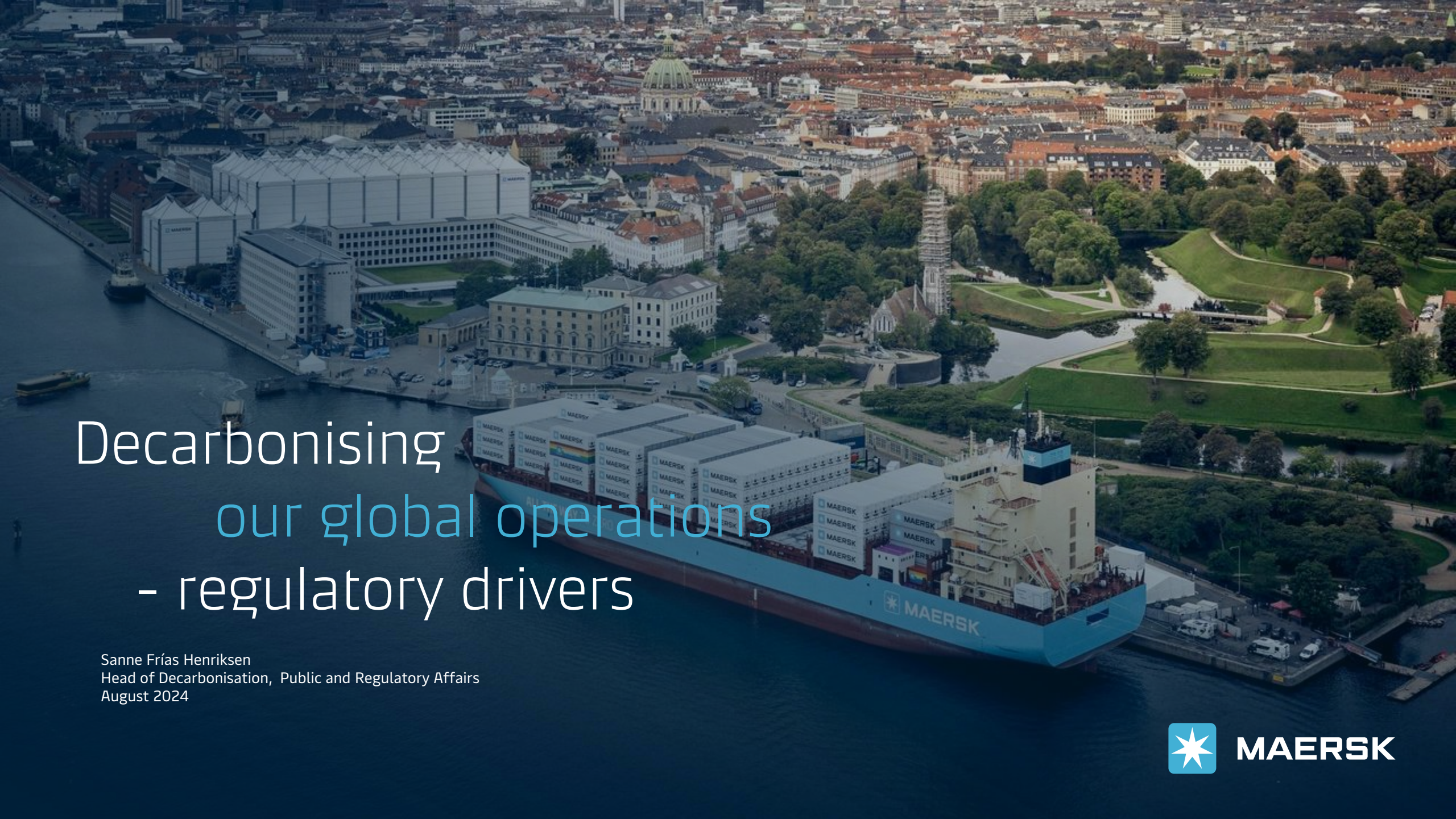

# Decarbonising our global operations - regulatory drivers

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August 2024

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OUR PURPOSE

# Improving life for all by integrating the world

The integration illustrated by five years of Automatic Identification System (AIS) transponder data from A.P. Moller - Maersk vessels registered in the company's scheduling system GSIS

Gateway and hub terminals

A.P. Moller - Maersk is an integrated logistics company working to connect and simplify its customers' supply chains. As a global leader in logistics services, the company has 100,000+ customers, operates in more than 130 countries and employs around 100,000 people. A.P. Moller - Maersk is aiming to reach net zero emissions by 2040 across the entire supply chain with new technologies, new vessels and green energy solutions.

## Ocean

| | |
|---|---|
| Green methanol-enabled vessels on order | 25 |
| Containers per annum (m FFE), serving over 475 ports worldwide | 11.9 |
| Container vessels operated | 670+ |

## Logistics & Services

| | |
|---|---|
| 7,800k+ sqm warehousing capacity worldwide across | 460+ sites |
| Electric vehicles in operation; 200+ more on order | 100+ |
| Intermodal volumes managed (m FFE) | 4.0 |

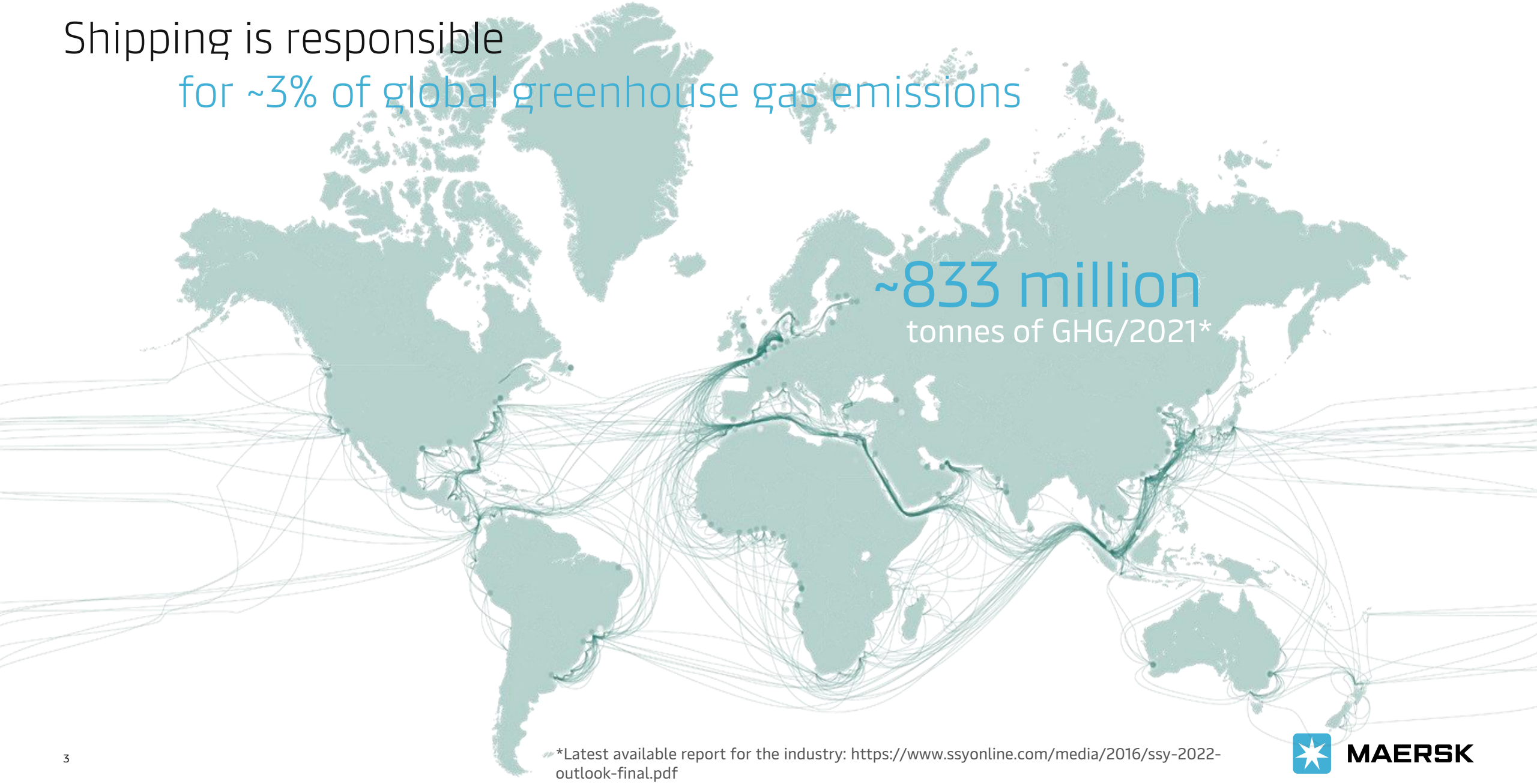
## Terminals*

| | |
|---|---|
| Moves in 2023 | 21.7m |
| Vessel calls | 27,000+ |
| Operating facilities across 33 countries; 3 new port projects | 60 |

* Gateway terminals and hubs

# Shipping is responsible

## for ~3% of global greenhouse gas emissions




*Latest available report for the industry: https://www.ssyonline.com/media/2016/ssy-2022-outlook-final.pdf



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# Maersk's climate commitments

## validated by the Science Based Targets initiative

**Aligned with 1.5 degree pathway by 2030** — 2030 — **Net Zero by 2040** — 2040

Main KPIs and targets: Baseline year 2022

| | | |
|---|---|---|
| **Scope 1** *Own operation* | 35% | Absolute reduction in total scope 1 emissions |
| **Scope 2** *Purchased electricity* | 100% | Renewable electricity sourcing |
| **Scope 3** *Value chain* | 22% | Absolute reduction in total scope 3 emissions |
| | 96% | Absolute reduction in total scope 1 and 2 emissions* |
| | 90% | Absolute reduction in total scope 3 emissions* |


* Residual emissions will be neutralised in accordance with the Net Zero criteria of the Science Based Targets initiative.

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# Decarbonising Ocean

## 2030 Targets

- **35%** Absolute reduction in **scope 1** and **scope 3** well-to-wake emissions from own container shipping operations
- **17%** Absolute reduction in **scope 3** well-to-wake emissions from subcontracted container shipping operations

## Key Levers

### Fuel efficiency improvements

- Network optimisation
- Network execution
- Technical management

### Transitioning to green fuels

- Investment in green vessels via existing fleet renewal plan
- Retrofit select existing vessels
- Securing the green methanol needed today and continuing to explore green fuel options
- Introduce chartered green vessels
- Use of bio-diesel as a gap closer

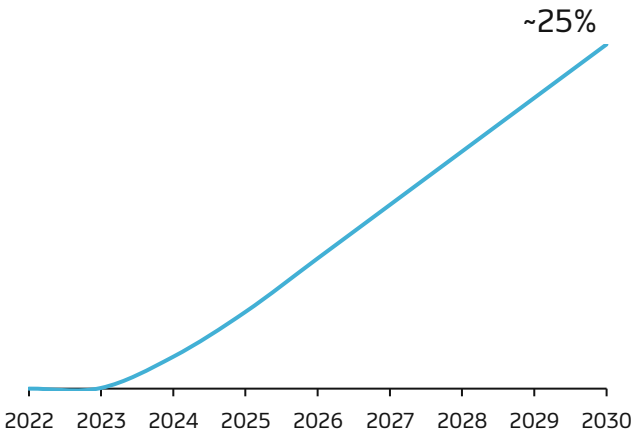
### Continued growth in Maersk ECO Delivery

- Commitment from key customers for ECO Delivery shipping
- Improved methodology to support accurate emissions reporting

## Actions

25 green methanol-enabled vessels on order through 2027

Green fuel enabled TEU capacity (% of total fleet by year end)



# All the way to zero

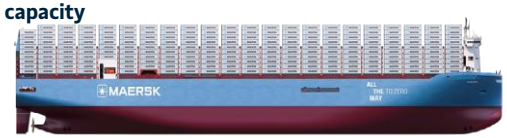
## Maersk green investment in dual-fuel vessels

- 25 owned vessels with dual-fuel engines, able to operate on green methanol. Five of them are already in operation

**2,100 container capacity**

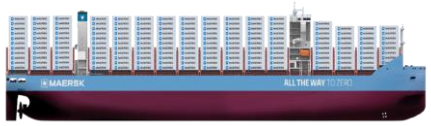
**Laura Mærsk**
with a capacity of **2,100 TEU,** in operation since September 2023

**16,000 / 17,000 container capacity**




**18 vessels**
with a capacity of **16,000/17,000 TEU**, powered by MAN G95 dual-fuel engines (main engine), to be delivered 2024-2025

**9,000 container capacity**



**6 vessels**
with a capacity of **9,000 TEU**, scheduled for delivery in 2026 and 2027

- New orders placed in 2024 for 50-60 dual-fuel vessels, owned and chartered

  These vessels will be a mix of methanol and liquified gas propulsion system that can sail on conventional and low GHG emission fuels, like bio- and e-methanol and bio-methane

  The vessels come different sizes offering great flexibility to meet customer needs

  They will enter the fleet from 2026 to 2030 and replace aging vessels.



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# Sourcing green fuels at scale through strategic partnerships

**Green methanol** is a key fuel in our decarbonisation journey, while we continue to explore green fuel options and build a supply portfolio of different green fuels.

**What is a green fuel?**

In Maersk, 'green fuels' refers to **fuels with low to very-low GHG emissions over their life cycle**, compared to fossil fuels. 'Low' means a reduction of 65-80% in GHG emissions, and 'very low' means a reduction of 80-95% in GHG emissions, compared to fossil fuels.

- We are **developing a diverse portfolio of partnerships for securing the green fuel needed** to sail our new vessels
- For the Laura Mærsk, the first methanol vessel sailing in 2023 and Ane Mærsk, the first large ocean-going dual fuel engine vessel. we have secured the needed volumes of bio-methanol from our partners OCI Global and Equinor.
- The **green fuel facility in Kassø, Denmark**, established by our partner European Energy, is expected to produce 16.000 tons of e-methanol a year, starting in 2024
- We have signed a long term offtake agreement with green methanol producer Goldwind for 500KT fuel, first volumes expected in 2026
- We expect a diverse green fuel mix for our methanol-enabled vessels in the transition years towards sufficiently scaled green methanol production

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# Exploring fuel pathways for decarbonising shipping

| Fuel | Key advantages | Key limitations/risks |
|---|---|---|
| Biodiesel (from waste feedstocks) | • Biodiesel market already exists<br>• Can be used as drop-in fuel in existing vessels and engines | • Limited availability of suitable biomass feedstock<br>• Price pressure due to competing demand from road transport and aviation |
| Bio- and e-methanol (from waste feedstocks) | • Can be produced from a wide range of waste biomass and renewable electricity<br>• Vessels running on methanol are already in operation today<br>• Well-known handling | • Bio-methanol: availability of suitable biomass feedstock (mostly dry biomass like agricultural and forestry waste)<br>• E-methanol: availability of biogenic $CO_2$ source and renewable electricity |
| Bio-methane ('bio-LNG') (from waste feedstocks) | • Can offer significant GHG emission reduction savings, depending on the production pathway | • Availability of suitable biomass feedstock (mostly wet biomass like manure, dairy waste and wastewater)<br>• Controlling the methane slip into the atmosphere during the fuel life cycle |
| Green ammonia (e-ammonia) | • Can be produced at scale from renewable electricity<br>• Contains no carbon and does not emit CO2 in combustion | • Safety and toxicity challenges as well as lifecycle climate and environmental impacts<br>• Infrastructure challenges at ports<br>• Future costs depend on cost of renewable electricity and availability of engine (evaluation is still ongoing) |



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# India's role in Energy Transition for shipping

## Energy Transition in India

**Supply:** potential for conducive markets for producing green hydrogen (H2) and its derivates.

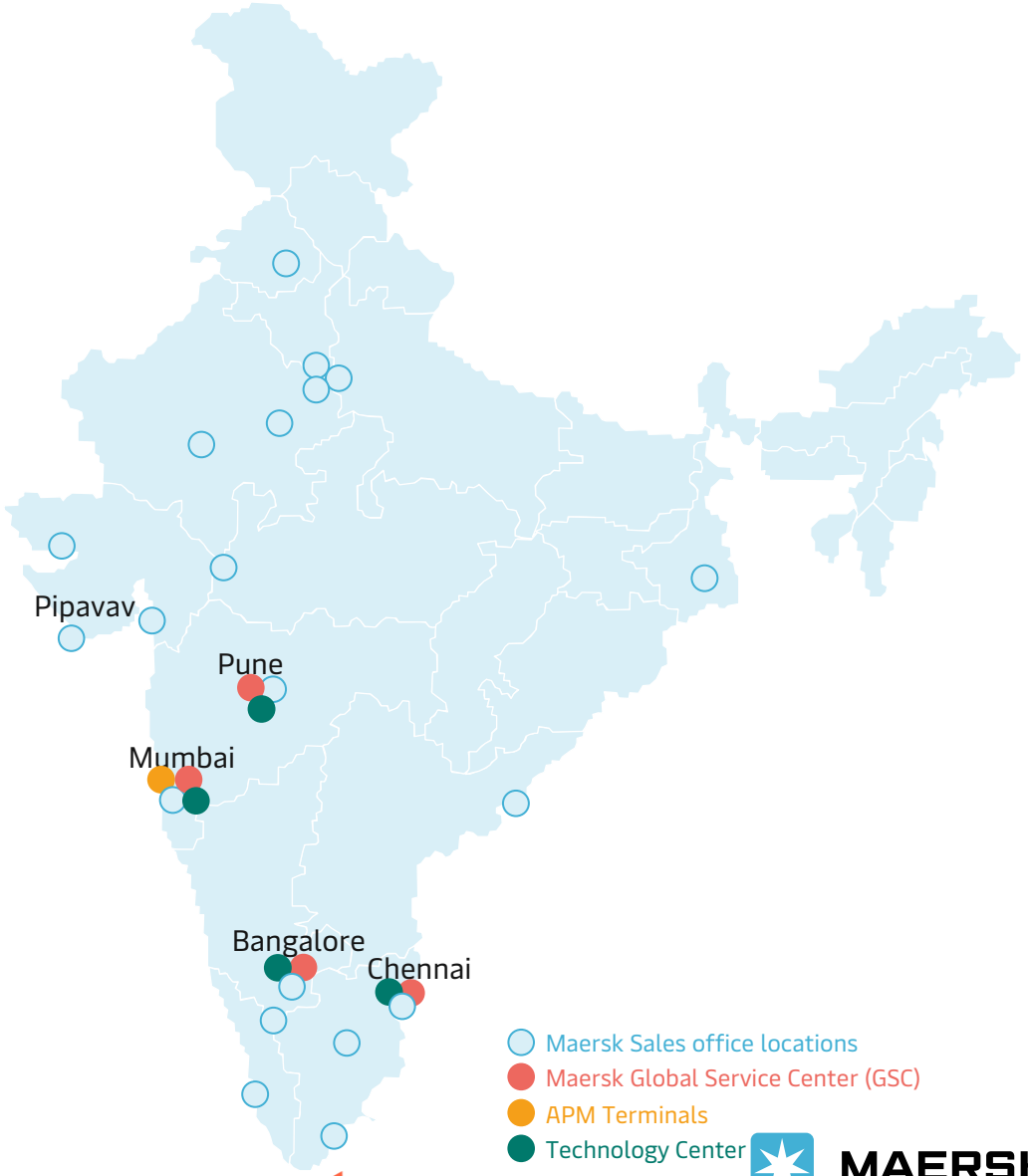
**Drivers:** unique blend of natural advantages, supportive policies, and strong government backing.

**Differentiators:** one of the lowest renewable energy costs worldwide, underpinned by India's natural resources, including solar and wind energy, and a surplus of biomass

**Government policies**

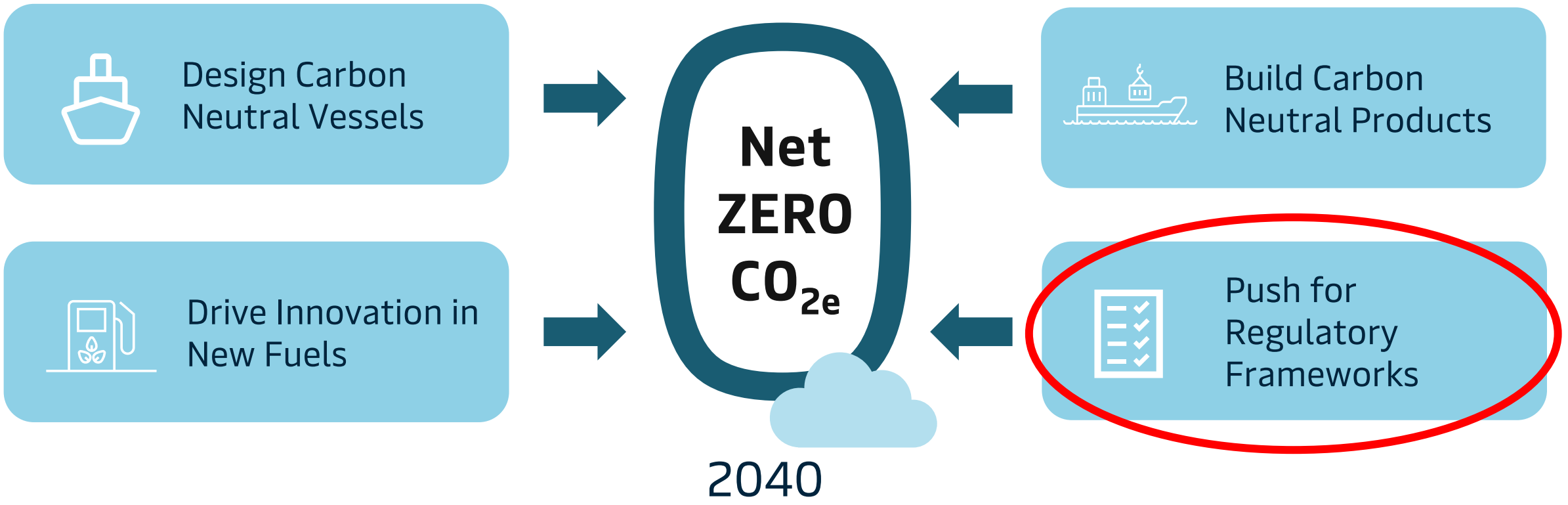
Government initiatives further strengthen India's position in the green H2 market

To fully unlock the potential strong regulation is needed globally



# Regulation as Enabler

## For Energy Transition



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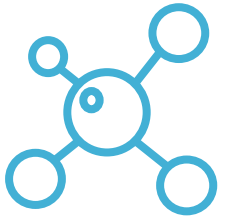
# A Level Regulatory Playing Field
## is key to achieving full decarbonisation

### Five critical policy levers

Strong pricing Mechanism to bridge the price gap between fossil & green fuels.


A well-to-wake approach is required (lifecycle perspective to decarbonisation).

Must look beyond $CO_2$ & include all GHG, notably methane & nitrous oxide.



Good carbon needs to be captured & used.

Need for global regulation to address all emissions and secure just transition



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# 2024 – The Year of the IMO?



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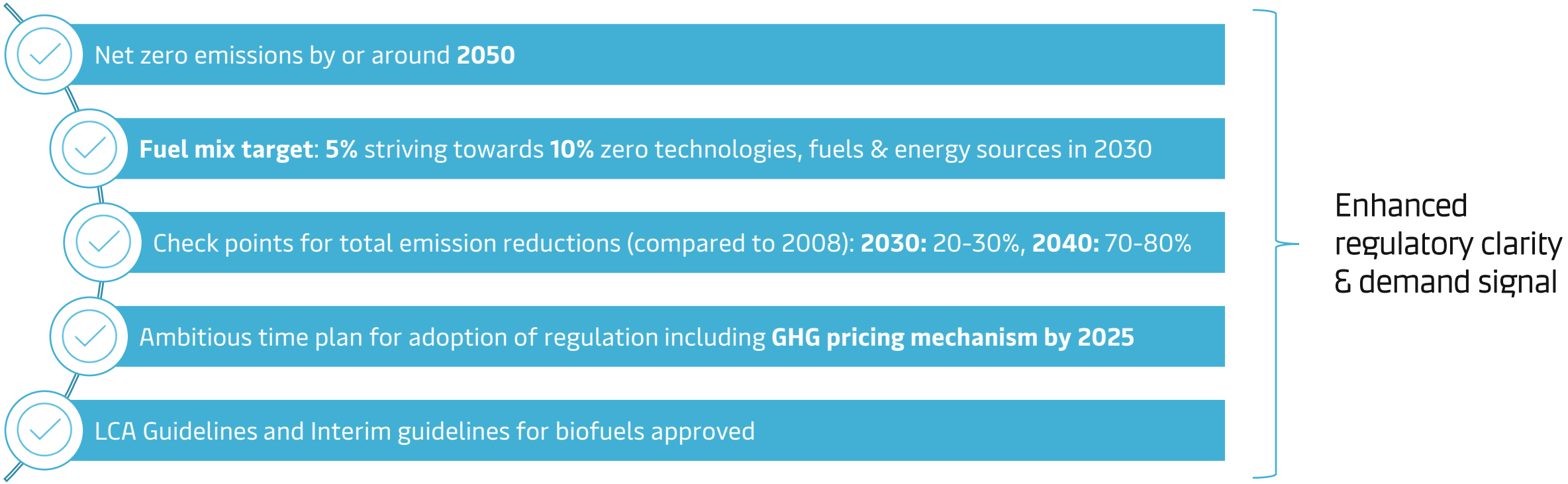
# IMO GHG 2023 Strategy

## Targets



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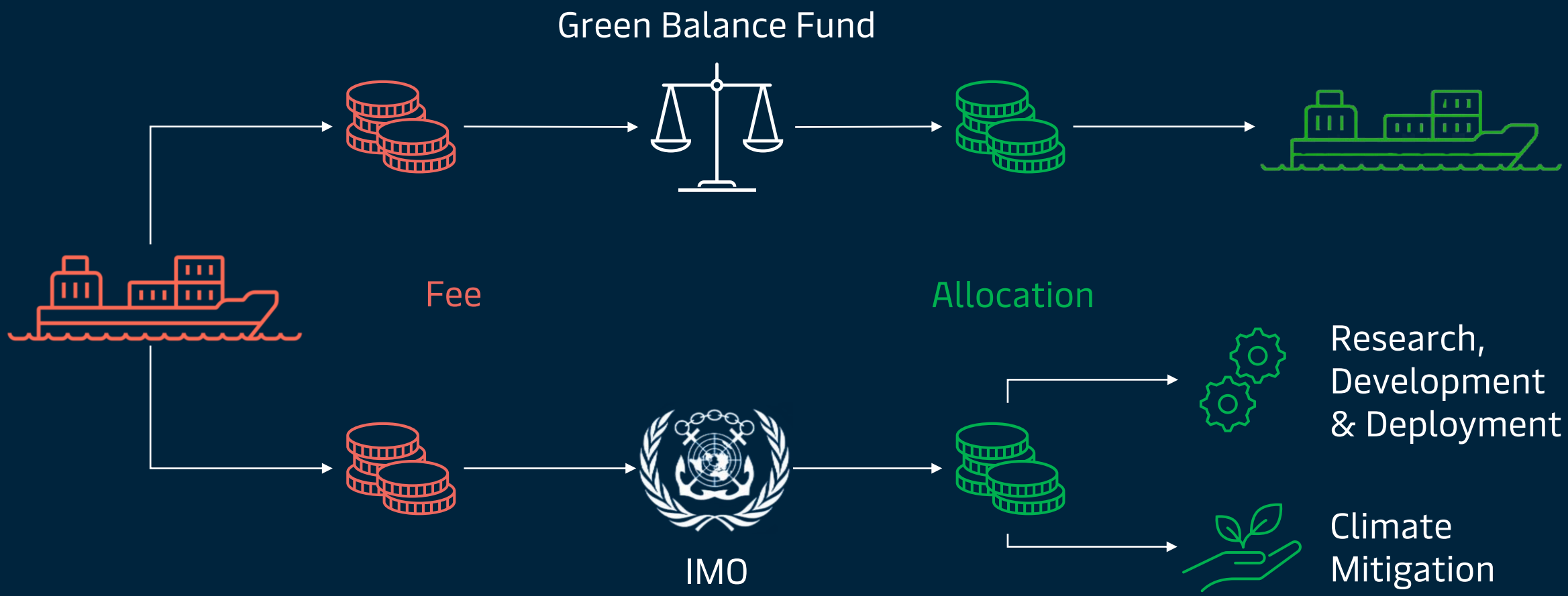
# World Shipping Council proposal for a Green Balance Mechanism



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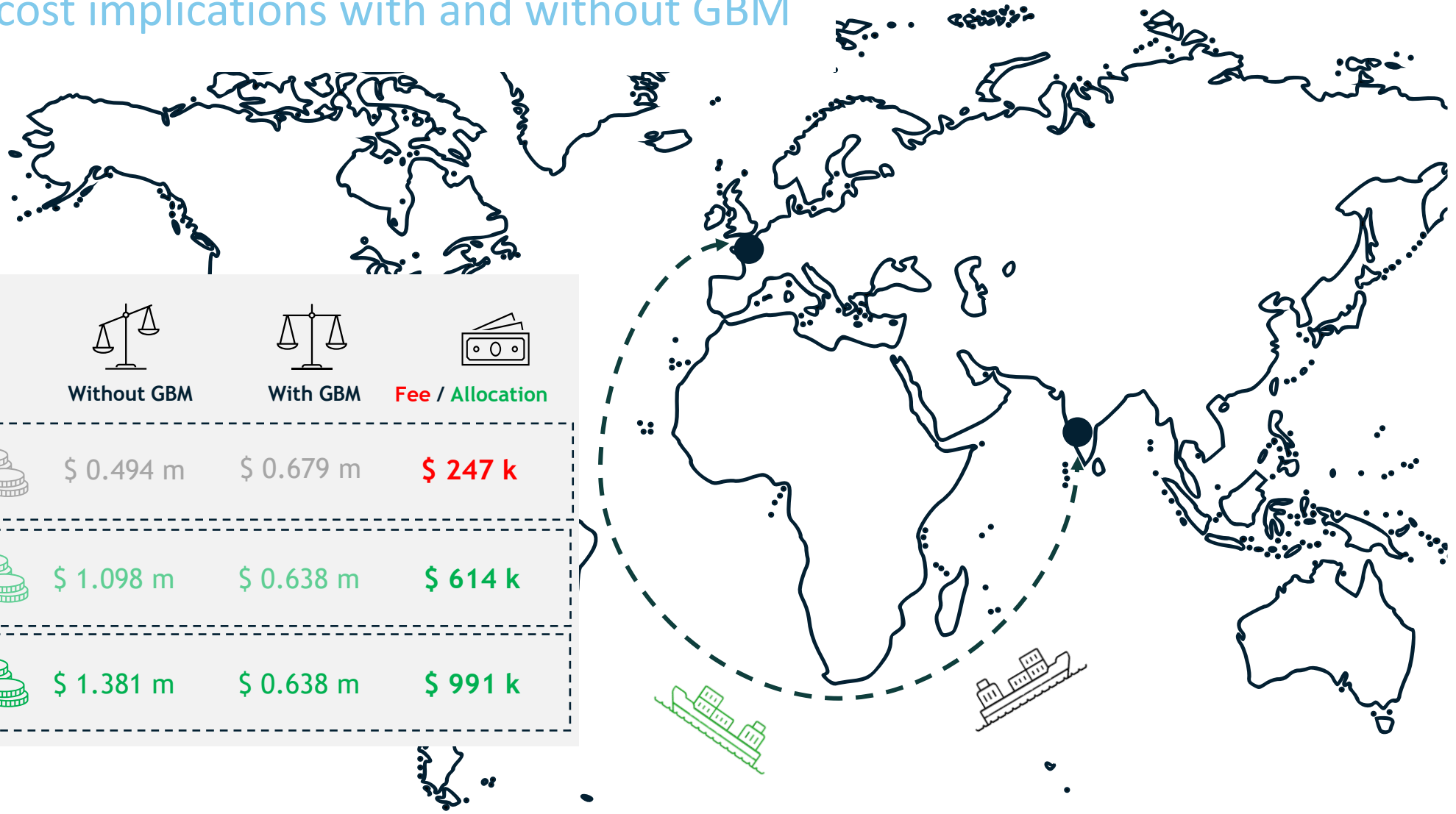
# Example: sailing the From India to Europe

## – Estimated cost implications with and without GBM



| Fuel GHG Reduction | Without GBM | With GBM | Fee / Allocation |
|---|---|---|---|
| 0% | $ 0.494 m | $ 0.679 m | $ 247 k |
| 67% | $ 1.098 m | $ 0.638 m | $ 614 k |
| 86% | $ 1.381 m | $ 0.638 m | $ 991 k |

*Example is illustrative & use rough average estimates. Does not consider any other regulatory costs, such as EU ETS.

# Thank you