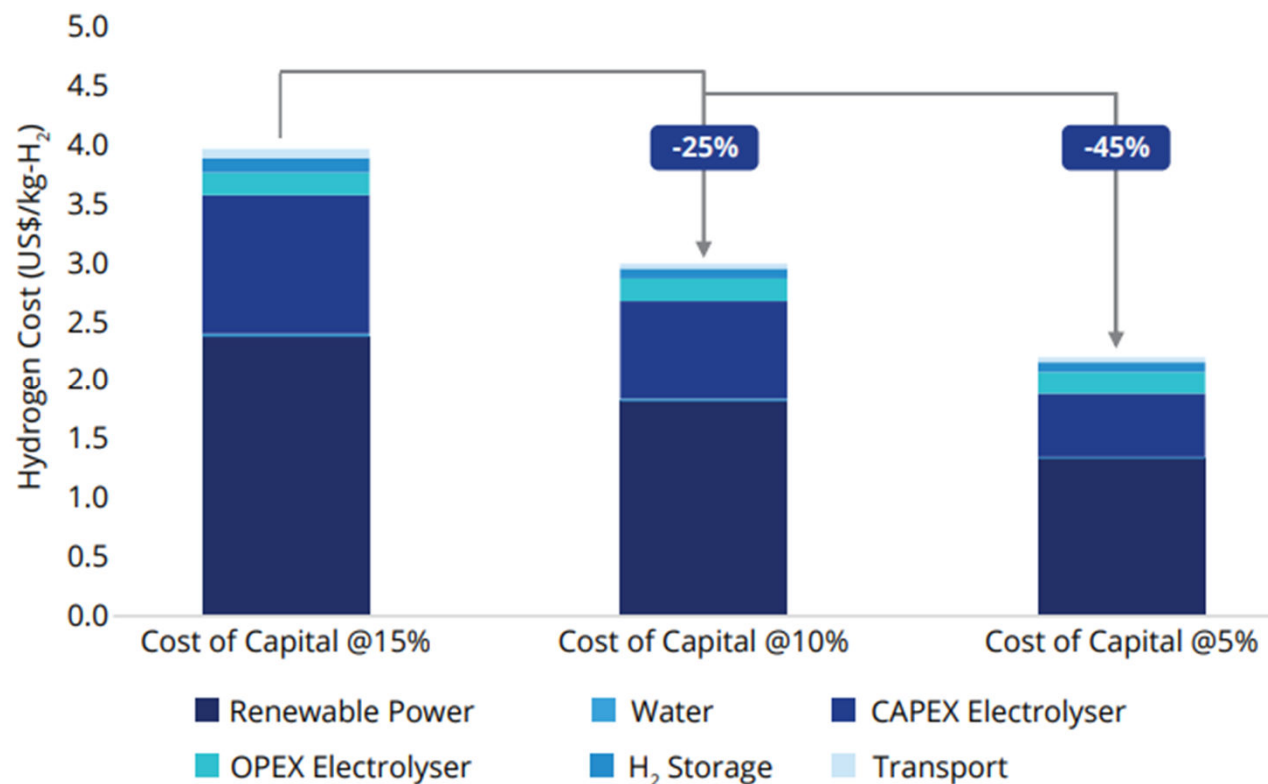


Total Commitments by Region** (USD)



* Former JEXIM was founded on December 28, 1950 / ** As of March 31, 2025 (USD1=JPY149.52)

The Cost of Hydrogen and the Cost of Capital



REGION/COUNTRY	DEBT	EQUITY	DEBT PREMIUM	EQUITY PREMIUM
Europe	4	12-14.5	-0.5 to 0	-4 to -6
United States	4-4.5	8	0	0
China	4.5-5	16.5-18.5	0.5 to 1	0.5 to 3

As the World Bank notes up front, a high cost of capital largely drives the cost of hydrogen.

(SCALING HYDROGEN FINANCING FOR DEVELOPMENT World Bank et al.)

Key risk factors impacting the cost of financing hydrogen projects

Green Finance and Investment



**Leveraging De-Risking
Instruments and International
Co-ordination to Catalyse
Investment in Clean Hydrogen**



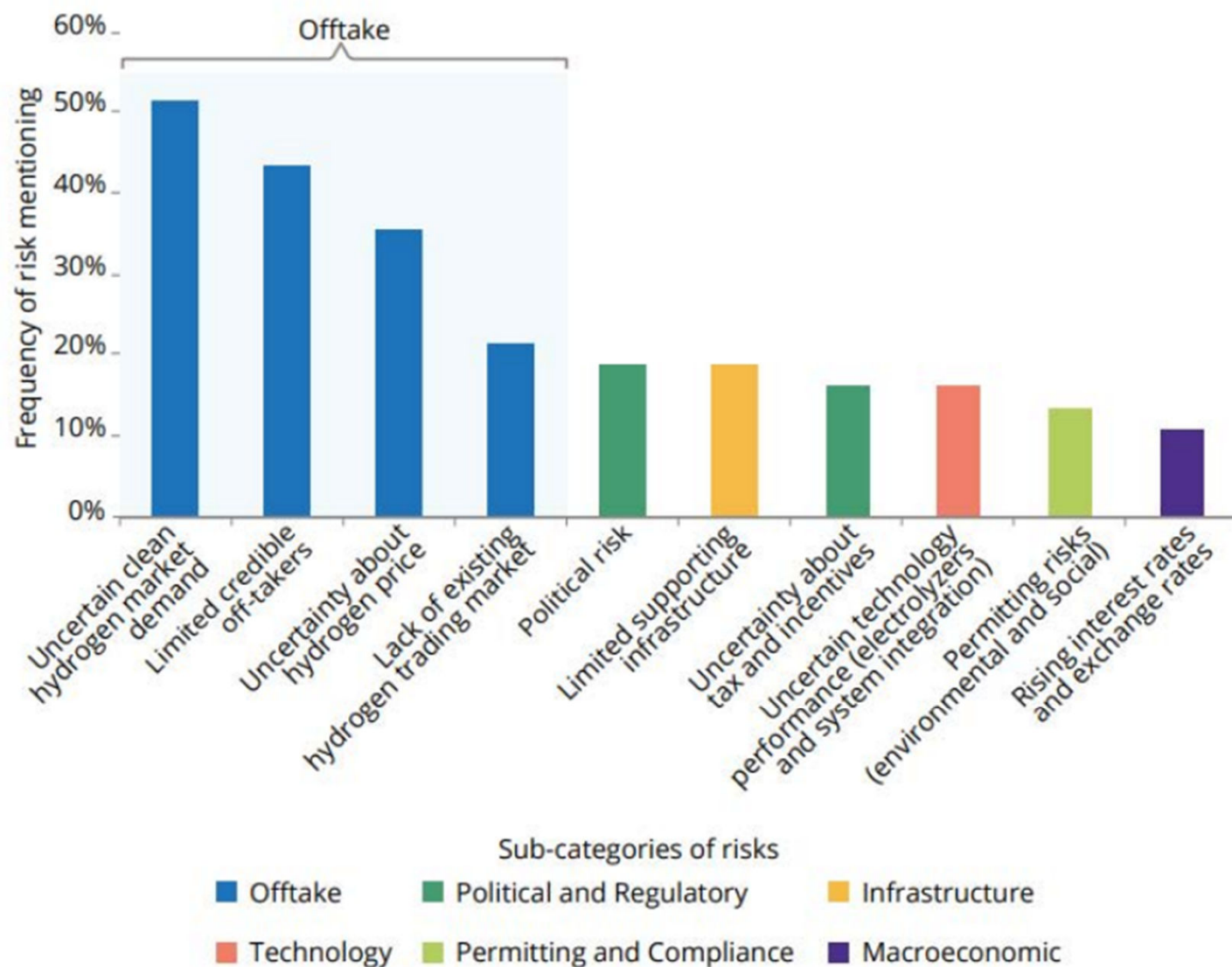
Top 3 risk categories

Offtake: demand and price uncertainty (largest factor)

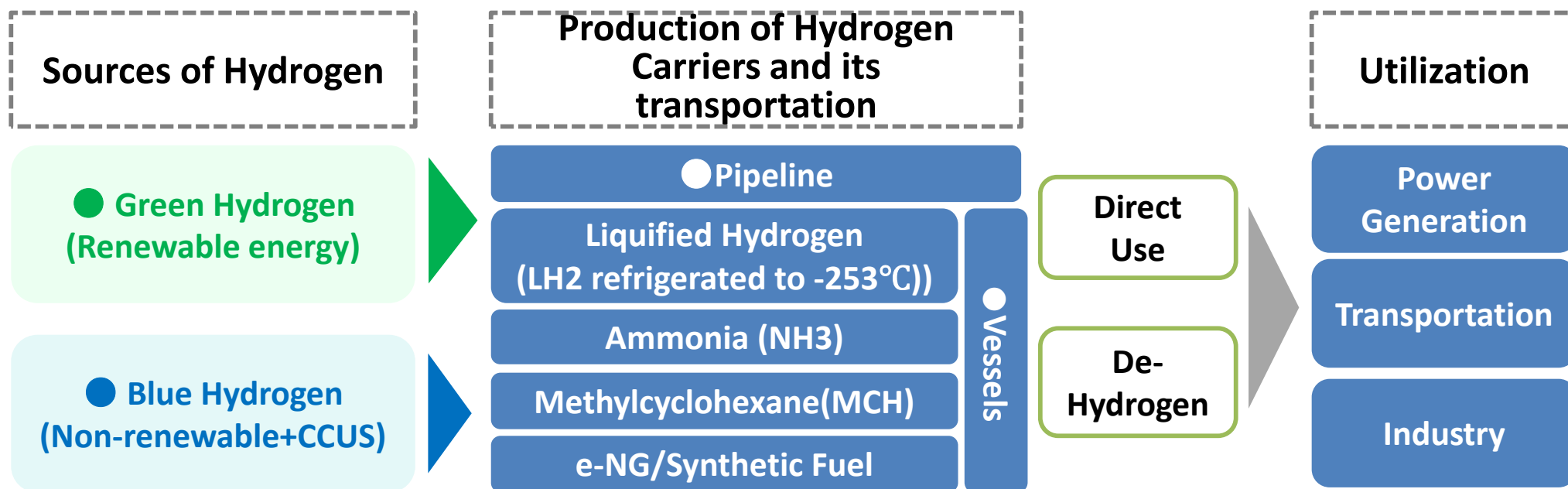
Policy & regulation: uncertain support schemes and permitting

Technology & infrastructure: technology validation and scale-up

Source: World Bank et al.



Creating Global Value Chain of Hydrogen



Similar areas in which JBIC has ever had financing experiences

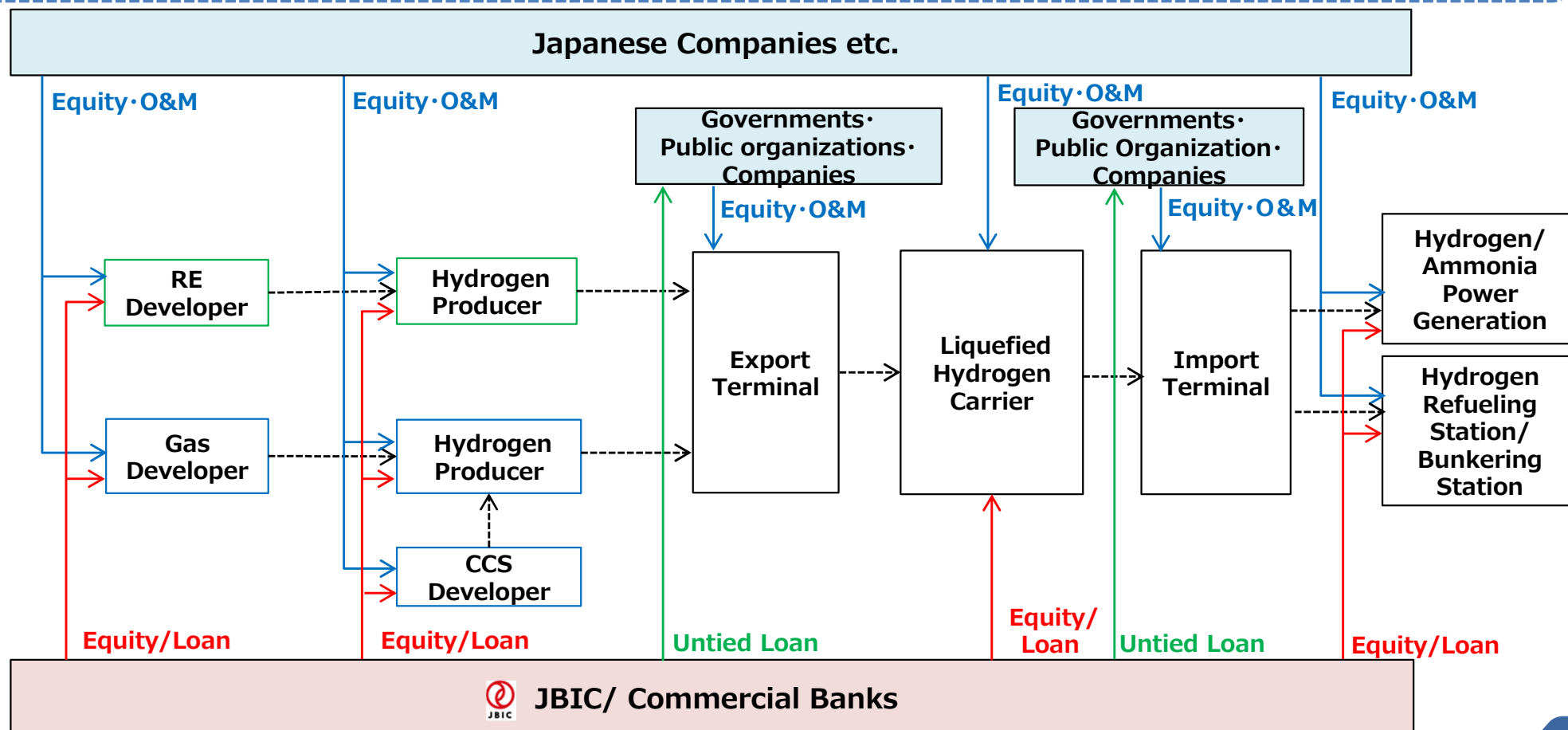
- | | | |
|---|---|--|
| <ul style="list-style-type: none"> • CCS / CCUS • Renewable energy power generation | <ul style="list-style-type: none"> • Transportation Vessels • Ammonia production • Pipelines | <ul style="list-style-type: none"> • Receiving terminals • Power generation plant • Hydrogen stations |
|---|---|--|

Specific areas for hydrogen related projects

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> • Water electrolysis | <ul style="list-style-type: none"> • LH2 production (liquefaction of H2, refrigerated to -253 °C) • Hydrogen Carriers • Fuel Synthesis | <ul style="list-style-type: none"> • Hydrogen receiving terminals • Dehydrogenation |
|--|---|---|

JBIC's Seamless Support for Value Chain Creation

- JBIC can seamlessly support **the entire low-carbon hydrogen value chain** from upstream production and transportation, such as liquid hydrogen, ammonia, and MCH, to downstream utilization.
- JBIC can also work with host-country governments, public organizations and foreign companies to develop **the infrastructure** necessary for establishing low-carbon hydrogen value chains through **untied loans or other financing schemes**.



JBIC participates in H4D and the 10 GW Lighthouse Initiative to support **the development and growth of the hydrogen and ammonia markets.**

Hydrogen for Development



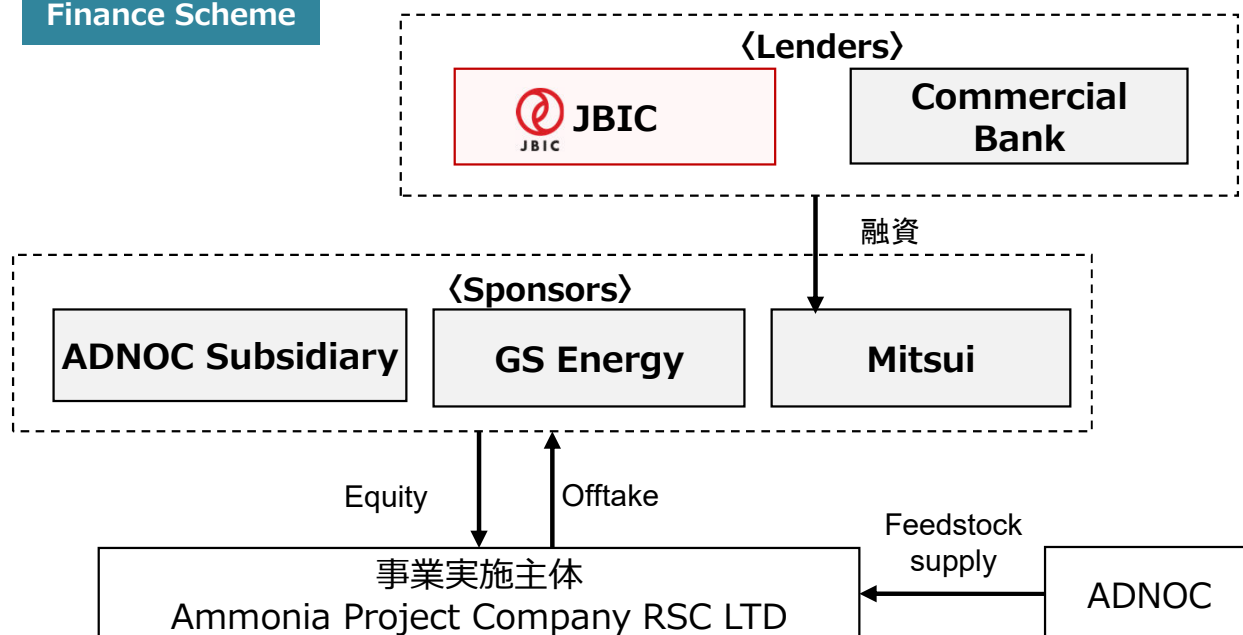
10 GW Lighthouse Initiative



Loan for Ammonia Production and Sales Project in the UAE

- ◆ JBIC signed a loan agreement amounting to up to **USD12 million** with MITSUI & CO in June 2024.
- ◆ This project will commence commercial operation of **one million tons of ammonia in 2027** at Ruwais Industrial Park in Abu Dhabi through the Ammonia Project Company RSC LTD sponsored by **subsidiaries of ADNOC, Mitsui** and **Korea/GS Energy**.
- ◆ Until demand for ammonia as a fuel source is established, MITSUI & CO and other sponsors will utilize their existing ammonia sales networks to sell ammonia for fertilizer use in Japan, Europe, etc. The sponsors plan to **sell clean ammonia as a fuel source to Japan, Korea**, and other countries **when the demand for ammonia as a fuel source increases**.

Finance Scheme

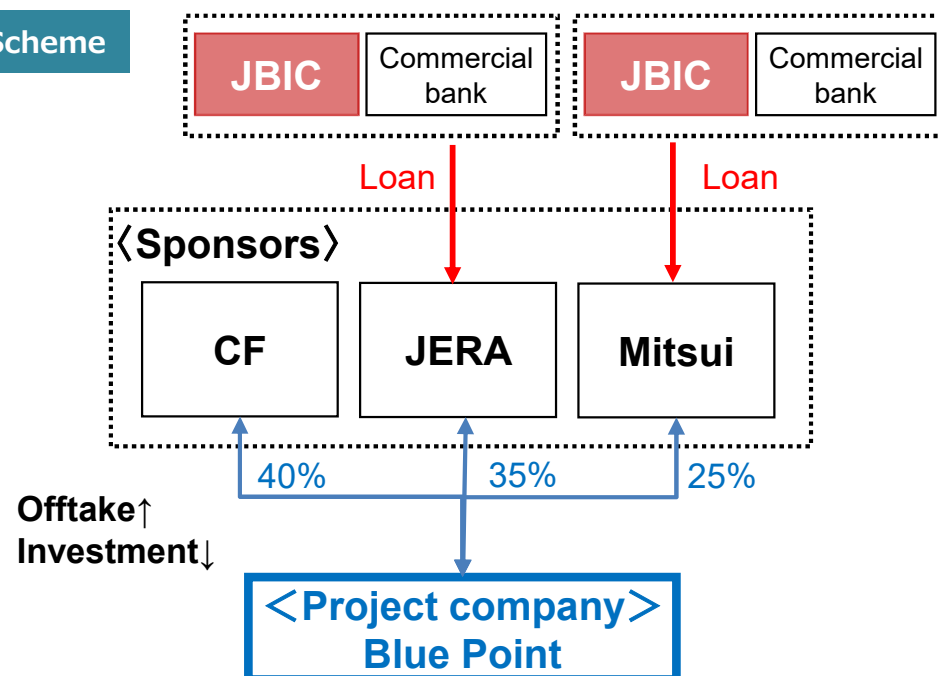


Source: ADNOC

Loan for Low-Carbon Ammonia Project in Louisiana, U.S.

- ◆ The Project involves construction of **low-carbon ammonia plant with an annual production capacity of approximately 1.4 million tons** in Louisiana, U.S. The project company “Blue Point” is jointly funded by **CF Industries, JERA, and Mitsui**.
- ◆ Production is planned to begin in 2029. With CCS utilized, the project aims to **reduce CO2 emissions during the production process by greater than 95%**.
- ◆ Ammonia offtake will be handled by the three sponsors according to their ownership percentages. JERA has been certified under the Japanese government’s price gap support scheme for ammonia co-firing at its thermal power plants and sales to hard-to-abate sectors, while Mitsui & Co. is certified for sales to power utilities and chemical manufacturers, contributing to the decarbonization of related industries.
- ◆ The estimated project cost is approximately **USD 4 billion**. **JBIC has signed loan agreements with Mitsui for up to approximately USD 626 million** in June 2025 and with **JERA for up to JPY 105 billion** in February 2026.

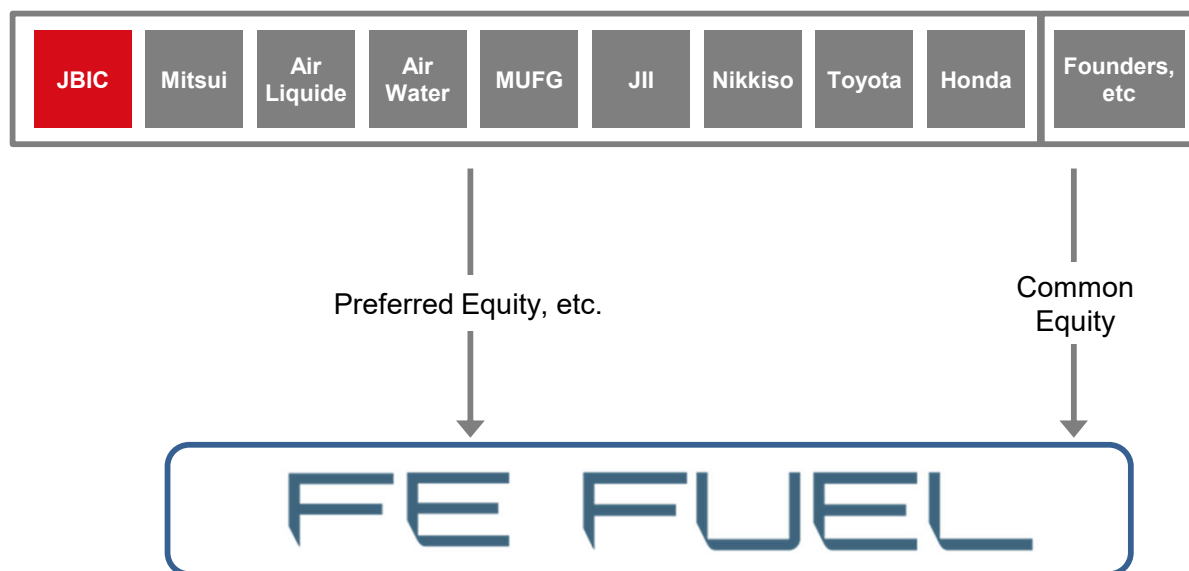
Finance Scheme



Rendering CG: Provided by CF Industries

Equity Investment in Developer and Operator of Hydrogen Stations in California, U.S.

- ◆ JBIC, together with Mitsui & Co., Ltd. invested approx. **USD 23 million** in FirstElement Fuel Inc. (FEF).
- ◆ FEF is a startup with the largest market share of hydrogen stations (Light Duty and Heavy Duty) operating in California, **one of the largest hydrogen fuel cell electric vehicles (FCEV) markets** in the world.
- ◆ JBIC aims to support the Japanese sponsors to gain a stronger foothold in the global hydrogen business and to expand Japanese FCEV sales.
- ◆ This investment was made through JBIC's Special Operations Account due to the uncertainty of the hydrogen demand.

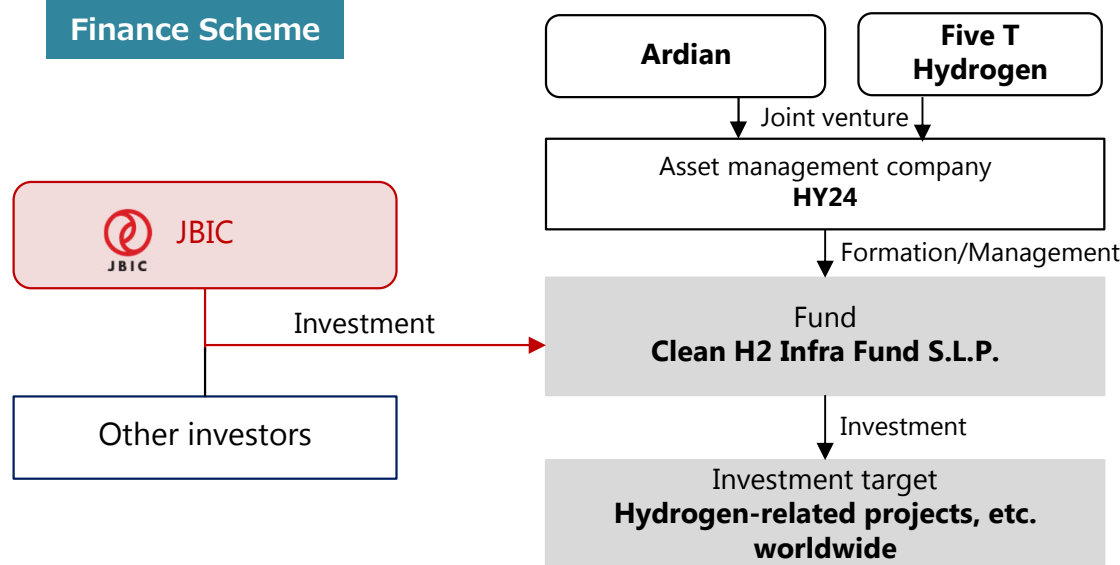


(Source: FEF)

Investment in the world's largest hydrogen-related fund under JBIC's GREEN operations

- ◆ JBIC signed an agreement to invest up to **EUR 100 million in the world's largest hydrogen-focused fund.**
- ◆ **The EUR 1.5 billion fund (up to EUR 1.8 billion)** aims to scale up hydrogen markets by investing across the entire hydrogen value chain, from upstream to downstream.
- ◆ Investors include leading global hydrogen-related companies such as **Air Liquide, TotalEnergies, and VINCI, and Plug Power.**
- ◆ As the only anchor investor from Japan, JBIC aims to promote **international collaboration in the hydrogen sector**, such as by exploring potential involvement of the Japanese companies in the clean hydrogen projects that the Fund will invest in.

Finance Scheme



MoUs related to low-carbon business

JBIC is strengthening **international partnerships** to advance the hydrogen value chain.

Europe

- **Norway/YARA** (June 2022)
- **UK Export Finance** (November 2023)
- **Black Sea Trade and Development Bank** (February 2024)

South East Asia

- **Philippines/Aboitiz Power Corporation** (October 2023)
- **Philippines/San Miguel Corporation** (March 2024)
- **Singapore/Sembcorp Utilities Pte.** (November 2024)
- **Singapore/Keppel** (March 2025)
- **Malaysia/Sarawak Energy** (May 2025)

North America

- **US/Sempra Infrastructure** (February 2024)
- **Canada/EDC** (September 2024)
- **US/Department of Natural Resources of the State of Alaska** (August 2025)

Middle East·Africa

- **Islamic Development Bank Group** (August 2021)
- **Republic of Namibia/Ministry of Finance and Public Enterprises** (December 2023)
- **Saudi Arabia/PIF** (October 2024)
- **Morocco/ MTEDD** (April 2023)
- **UAE/ADNOC** (November 2025)
- **Morocco/TAQA Morocco** (December 2025)

Australia

- **Santos** (October 2022)
- **Woodside Energy** (November 2022)
- **Northern Territory of Australia** (February 2024)

South America

- **Argentina/Ministry of Economy·BNA** (November 2023)
- **Chile/CODELCO** (November 2023)
- **Colombia/EPM** (April 2024)
- **Brazil/PETROBRAS** (March 2025)
- **Brazil/ABIHV** (March 2025)

- Beyond offtake certainty, addressing the cost-of-capital challenge is essential for hydrogen for development.
- JBIC contributes to lower that cost by supporting the value chain seamlessly and sharing risk through a proper financial structuring.
- Capital is deployed into real, bankable projects across the value chain.
- Open to further dialogue and partnership on JBIC's approach!

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