

Ammonia Energy Association

2025 APAC Ammonia Energy Conference

# NYK's Decarbonization Strategy and Efforts for Adopting Ammonia as a Marine Fuel

16th June 2025

Jack Jones, General Manager



**NYK**LINE  
NIPPON YUSEN KAISHA



## NYK Line (Nippon Yusen Kabushiki Kaisha)

NYK Group was established in 1885.  
The founder of the company is Yataro Iwasaki.  
He started the business as an original company of Mitsubishi.

Our group mission statement is **“Bringing Value to Life”**.



**Yataro Iwasaki**  
(Founder of NYK Line)



**Takaya Soga**  
(President and CEO of NYK Line)



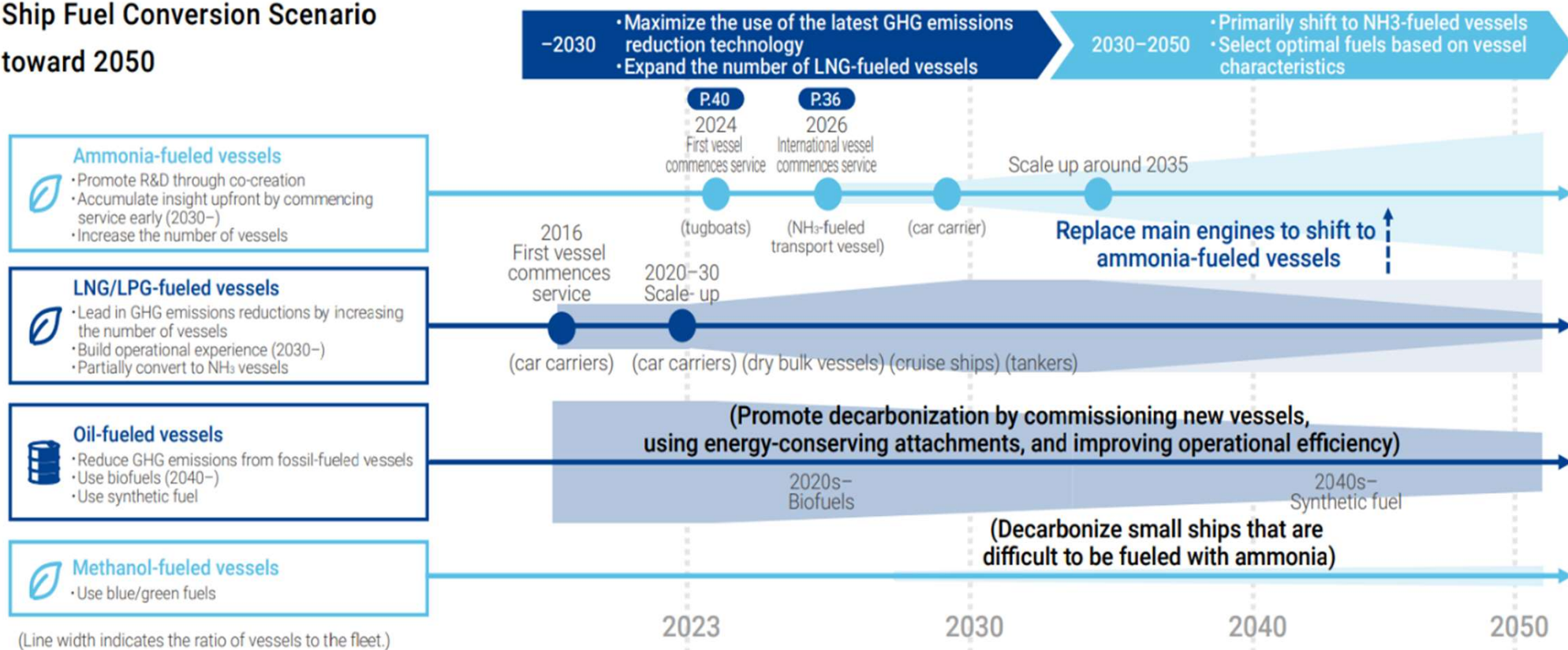
\* Vessel numbers are as of March 31, 2024.

\*1 As of December 31, 2023. Calculated by NYK based on "The Car Carrier Market 2023" by Hesse Shipping AS. The ranking is based on pure car and truck carriers with capacities of at least 3,000 vehicles.

\*2 As of January 1, 2024. Calculated by NYK based on Clarksons Database.

# Advancing Initiatives Aimed at Net-Zero Emissions

## Ship Fuel Conversion Scenario toward 2050



**Upstream**  
(Production)



**Midstream**  
(Transportation)



**Downstream**  
(Bunkering / Use)

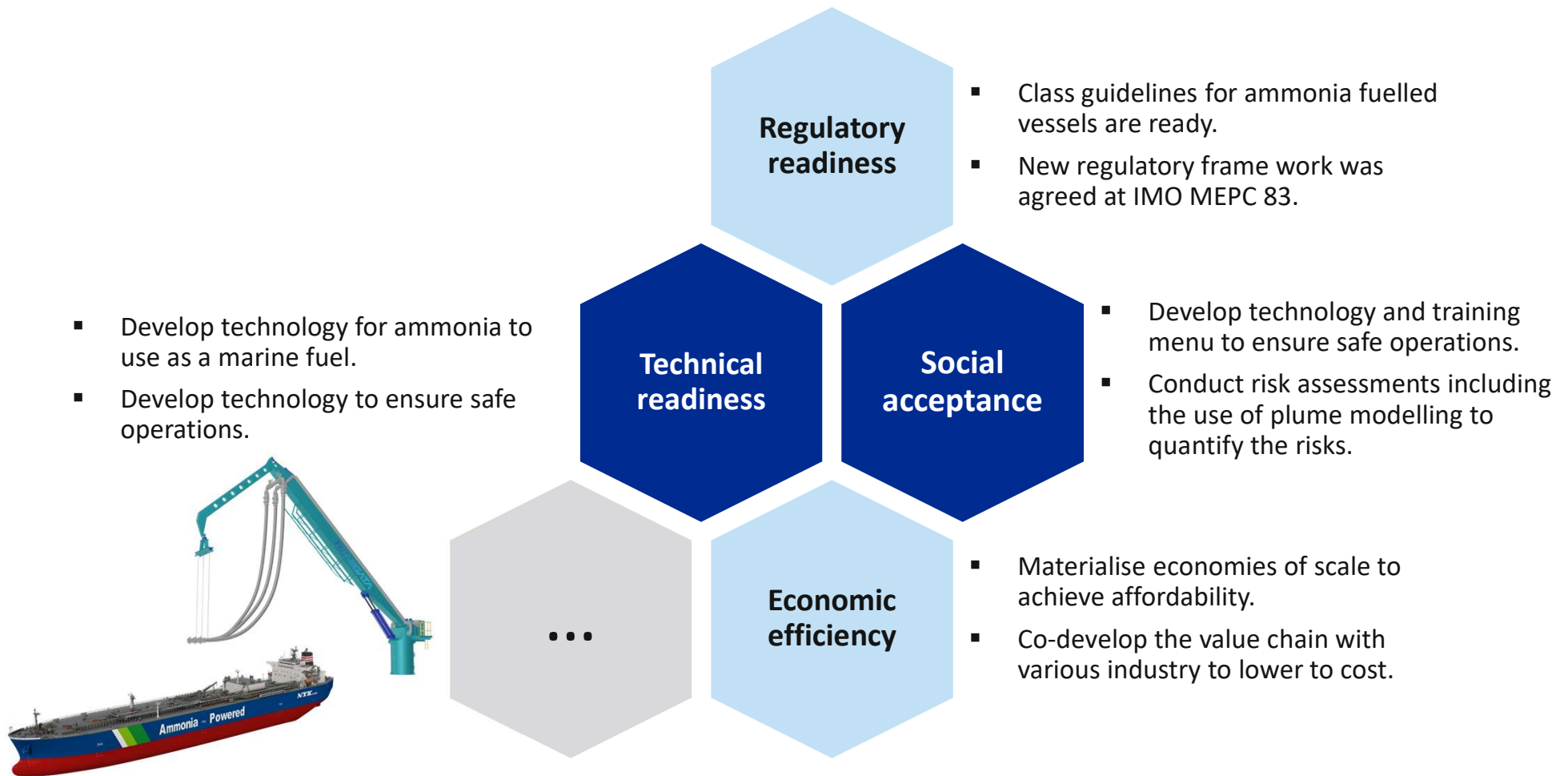
Proactively  
establish the value  
chain for fuel ammonia

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# Game Plan for Ammonia as Marine Fuel Adoption

## ❑ Four key elements to establish the value chain for fuel ammonia



# NYK's effort to improve Technical readiness

The development of ammonia-fueled vessels has been steadily progressing, A-tug has been completed world's first demonstration voyage, achieving GHG emission reductions of up to about 95%.



## A-tug "Sakigake"

'24/7

### World's first Truck to Ship ammonia bunkering at Yokohama.

- Procurement of ammonia derived from waste plastic from JERA and Resonac.



'24/8

### Retrofitted at the Keihin Dock Oppama (NYK subsidiary)

- World's first ammonia-fueled commercial vessel.
- After the delivery, the vessel was chartered to Shin-Nippon Kaiyosha (NYK subsidiary) and engaged in tug & towing operations in Tokyo Bay.

3 months verification of demonstration voyage to review safe operation and emission.  
Confirmed GHG reduction was up to about 95%.

'25/3

### Ceremony to mark completion of the A-Tug project.



## Ammonia co-firing rate/GHG reduction rate

M/E load	100%	75%	50%	25%
NH3 Co-firing rate	95.2%	94.8%	93.4%	91.1%
GHG reduction rate*	94%	94.4%	93.0%	90.3%

\*GHG emission compared to Fuel Oil



Target in Nov 2026

## Ammonia Fueled Ammonia Gas Carrier

- Dec 2023 NYK signed the Ship Building Contract to build an Ammonia-Fueled Ammonia Gas Carrier (AFAGC).



- Nihon Shipyard (NSY) have developed the design and plans to acquire the classification code MRS\* from NK.

\*Machinery Room Safety for ammonia



## Ammonia-Fueled DF main engine (J-ENG)

- High mixing and firing rates (approx. 95%) achieved in single-cylinder tests. Limited N2O emissions.
- Ammonia operation in actual equipment tests started in April 2025.



to be delivered in Oct 2025

## Ammonia-fuelled DF auxiliaries (IHI Power System)

- High mixing and firing rates (approx. 80%) achieved through field trials.



to be delivered in Aug 2025



# Ammonia to Zero.

アンモニアで地球を救え。



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