

Yokohama City Purchases World's First Certified "Environmental Value" Generated by the Ammonia-Fueled Tugboat Sakigake

The City of Yokohama has been working with a consortium that includes NYK Line to develop and introduce an ammonia-fueled tugboat※. The goal is to reduce environmental impact from port operations and accelerate the practical use of ammonia as a marine fuel.

In 2025, Shin-Nippon Kaiyosha, an NYK Group company based in Yokohama, received third-party certification for the greenhouse-gas reductions achieved by operating the ammonia-fueled tugboat Sakigake.

The emissions reductions were measured and converted into what the project calls an "environmental value." This was the first certification of its kind in the world.

Yokohama purchased the environmental value from Shin-Nippon Kaiyosha with the purpose of publicizing the benefits of low-carbon shipping and making visible the efforts being made by the maritime industry to achieve a decarbonized society. Through this initiative, Yokohama hopes to:

- Promote the adoption of next-generation marine fuels.
- Highlight innovative decarbonization efforts by companies located in Yokohama.
- Increase public awareness of cleaner shipping technologies.

※Tugboats assist large ships when they enter or leave port.

1 Project Timeline

• Fiscal Year 2022

The City of Yokohama, NYK Line, and other partners signed a Memorandum of Understanding regarding the usage of an ammonia-fueled tugboat at the Port of Yokohama.

• Fiscal Year 2024

The partners carried out the world's first truck-to-ship ammonia bunkering at Honmoku Pier in Yokohama Port. This marked the start of trial voyages by the ammonia-fueled tugboat *Sakigake*.

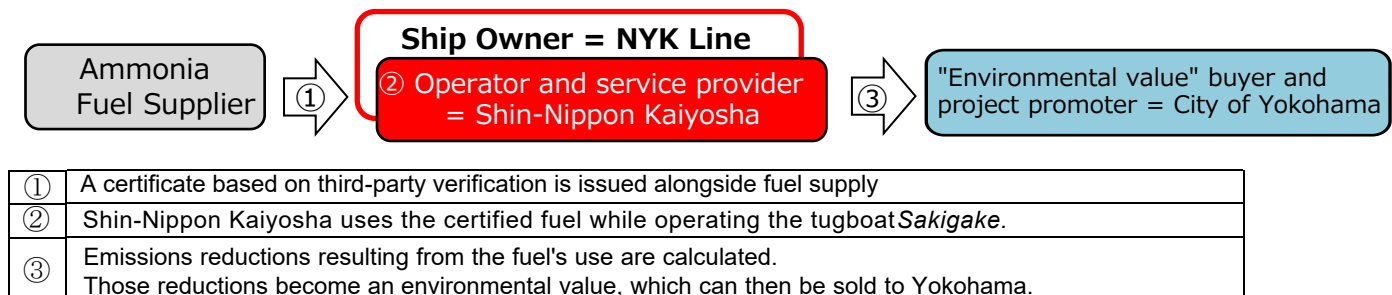
• Fiscal Year 2025

Shin-Nippon Kaiyosha obtained third-party certification for the emissions reductions achieved through *Sakigake's* services. Those reductions were quantified and recognized as certified environmental value.



Bunkering operations at Honmoku Pier A4 Berth (July 2024)

2 How the Environmental Value is Created and Sold



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3 About the Ammonia-fueled Tugboat *Sakigake*

Length: 37.20m, Width: 10.20m, Gross tonnage: 278t

Built: 2015 (Converted to ammonia-fuel operation in 2024)

Owner: NYK Line, Operator: Shin-Nippon Kaiyosha



4 Current State of Ammonia-Fueled Shipping

According to ClassNK (Japan's ship classification society), continued efforts are needed before ammonia-fueled vessels become common.

- With the exception of LPG carriers, LNG-fueled ships currently dominate most alternative-fuel ship categories. However, methanol-fueled ships are becoming increasingly common in sectors such as container shipping.
- Ammonia-fueled ships have begun to appear, but they still account for only a small portion of vessels on order. LNG and methanol continue to lead the market.

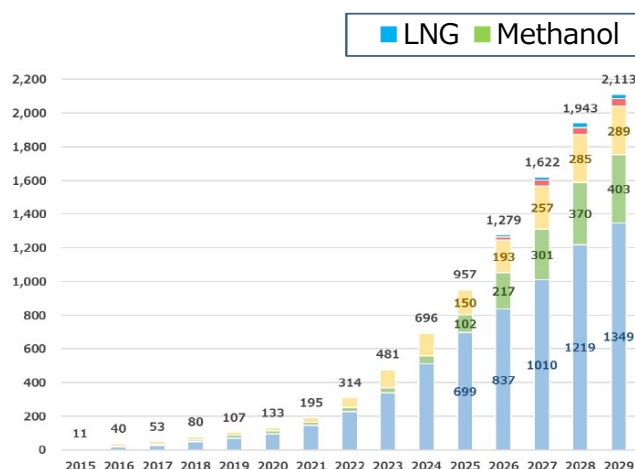


Figure 1. "In-service" alternative fuel ship trends (as of December 2025)

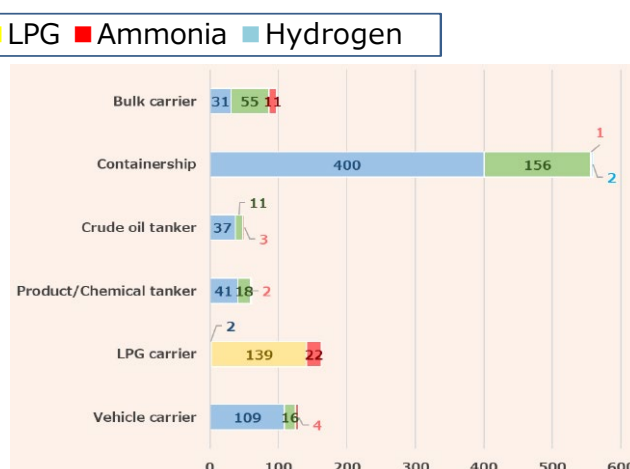


Figure 2. Alternative fuel ships on order (as of December 2025)

Source: ClassNK Alternative Fuels Insight Ver 3.2, January 2026, ClassNK (Nippon Kaiji Kyokai)

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