Maersk's roadmap towards decarbonization and future marine fuels

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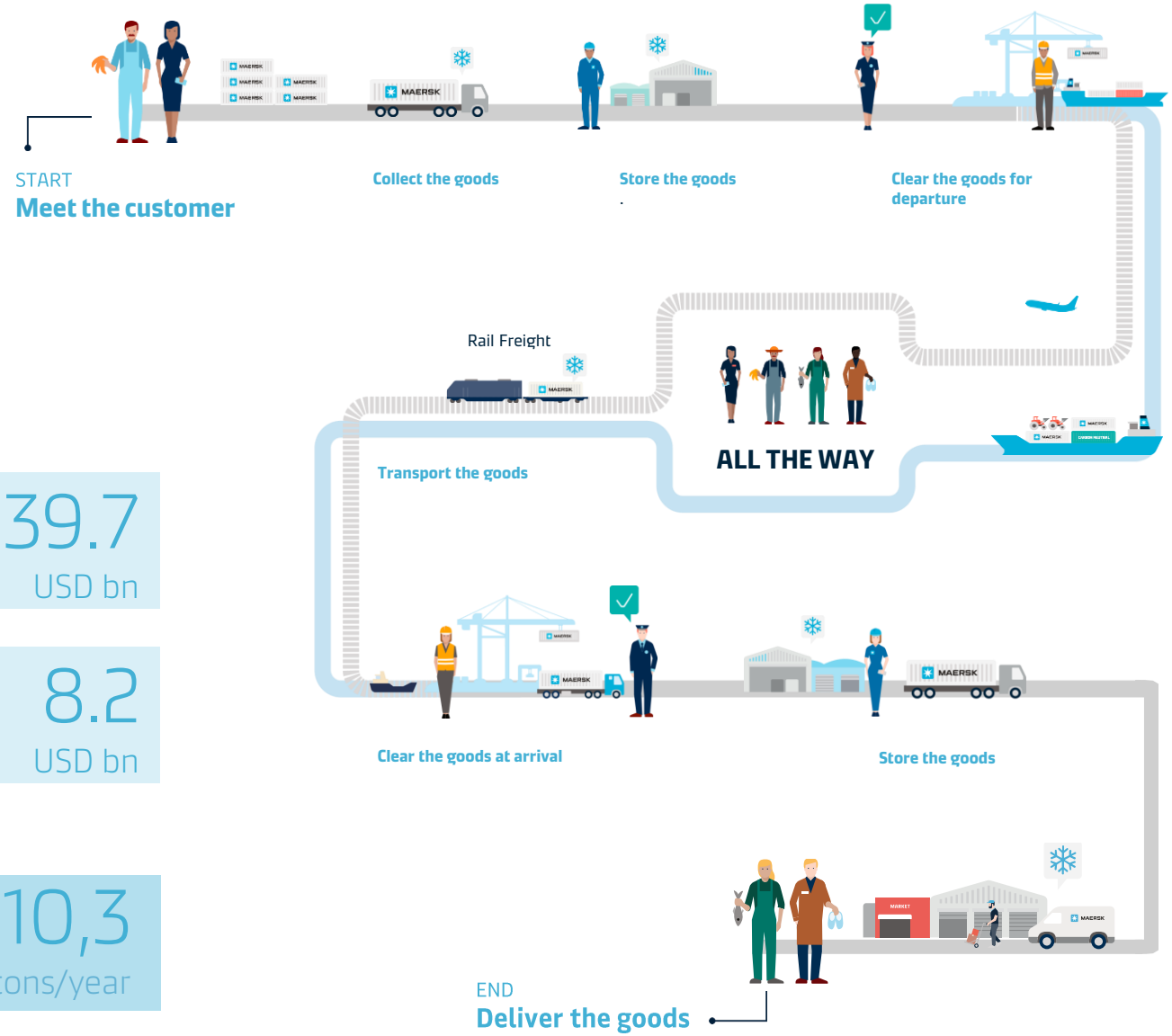
Connecting and simplifying global supply chains

A.P. Moller - Maersk enables its customers to trade and grow by transporting goods anywhere.

Employees	83,624	2020 revenue	39.7 USD bn
Present in	130+ Countries	2020 Profit	8.2 USD bn
Fleet	700+ Vessels	Fuel oil consumption	10,3 Million tons/year



Decarbonizing global supply chains is a strategic imperative for Maersk

Our customers need us to decarbonize their supply chains in order to uphold their global footprint.

Investors and financial institutions expect sustainability and will reward decarbonization leaders.

Shipping accounts for ~3% of global GHG emissions. Urgent action to mitigate climate change is needed, and society (and our employees) expect us to act.

- **We must decarbonize our entire operations.**
- **We need to meet our customers' expectation for a decarbonized supply chain.**
- **If we do not take action to decarbonize, we will become irrelevant to our customers.**
- **We need to decarbonize as fast as technically and commercially possible – it is a strategic imperative.**

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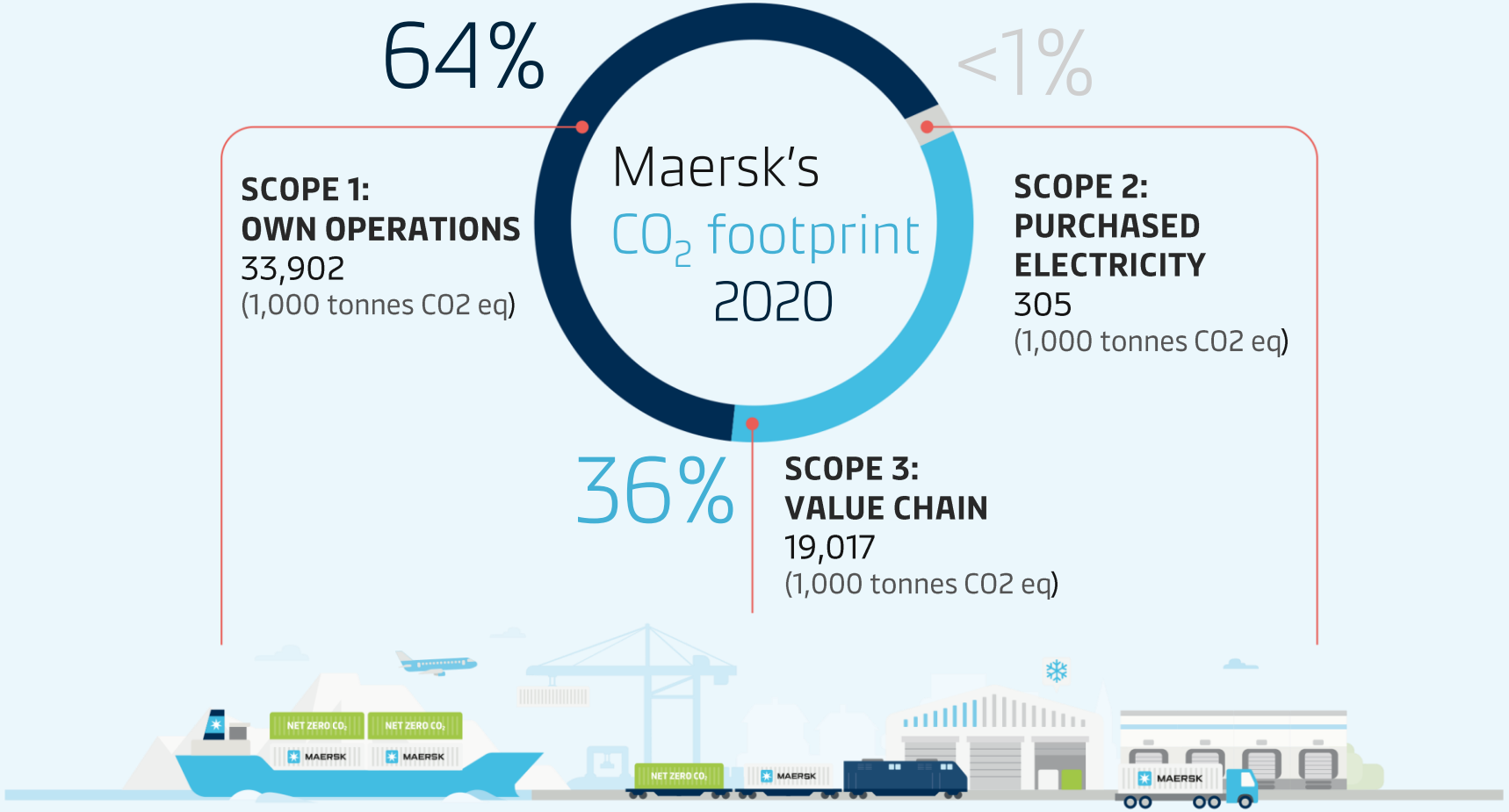
Maersk's CO_2 footprint 2020: Our first decarbonization efforts focused on the scope 1 emissions from the container ships



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In 2018, Maersk committed to NET-ZERO CO2 EMISSIONS by 2050

46%
reduction per container transported

60%
reduction per container transported

NET ZERO CO2

2008

Today

2030

2050

Header & Footer

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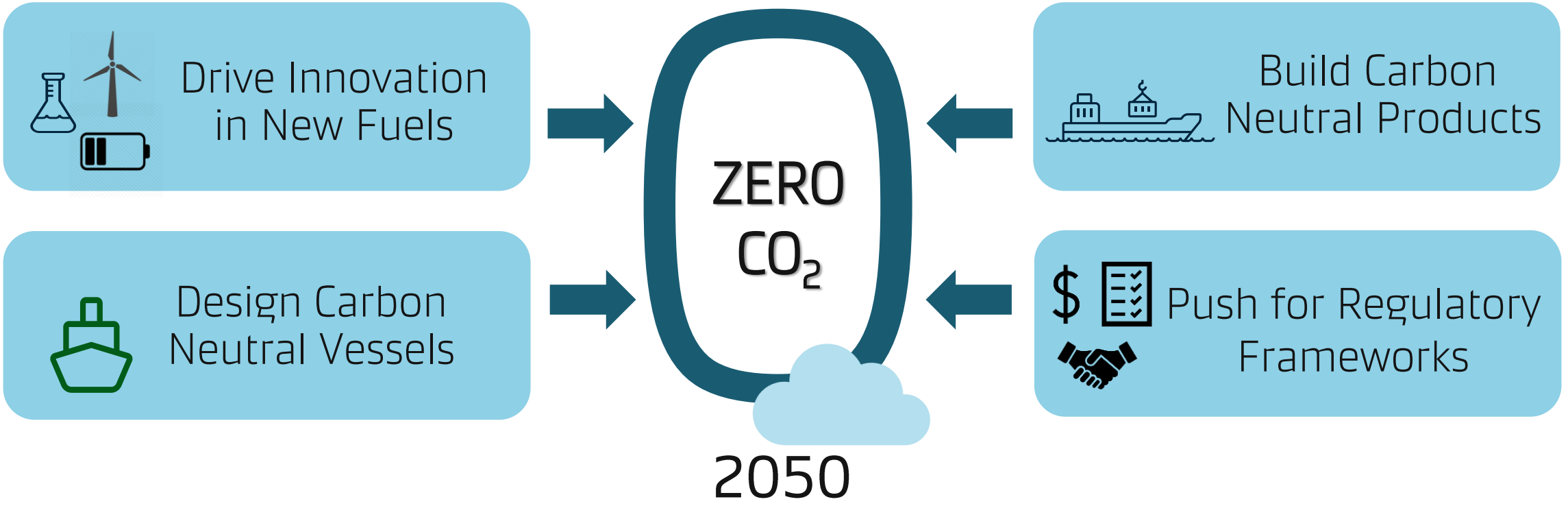
Initiatives across the business drive the decarbonization agenda

Maersk initiatives



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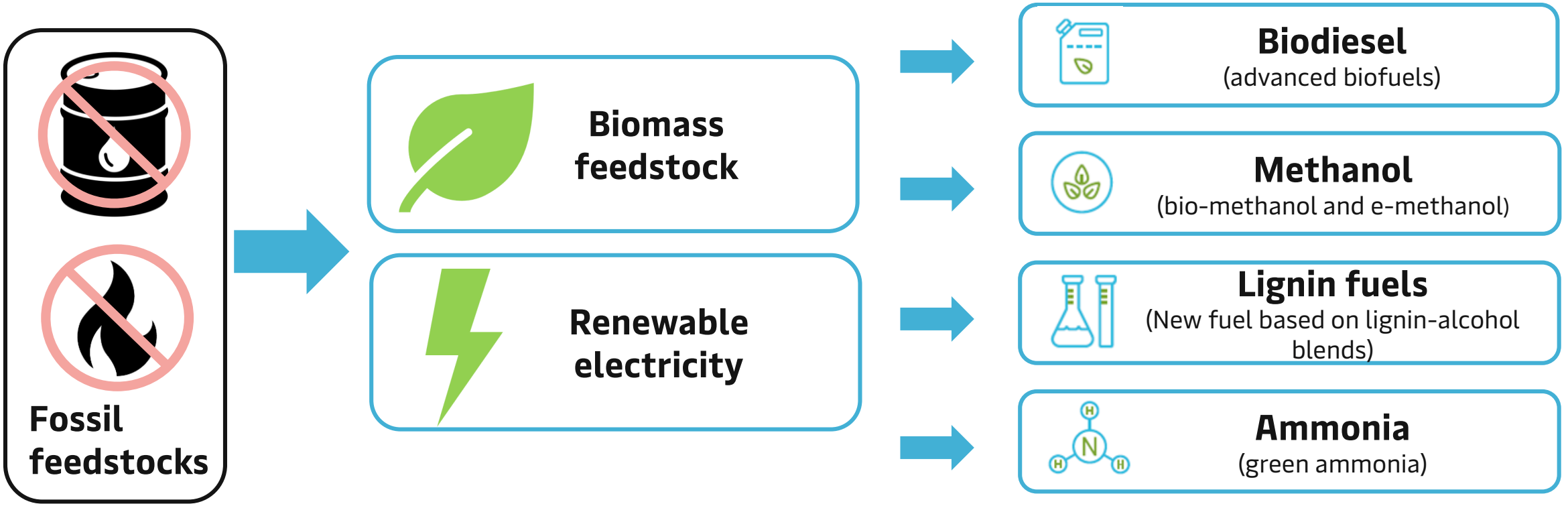
We need to make the transition from fossil oil and gas feedstocks to renewables – biomass and renewable electricity



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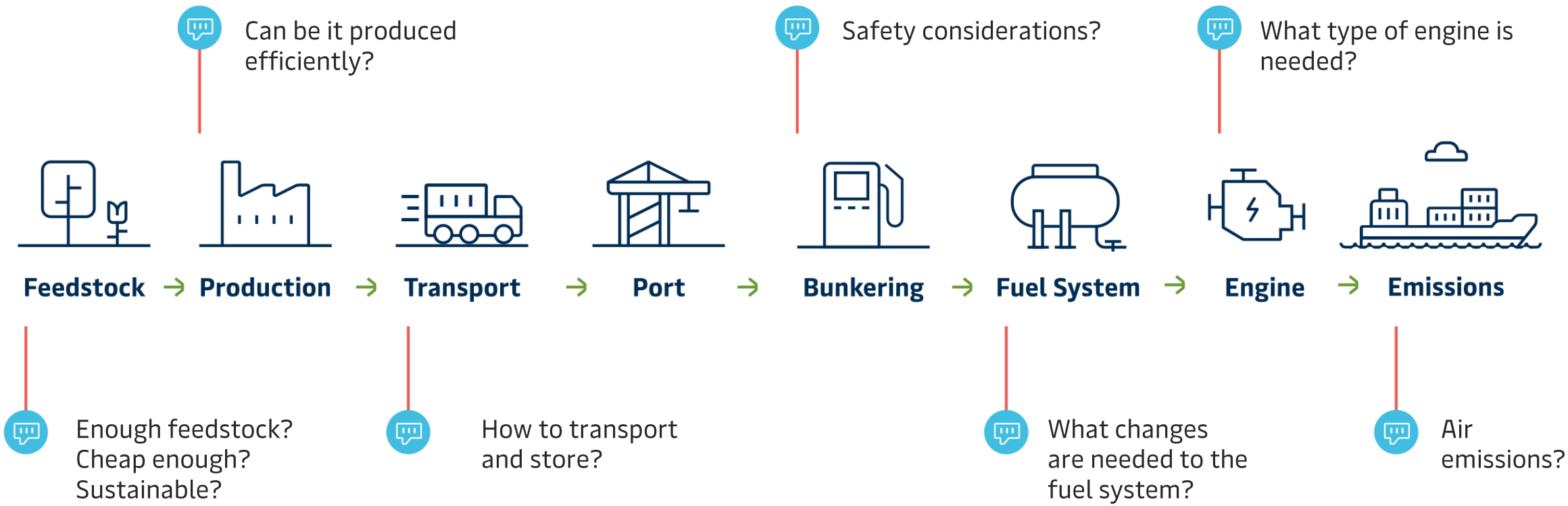
We pursue four priority fuels for net zero emissions shipping –each has key advantages and limitations

Fuel	Key advantages	Key limitations/risks
Biodiesel	• Can be used as drop-in fuel in existing vessels and engines	• Limited availability of biomass feedstock • Price pressure due to competing demand
Methanol (bio-methanol and e-methanol)	• Already in operation as marine fuel and engine is available • Liquid at normal condition and well-known handling	• Bio-methanol: Limited availability of biomass feedstock • E-methanol: Availability of biogenic CO2 source
Lignin fuels (New biofuel based on lignin-alcohol blends)	• Potentially the most price-competitive net zero fuel, could be almost on par with fossil fuels • Same engine requirements as for methanol	• In development stage with production still to be scaled up • Additional handling of contaminants may be required in fuel system and engine
Ammonia (green ammonia)	• Fully zero emissions fuel • Can be produced at scale from renewable electricity alone	• Safety and toxicity challenges • Infrastructure challenges at ports

For each of the fuels, transformation needs to happen across the entire fuel supply chain



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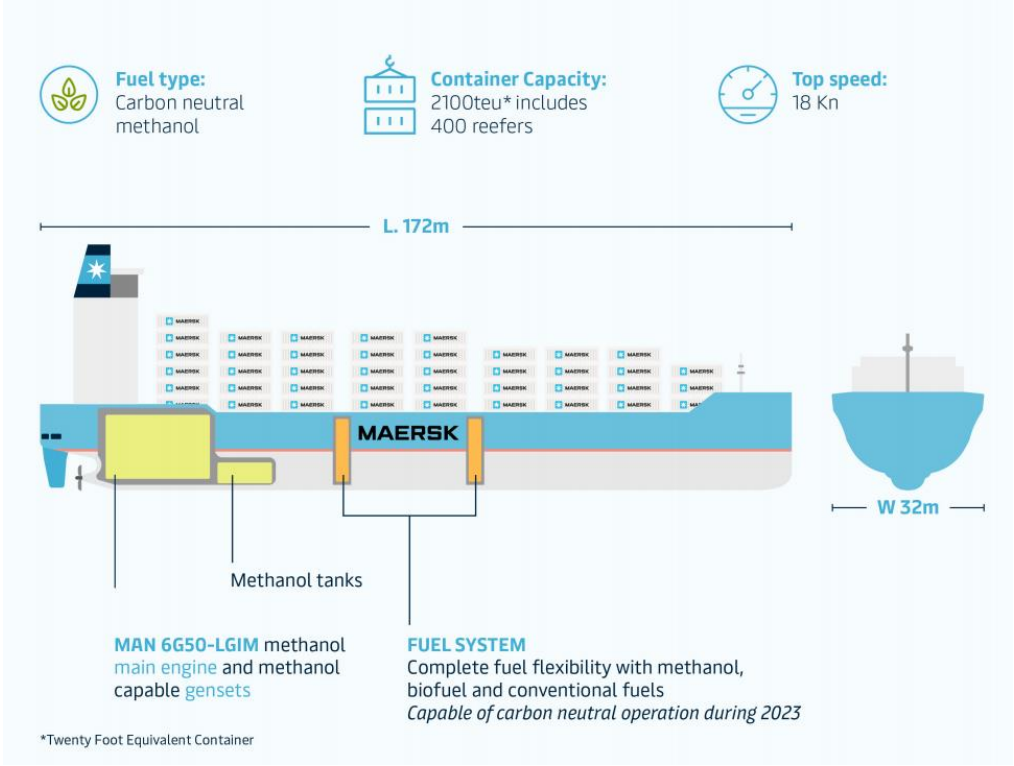
Maersk accelerates fleet decarbonisation with first carbon-neutral vessel in 2023 and eight ocean-going vessels starting 2024

Piloting: World's first carbon-neutral container vessel will operations in 2023



REintegrate

EUROPEAN ENERGY

Partnership with REintegrate and European Energy for green methanol production for the vessel

Scaling: 8 large ocean-going container vessels for carbon-neutral methanol.

The Design: a further development of the current Hongkong class build by Hyundai Heavy Industries.

Delivery: First vessel in Q1 2024

Capacity: 16,000 TEU

Fuel consumption: 35,000-45,000 tons green methanol/year

CO2 emission reduction: ca. 1 mill tons CO2/year upon introduction of all vessels:

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Thank you

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