

The NYK Group ESG Story 2022

March 24, 2022



Actively Investing to Achieve Net Zero GHG Emissions

Number of ships
as of the March 2022
announcement
(Including planned builds)

Total **45**

LNG-fueled ships

35

- In compliance with the IGF Code, conducting the prior training of crew members

Ammonia-fueled ships

2

- In 2024, ammonia-fueled tugboat scheduled to enter into service
- In 2026, ocean-going ship equipped with ammonia-fueled engine developed by Japan marine sector scheduled to enter into service

LPG-fueled ships

4

Methanol-fueled ships, etc.

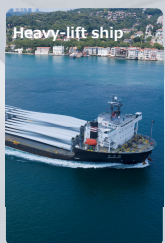
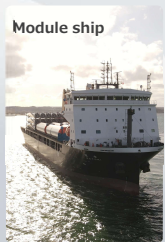
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Leading the way in the fuel conversion of the maritime shipping industry

Strengthening Service Provision Capabilities for Offshore Wind Power



Marine consulting



Offshore geotechnical investigation vessel

Conclusion of a memorandum of understanding with OYO and Fugro on an offshore geotechnical investigation partnership for the domestic offshore wind power industry



- Aiming to begin service in FY2022

Self-elevated platform (SEP) vessel

- Proceeding with preparations aimed at beginning ship operations in the second half of the 2020s

Crew transfer vessels (CTVs) for offshore wind power generation

Conclusion of a bareboat charter contract with Northern Offshore Services

Conclusion of a memorandum of understanding with Akita Eisen

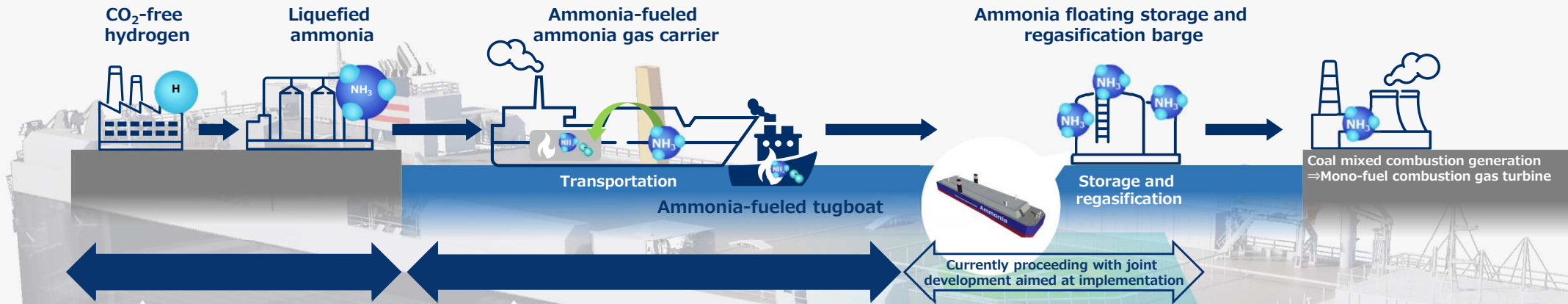
- Steadily launching new services in step with the domestic public solicitation schedule

Product development progressing steadily and service capabilities currently being established

Branch office to open in Akita on April 1

Contributing to the development of offshore wind power in Japan by leveraging the NYK Group's strengths (technological capabilities, expertise in the offshore business, and a network, etc.) and collaborating with European partners

Collaborating with Partners to Drive the Building of an Ammonia Supply Chain



> Investment in Tsubame BHB, a venture company originating from the Tokyo Institute of Technology



Tsubame BHB

> 2024 Ammonia-fueled tugboat scheduled to enter into service



> 2026 Ocean-going ship equipped with ammonia-fueled engine developed by Japan's marine sector scheduled to enter into service



> Development of a concept design for ammonia-fuel-ready LNG-fueled vessels

Engaging in initiatives with a view to participating in the entire supply chain

Not only developing technology for ammonia-fueled ships but also intending to lead in its implementation, including legal compliance and safety guidelines

Demonstrating the International Transportation of Hydrogen in the Form of MCH*

Supplying

World's first proving test of an international supply chain for hydrogen

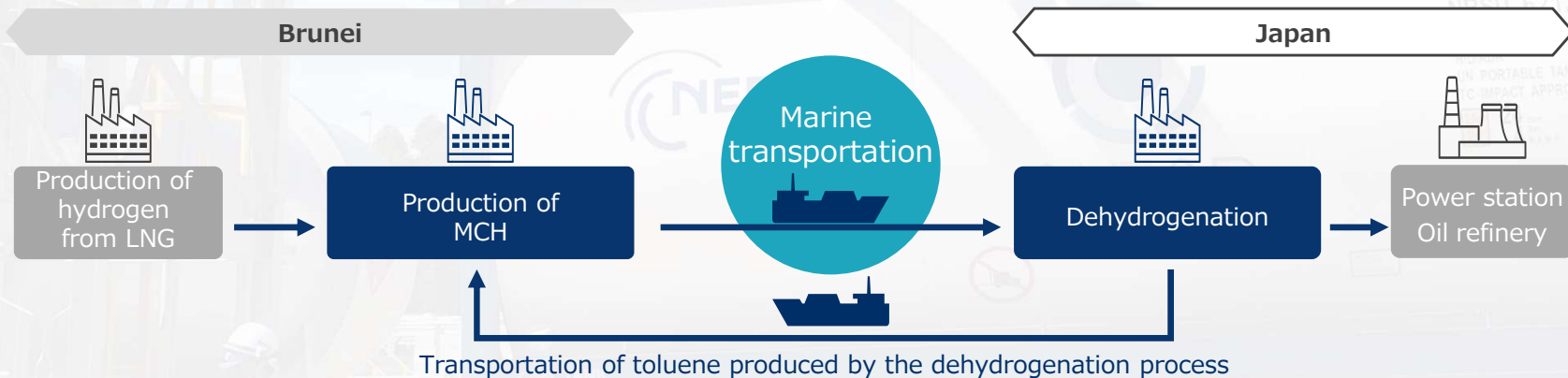


Phase 1

Completed demonstration of MCH transportation using containers (ISO tanks)

Phase 2

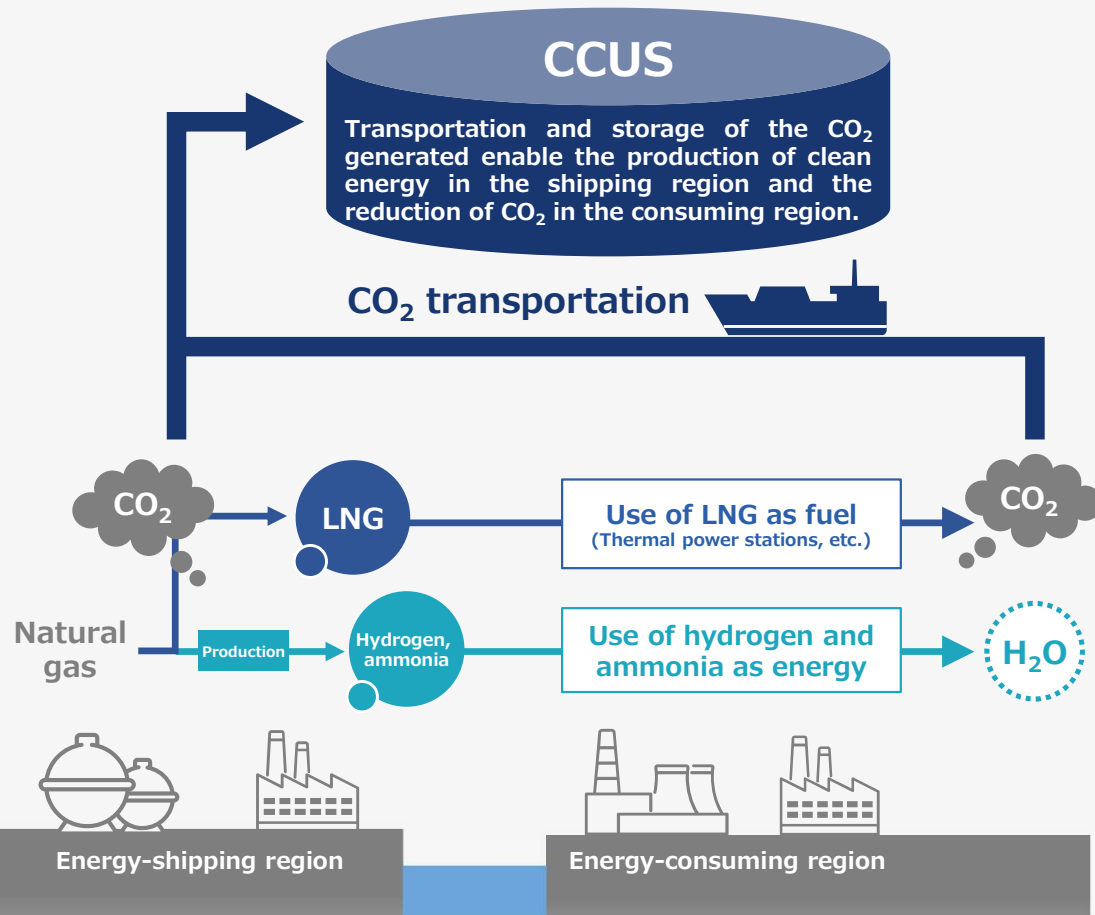
Transporting MCH in tanker tanks
⇒ Proving test underway



Progressing toward the establishment of a hydrogen supply chain

* MCH: Methyl cyclohexane

Beginning the CO₂ Transportation Business, a Future Growth Field



Establishment of liquefied CO₂ transportation and storage joint venture with the Knutsen Group

➤ Aiming to begin operations in the mid-2020s



Conclusion of an agreement with Mitsubishi Shipbuilding on the joint development of technologies for transporting CO₂



Taking advantage of knowledge gained in Europe to lead the world in social implementation

Increasing Participation in International Decarbonization Initiatives

Participating in international assessment projects aimed at the decarbonization of marine fuels

 **Mærsk Mc-Kinney Møller Center** *1
for Zero Carbon Shipping

- Keeping abreast of information on the latest developments by building networks with leading companies in Europe and in other industries
- Dispatching NYK technicians and working with other companies to advance decarbonization feasibility studies

Communicating with the international community and other industries and thereafter cultivating cross-industry partnerships

- Became the only Japanese shipping company to participate in COP26 and highlighted our initiatives for decarbonization of the maritime shipping industry



- Endorsement of Green Corridors*2



Contributing to decarbonization of the world through co-creation with various industries and companies

*1 An international research center tasked with promoting decarbonization of the maritime and shipping industries through conversion to alternative fuels

*2 An international cross-industry initiative that was announced at COP26 and which is aimed at promoting decarbonization of maritime and shipping industries worldwide by realizing the operation of ships powered by zero-emission fuels on certain shipping routes of the global core trade.