

Activities of Japan Hydrogen Association (JH2A)



February 13, 2025

JH2A Overview



Purpose	Creating sustainable earth with Hydrogen
Name	Japan Hydrogen Association (JH2A)
Establishment	April 2022 (established as the general incorporated association)
Executive Board Members	<div> <div>25 companies</div> A grid of logos for the 25 companies on the Executive Board. The logos are arranged in five rows: Row 1: Asahi KASEI, Iwatani, INPEX, ENEOS, OBAYASHI; Row 2: Kawasaki, Kansai Electric Power, Kubota, JKH, KOBELCO; Row 3: SHIONOGI, Sumitomo Corporation, CHIYODA CORPORATION, JPOWER, TOSHIBA; Row 4: TOYOTA, Air Liquide, Panasonic, Marubeni, MS&AD; Row 5: SMBC, MITSUBISHI & CO., MITSUBISHI KAKOKI KAISHA, LTD., MITSUBISHI GAS CHEMICAL, MUFG. </div>
Members	477 Companies/Organizations (as of December 2024)

To accelerate the building of a hydrogen society

1 Create Hydrogen Demand

Implement projects, obtain policy supports and solve regulatory issues related to safety

2 Cost Reduction through Technical Innovation

Collect information on technology development trends and encourage business matching

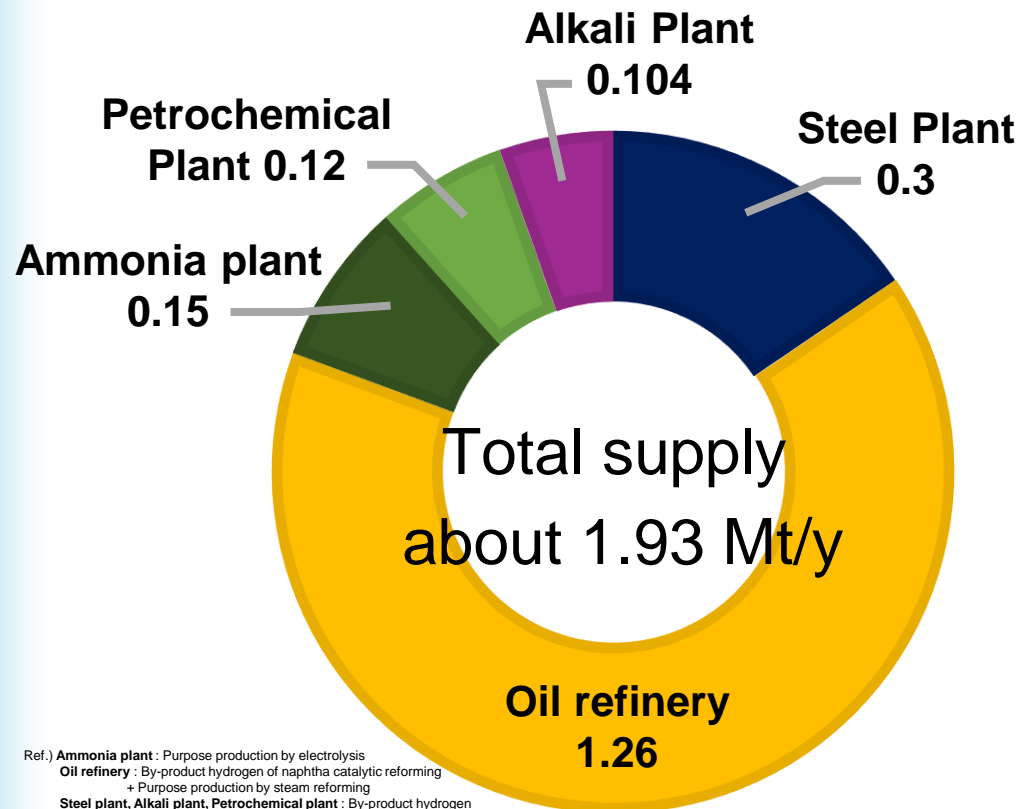
3 Financing for Business

Create financing option and enlighten way forward

Hydrogen Industry in Japan

- Byproduct of Hydrogen (Approx. 1.93MT) has been produced at steel plant and refinery
- Hydrogen is utilized as self-consumption by the manufacturers who produce it for desulfurization, synthesis and heat sources
- The sales amount to outside industries is around 0.014MT, mainly used in semiconductor or optical fiber factories.

Total H2 supply 1)

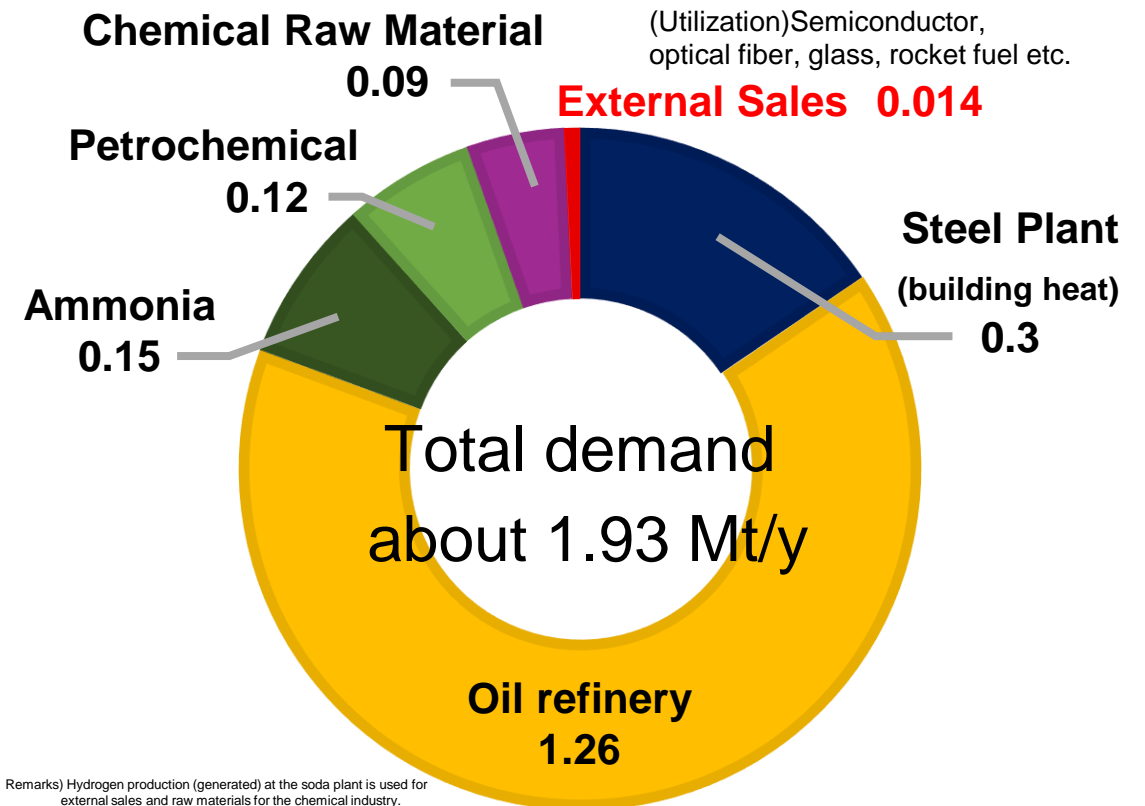


Ref.) Ammonia plant : Purpose production by electrolysis
Oil refinery : By-product hydrogen of naphtha catalytic reforming
+ Purpose production by steam reforming
Steel plant, Alkali plant, Petrochemical plant : By-product hydrogen

1) Source : NEDO- Mizuho Information & Research Institute [Investigation on by-product hydrogen supply potential]

2) Source : Iwatani Corporation Hydrogen Energy Handbook, NEDO- Mizuho Information & Research Institute [Investigation on by-product hydrogen supply potential]

Total H2 demand 2)



Remarks) Hydrogen production (generated) at the soda plant is used for external sales and raw materials for the chemical industry.

Hydrogen supplied in Japan is currently all grey-hydrogen, and 99% of it is for self-consumption.

Japan H2 STRATEGY

1

Supply Volume of Target

	NOW	2030	2040	2050
Supply Volume Target	2M/ton	3M/ton	12M/ton	20M/ton
Hydrogen Price	100JPY /Nm ³	30JPY /Nm ³		20JPY /Nm ³

2

Clean Hydrogen Definition & Certification

The Japanese government will set **the low carbon targets in no way inferior to other countries** according to the calculation methodology and push forward the widespread use of hydrogen in line with the targets, that was set such as criteria below.

Carbon Intensity	~3.4kgCO ₂ e/kgH ₂ *
Boundary	Well to Gate

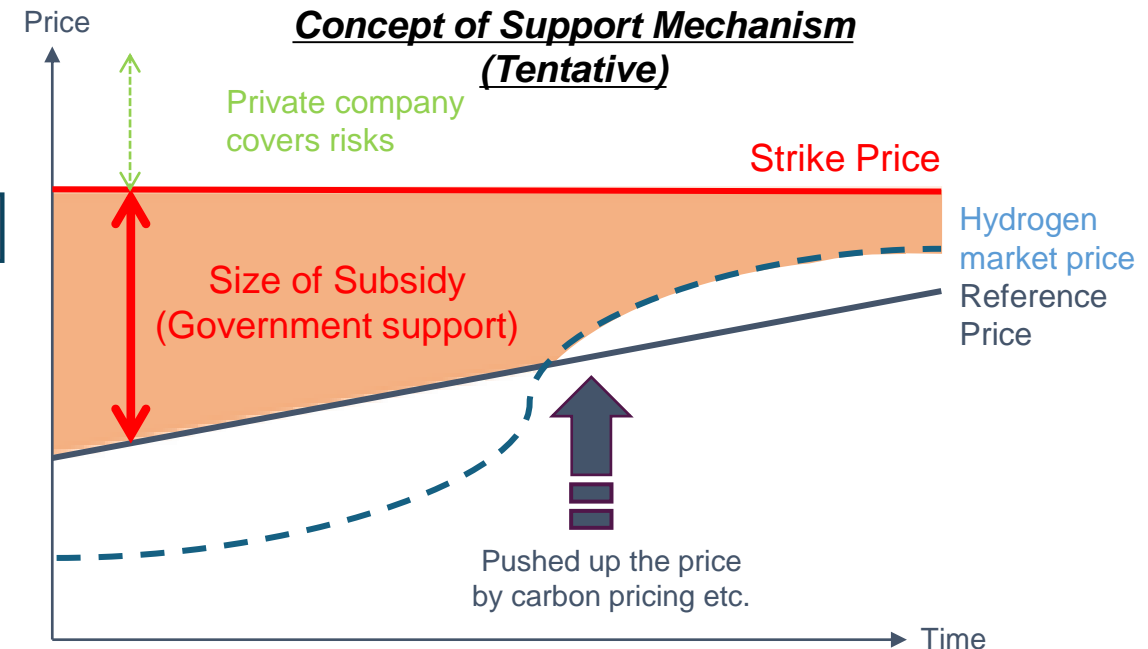
Source :Created by JH2A * “~3.4” is still tentative, the government is expecting the target is not believed to be technically unachievable in light of the current technology level

3

Support mechanism for large-scale supply chains

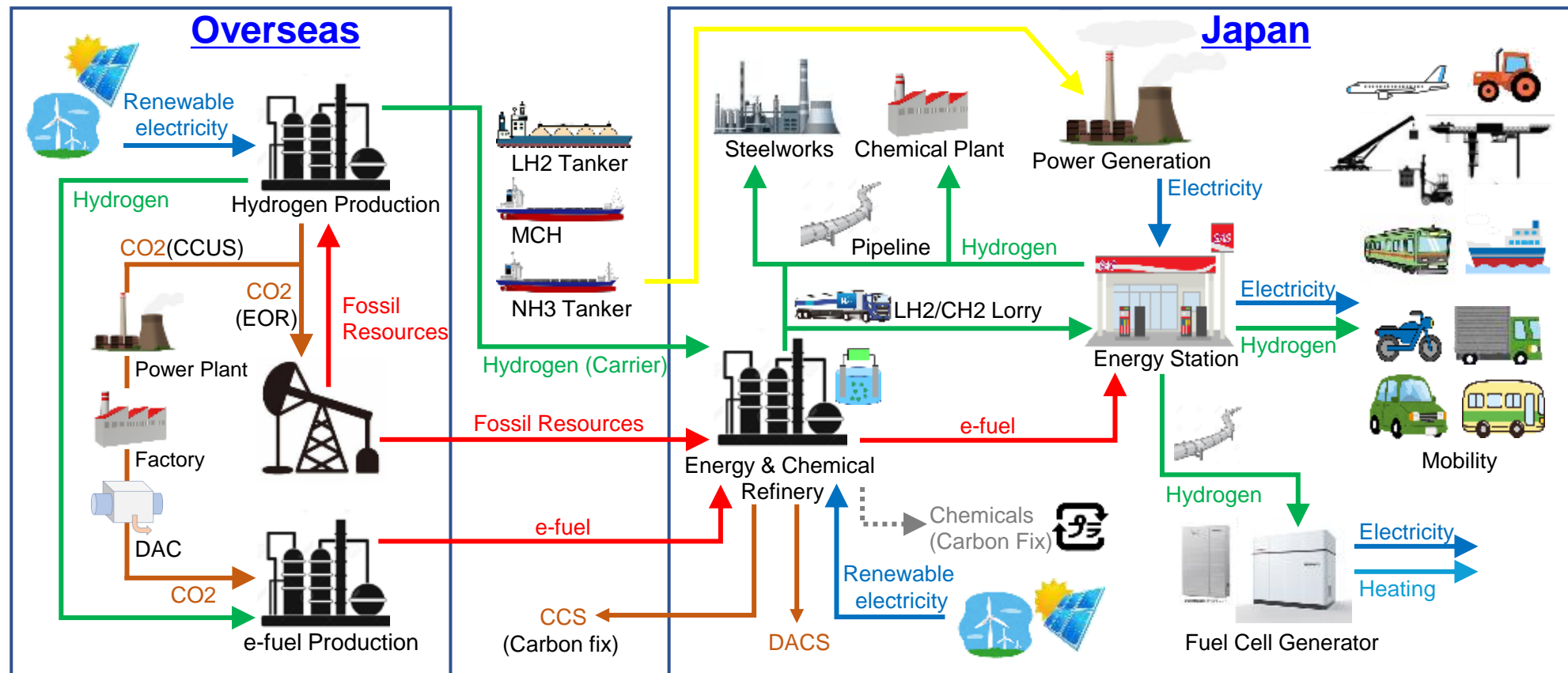
The Japanese government will develop a supportive scheme for industrial operators that are willing to take the risk of investing in the low-carbon hydrogen and ammonia business.

The mechanism is CFD model based, covering price gaps **between strike price(H₂ Cost + IRR) and reference price (existing fuel)**.



Support for Creating Supply Chain

- Hydrogen can be utilized for electricity, transportation, heat sources and raw materials.
- While solar and wind power are easily affected by weather conditions, hydrogen can be stored and transported more reliably.



International Activities

Signing MOU with Oversea Organization



**New Zealand
Hydrogen Council**



**ASOCIACIÓN ESPAÑOLA
DEL HIDROGENO**



H2 Korea



Norwegian Hydrogen Forum



**Canadian Hydrogen
and Fuel Cell Association**



**Australian Hydrogen
Council**



**Hydrogen Association
of India**



**Vietnam ASEAN
Hydrogen Club**



Hydrogen Europe



H2 Global Stiftung



**Fuel Cell & Hydrogen
Energy Association**



**Hydrogen Thailand
Association**

We would like to collaborate for business matching or networking of both country with this as start.

International Activities

- Participation in international seminars, conferences, and forums as a member of the Japanese delegation.
- Partnering with international hydrogen organization to support business matching, delegation hosting and site visit coordination.



Indonesia Japan Energy Forum



Virtual Business Matching



FCHEA Seminar



IPHE Steering Committee

Activities with member companies

Verification and Survey



Cattle Manure & Urine

Production



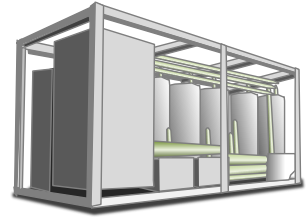
Methane Fermentation

Biogas



Biogas Power Plant

Renewable
Power



Water Electrolyzer

Transportation



Hydrogen Station

Hydrogen



Gas Trailer

Utilization



Agriculture Machinery



Construction Machinery

Shikaoi Town



Activities with member companies



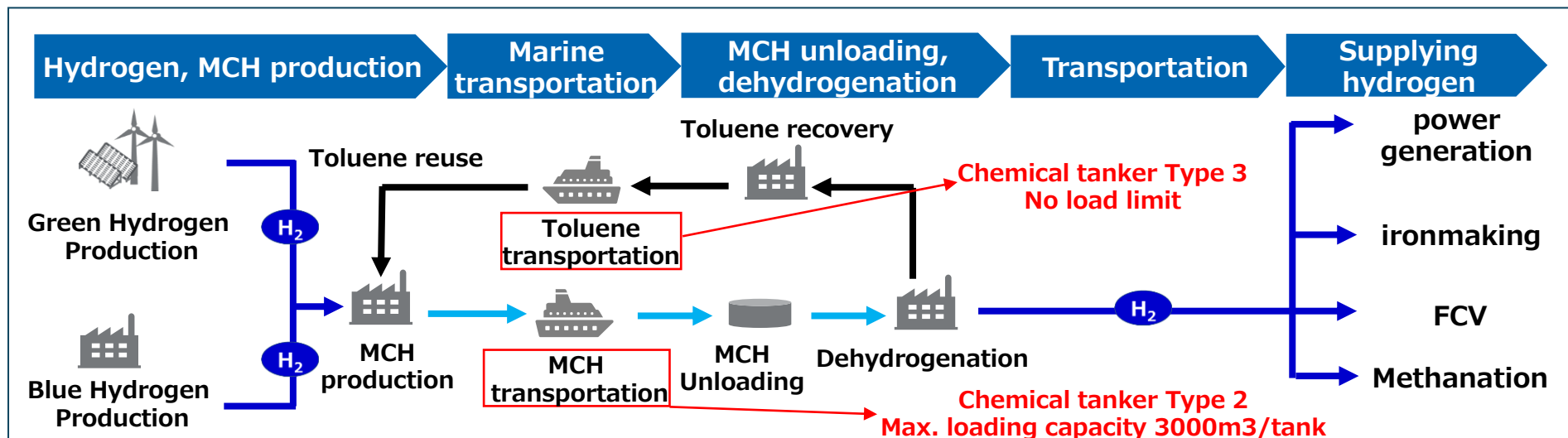
- MCH marine transportation related to the construction of a large-scale hydrogen supply chain
- Joint Initiative : Classification Society, Major Oil & Energy Company, Shipping Companies, Engineering Company and JH2A

Study for Deregulation

Special Measures

Alternative Design Methods

Revision of GESAMP's MCH Hazard Assessment



Establishment of Japan Hydrogen Fund



Japan Hydrogen Fund GP, Inc. completed its first closing on August 27, 2024, with commitments of over US\$400 million from eight investors for a fund specializing in investments in hydrogen-related fields.

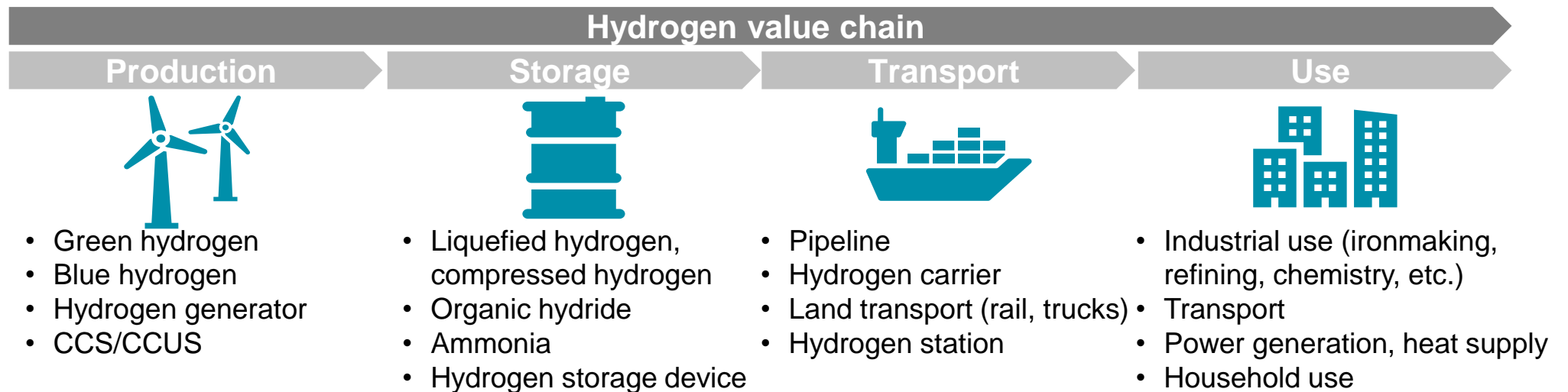
Investment targets

Hydrogen-related assets and companies (incl. ammonia, CCUS)

Target regions

Japan, North America. Europe, Australia, Other Asia, etc.

Investment domains (examples)



Expo 2025 Osaka, Kansai, Japan

- Joint Exhibition with New Energy and Industrial Technology Development Organization (NEDO)
- Showcasing to visitors “Vision of Happy Life with Hydrogen” and “City equipped with Hydrogen Infrastructure”



Hydrogen Station



Shopping Center

Commercial Facility



Hydrogen City Diorama



Hydrogen-Powered Home



Hydrogen Cartridge

Residential Area



JAPAN

HYDROGEN

ASSOCIATION