

The Asian Development Bank – Pacific Transport Forum 2024

Role of Biofuel and Just Transition in Maritime Decarbonization



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About NYK Group - Overview



Trade Name

Nippon Yusen Kabushiki Kaisha
(NYK LINE)

Established

September 29, **1885**

Main Activities

Liner & Logistics Business,
Bulk Shipping Business,
and Others Business

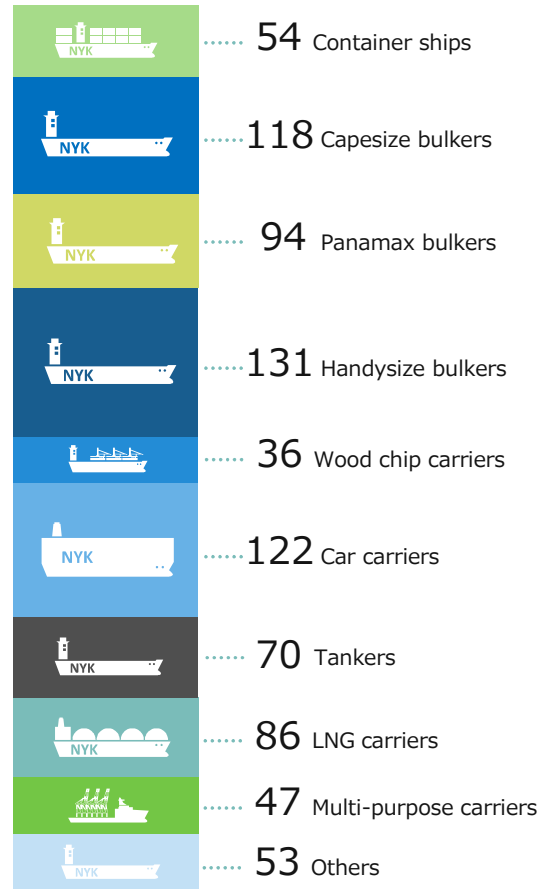
Employees

35,502 (consolidated)
1,299 (non-consolidated)

NYK Group Fleet

811 vessels

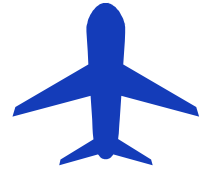
Vessel



*For the year ended March 31, 2023

Air Freighter

8 aircrafts
5,854 flights
in FY 2022



Terminal

Operating at

20 ports
in FY 2021



Logistics Center

689 locations



*As of March 31, 2023

About our industry (1)



- **Shipping** connects world economies and underpins global supply chains.

Activity

> 80%

World merchandize trade by volume

Footprint

abt. 3%

Global Greenhouse Gas Emissions

About 1,000 Million tons of CO2e/Year (2018)

About our industry (2)



■ The 2023 IMO GHG Strategy (adopted in July 2023)

GHG Emissions from international shipping to reach **net zero** by or around, i.e. close to **2050** taking into account different national circumstances.

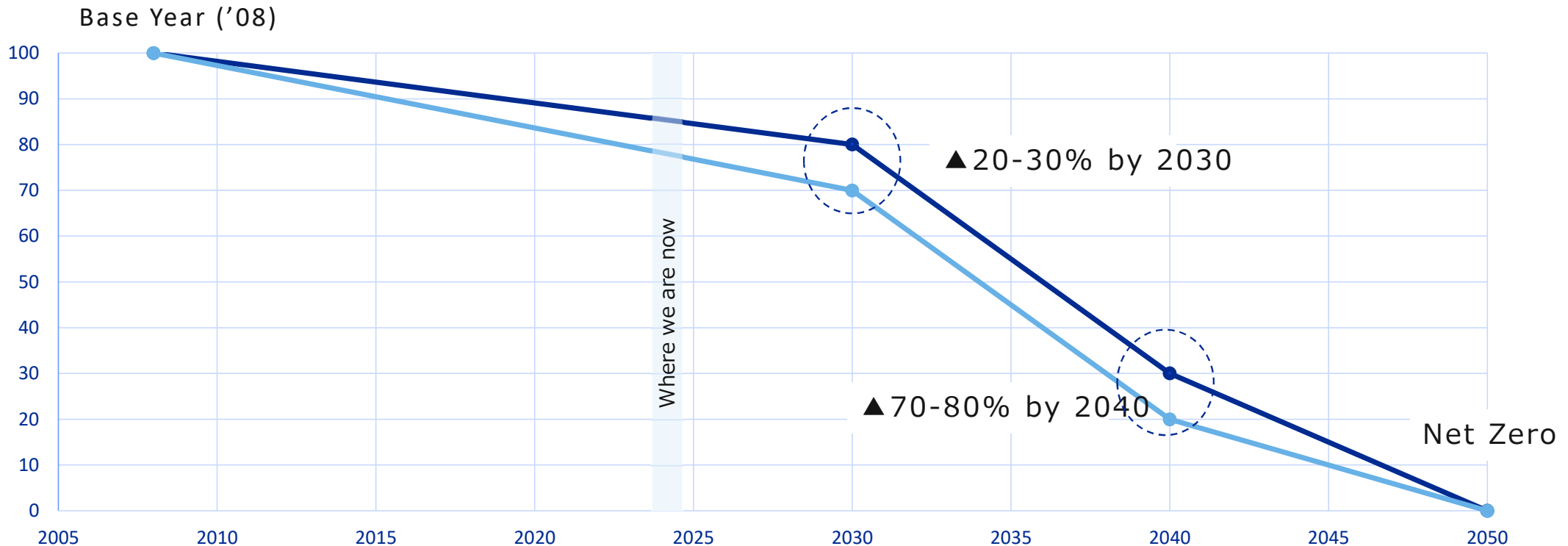


Figure: GHG Emission Trajectory (International Shipping)

Identified shipping GHG emission reduction measures



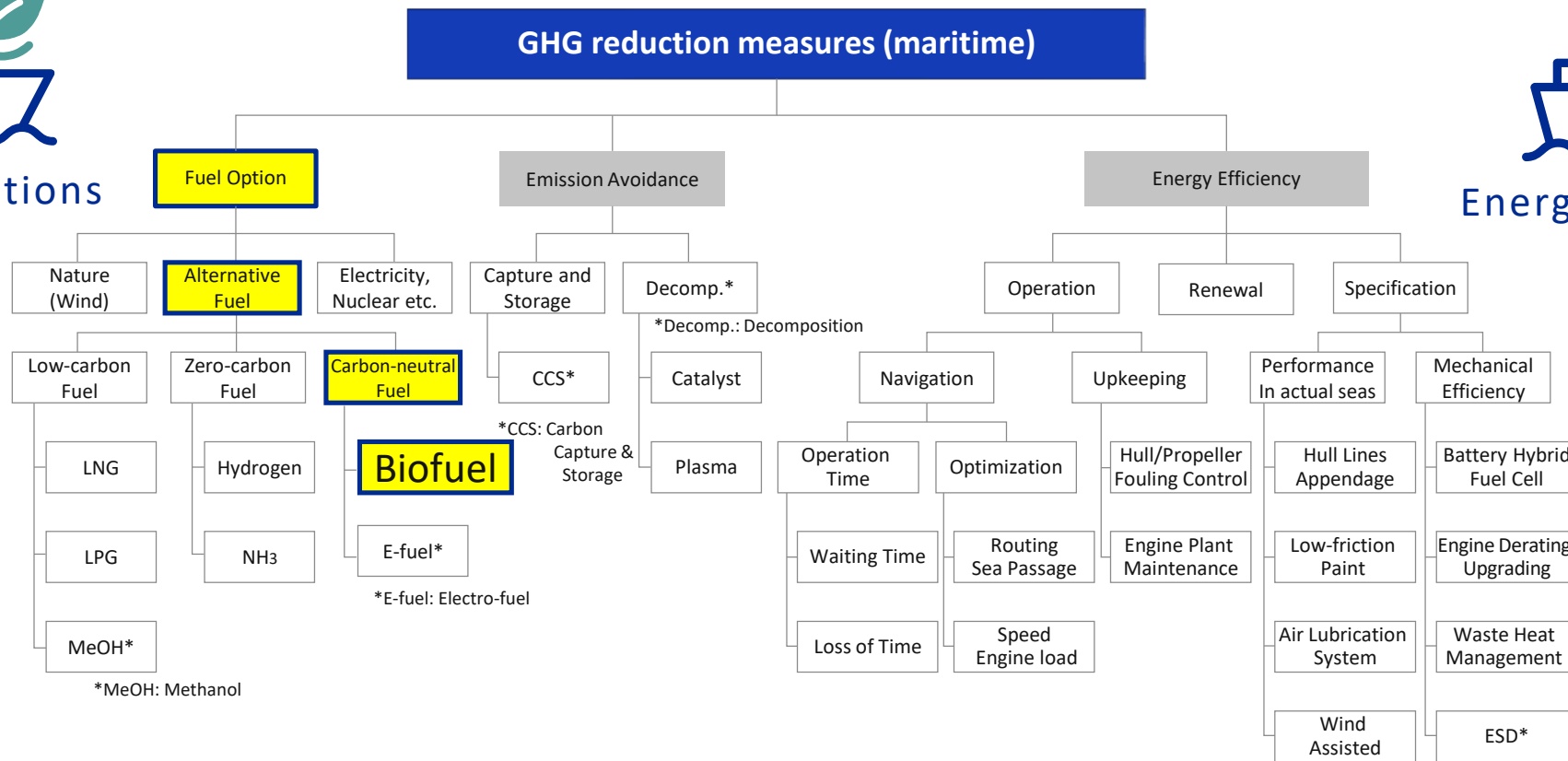
- All hands on deck with every possible measures to reduce GHG emission.
- Biofuels as drop-in fuel should play the important role for existing vessels without major conversion.



Fuel Options



Energy Efficiency

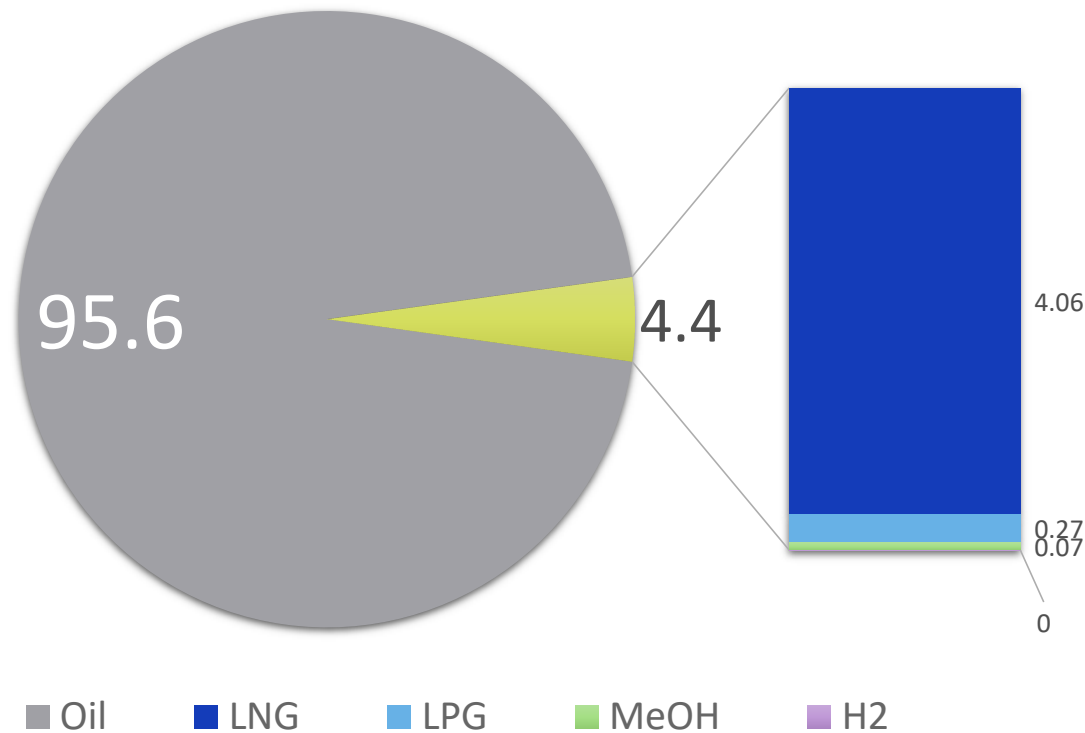


Adoption of alternative fuel technologies (1)

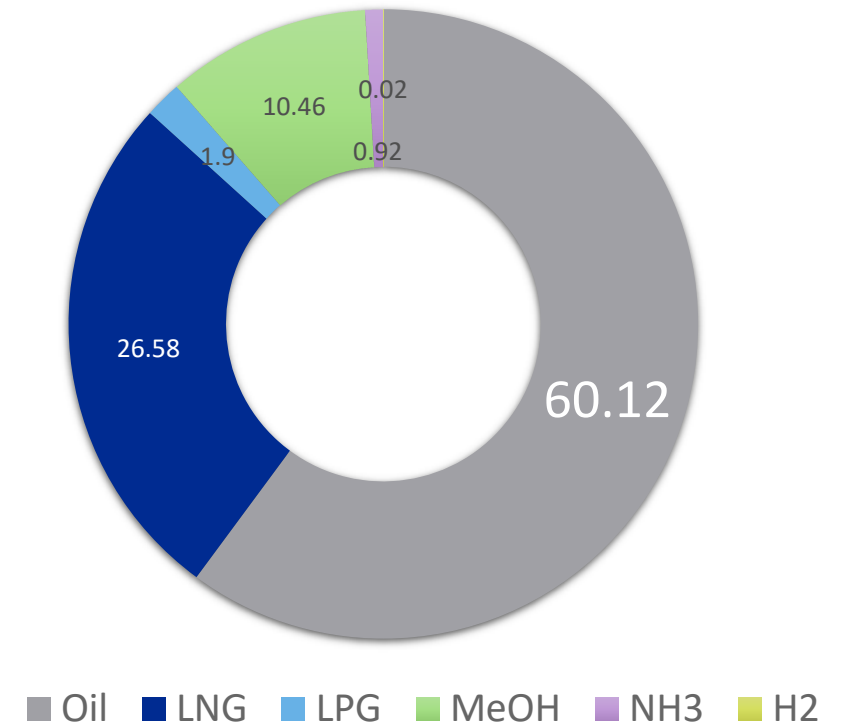


- Less than **5.0%** of world fleet can use alternative fuels as of April 2024.

Fuel Share of **Existing Fleet** in DWT [%]



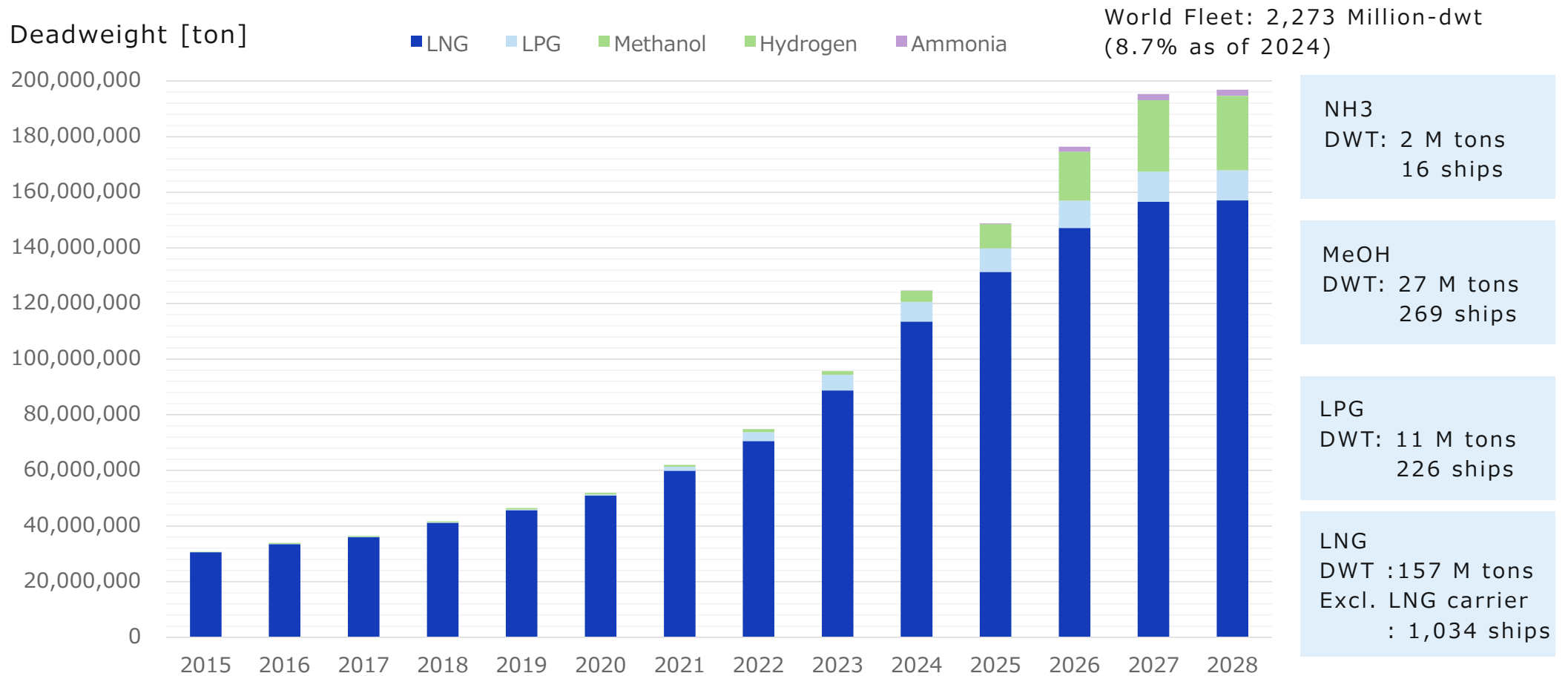
Fuel Share of **ships in order** [%]



Adoption of alternative fuel technologies (2)

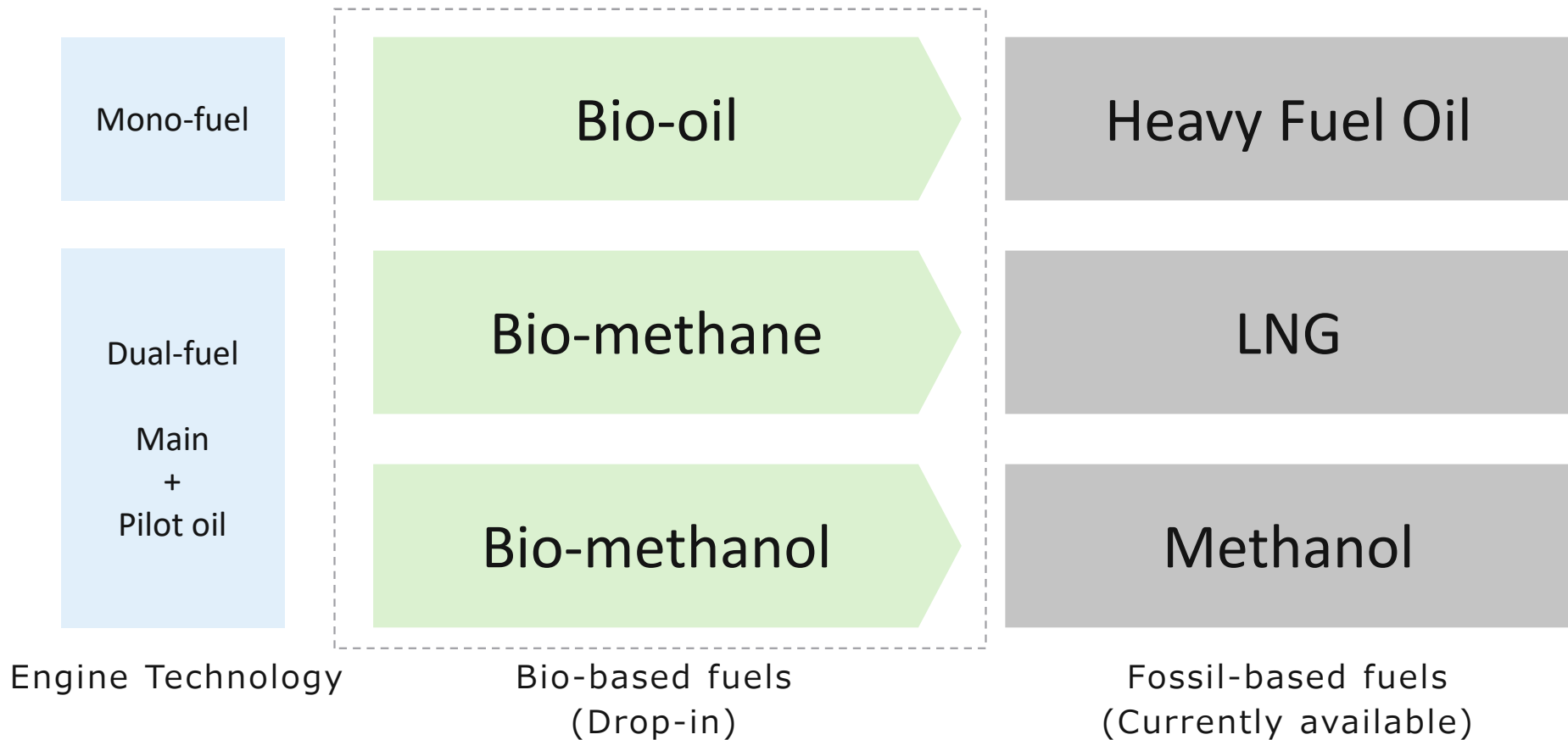


- By 2030, approximately **10%** of world fleet in DWT will be powered by alternative fuels.



How it is suitable for existing shipping fleet ?

- While the current use of biofuels in marine-engine applications is limited, there is significant potential for bio-fuels to support maritime decarbonization.



Role of Biofuel – The Turin Joint Statement (May 2, 2024)



- The Turin Joint Statement on Sustainable Biofuels highlights the role of sustainable biofuels in **decarbonizing all transport sectors**, promoting environmental sustainability, innovation, and creating value for communities.
- Signed by more than 75 Industry Leaders, the Statement focuses attention on actions that G7 countries can take to increase the pace and scale of sustainable biofuels deployment to be consistent with a net zero pathway by mid-century.



Sustainable biofuel bringing significant co-benefits:

Greater Energy Security

Ease of Integration into current logistics

Circular Economy

Creation of value for local communities

Sustainable agricultural and forest practices

Source: biofuture platform <https://biofutureplatform.org/>

Risk and Opportunity of biofuels

- There are **risks and opportunities** for its development and implementation to the maritime application.

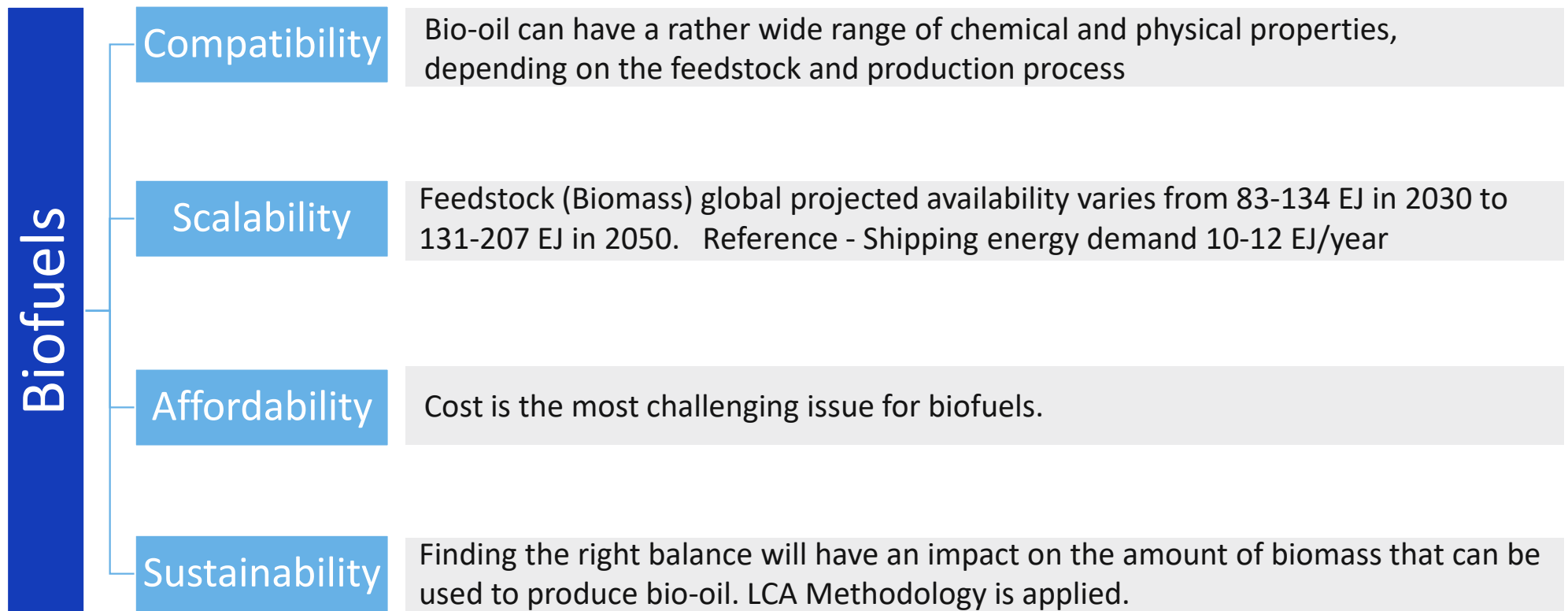
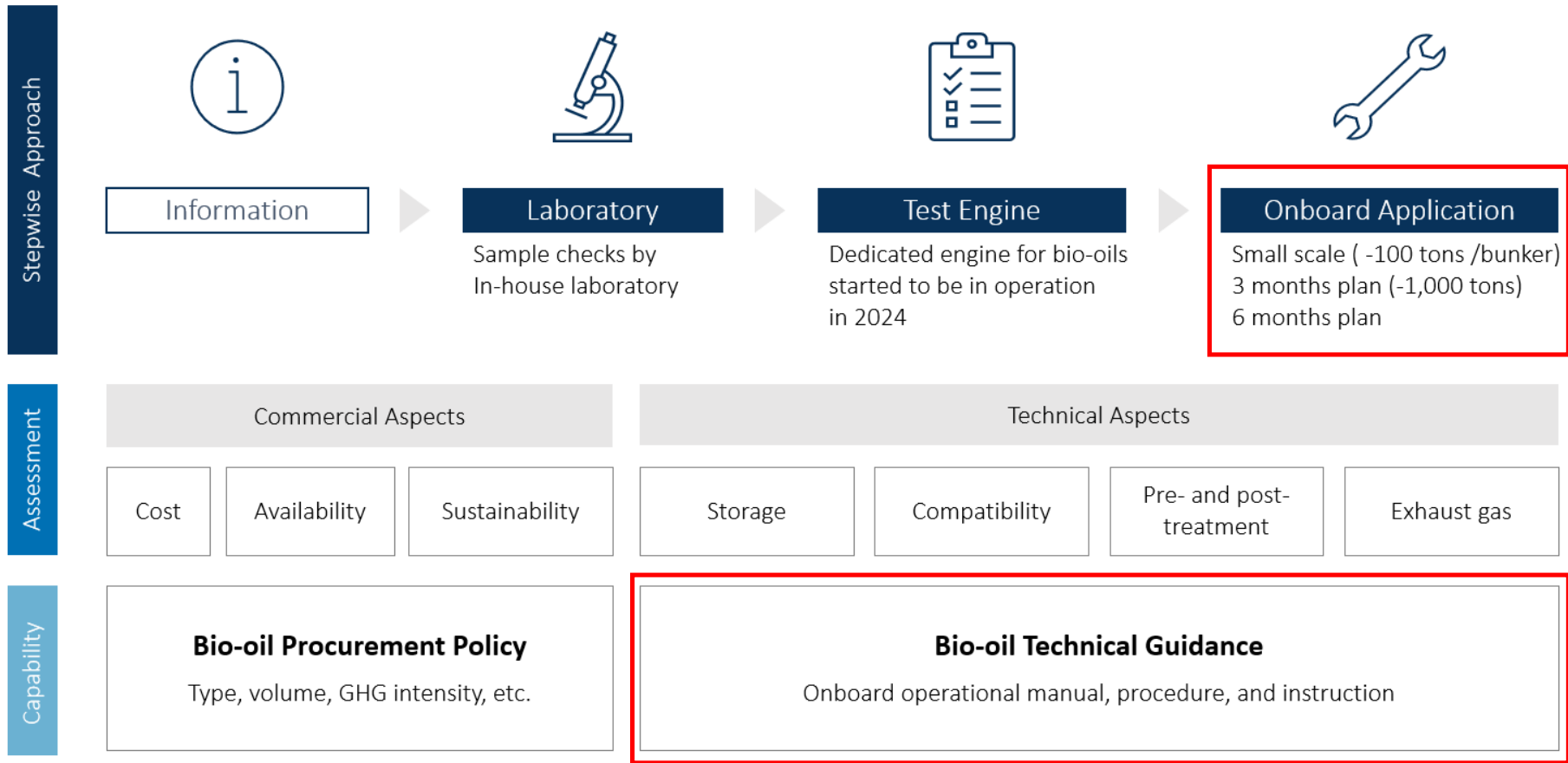


Figure: Bio-oil Key Success Factors

NYK's action for the use of bio-oils (1)



- Increasing the use of bio-oils as drop-in fuels would have an intermediate effect and be a long-term solution based on a stepwise approach to keep vessels-in-operation safe



NYK's action for the use of bio-oils (2)



- Singapore, 9 May 2024 – The Global Centre for Maritime Decarbonisation (GCMD) has teamed up with NYK Line to launch **Project LOTUS** (long-term impact of continuous use of biofuels on vessel operations).
- This six-month project will trial the continuous use of a biofuels blend comprising of 24% Fatty Acid Methyl Esters (FAME) and very low sulphur fuel oil (VLSFO) onboard a short-sea vehicle.



Conduct a pilot – Evaluate the impact and track biofuels

Gain Insights - Operational knowledge and Experience

Feedback to Maritime Industry - **No one left behind in transition toward decarbonization**

NYK's activities in Philippines for qualified seafarers



① NYK-Fil Shipmanagement, Inc (founded in 1989)

Manning of Pilipino crews

② NYK-Fil Maritime E-Training Inc (founded in 2000)

Training of Pilipino crews

③ NYK-TDG Maritime Academy (Opened in 2007)

Maritime collage for Pilipino cadets





日本郵船



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