

GLOBAL ALLIANCE POWERFUELS BRIEF

Powerfuels in Maritime Transport



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German Energy Agency

AGENDA

1

Introduction

Stefan Siegemund, Director Mobility, German Energy Agency



Stefan Siegemund
Director Mobility,
German Energy Agency

2

Presentation of Alliance's analysis

Hannes Salomon, Expert Mobility, German Energy Agency



Hannes Salomon
Expert,
German Energy Agency

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Presentations of guest speakers

Tue Johannessen, Head of Maritime Application & Viability, Mærsk Mc-Kinney Møller
Center for Zero Carbon Shipping

Cees Boon, Sector Coordinator Harbour Master Policy Department, Port of Rotterdam

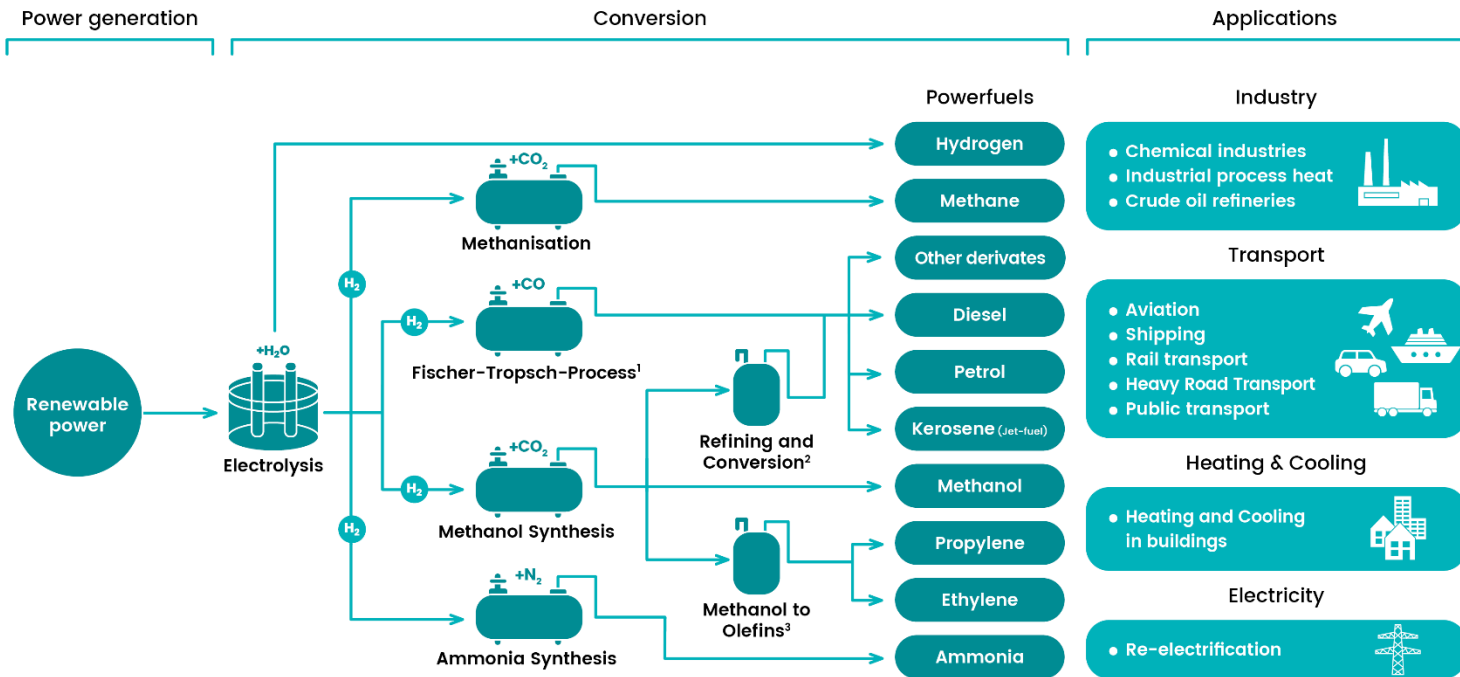
Ricardo Batista, Policy Officer, Waterborne Transport, Directorate General for Mobility &
Transport (DG MOVE), European Commission

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Panel discussion



What are powerfuels?



¹ Includes: Fischer-Tropsch synthesis, hydrocracking, isomerization and distillation.

² Includes: DME/OME synthesis, olefin synthesis, oligomerisation and hydrotrating.

³ Methanol-to-olefins process.

We strive to develop a global market for powerfuels with a unique combination of activities as...

Network



- + Raising awareness for the necessity of powerfuels
- + Sharing knowledge as network and information hub
- + Facilitating dialogue and exchange among partners and members united by a common mission

Think Tank



- + Providing strategic guidance for decision makers
- + Supporting the strategic development of the EU regulatory framework
- + Developing market and sustainability guidelines

Matchmaker



- + Sparking new exchange between stakeholders
- + Keeping an overview of market development
- + Identifying business opportunities
- + Initiating projects for the production of powerfuels



Our global network

Our members



Our partners



Alliance's publication: Factsheet on powerfuels in maritime transport

1

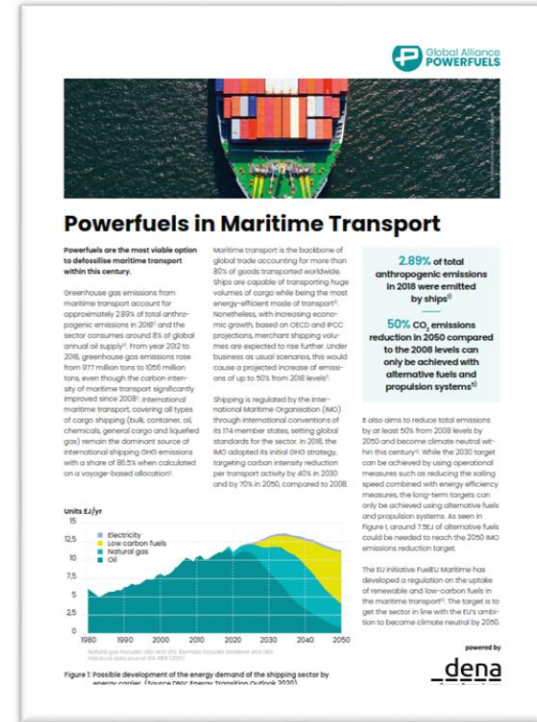
GHG emissions from maritime transport

2

IMO GHG Strategy and the EU FuelEU Maritime Regulation

3

Comparison of alternative shipping fuels



GHG emissions from maritime transport

Key data



- + Maritime transport is the backbone of global trade
 - Accounts for ~80% of goods transported worldwide
 - Most energy-efficient mode of transport
- + Shipping volumes are expected to rise further (based on OECD and IPCC projections)
- + Energy consumption: 3% of global demand and 8% of annual oil supply

GHG Emissions

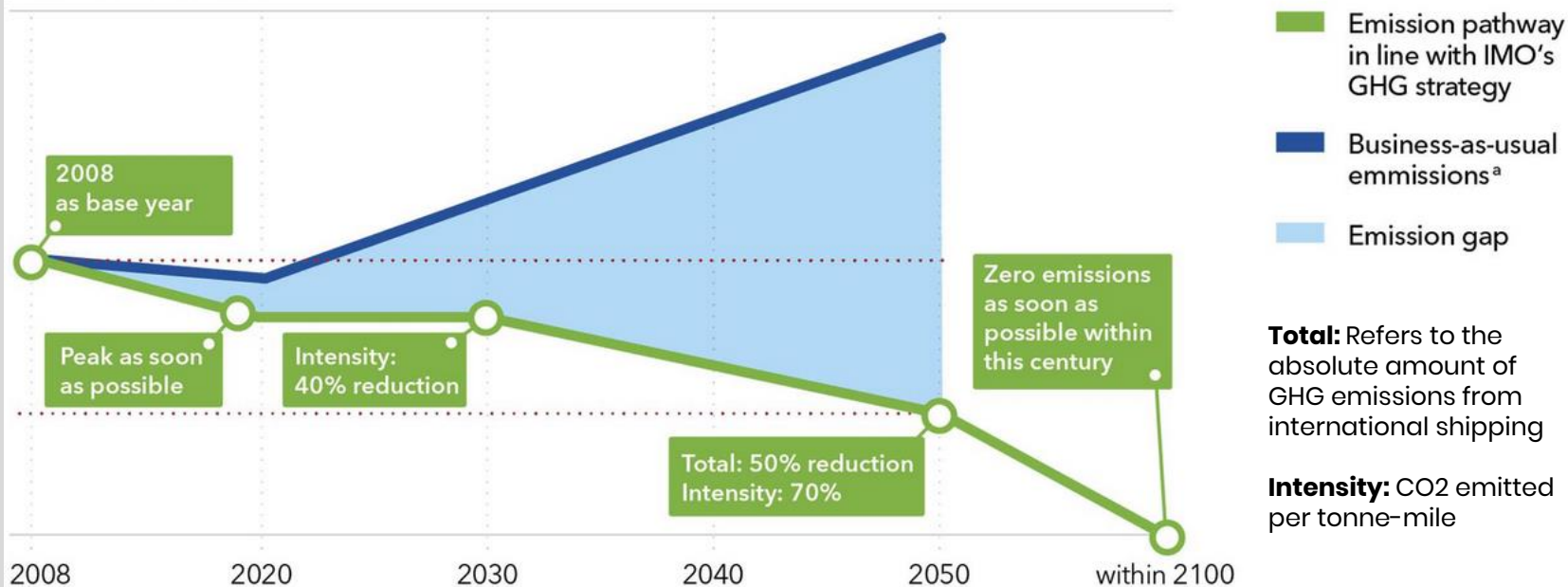


- + 2.89% of total anthropogenic emissions in 2018
 - Of which 86.5% from cargo shipping
- + From 2012 to 2018, GHG emissions rose from 977 to 1056 million tons
 - Despite improvements in carbon intensity of transport per tonne-km
- + If no action is taken, emissions will continue to increase



IMO GHG Strategy

Units: GHG emissions



Source: DNV, 2018a. Energy transition outlook 2018. Maritime Forecast to 2050



EU “Fit for 55” package: Fuel EU Maritime Regulation

Target & key obligations

- + Target: Increase the use of renewable and low-carbon fuels
- + Key obligations for ships in EU:
 - Reduction of the GHG-intensity of energy consumed on vessels

Year	2025	2030	2035	2040	2045	2050
GHG Intensity	-2%	-6%	-13%	-26%	-59%	-75%

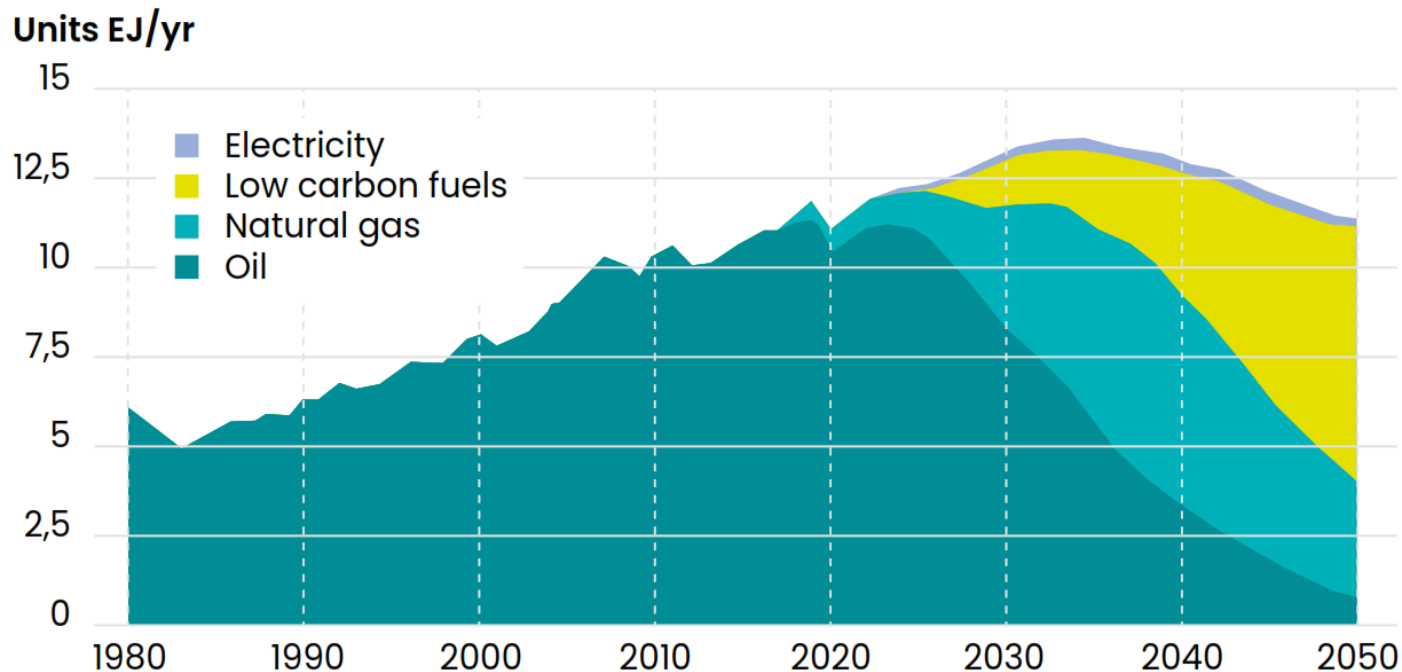
- Obligation to use shore-side electricity or emission-free technologies in ports

Who is affected

- + Ship with gross tonnage of more than 5000
 - Covers 55% of ships arriving in EU ports, accounting for 90% of total emissions.
- + Spatial Application:
 - Energy used in EU ports
 - Energy used on trips between EU ports
 - Half the energy used when landing or leaving an EU port



Fuel mix development in maritime transport

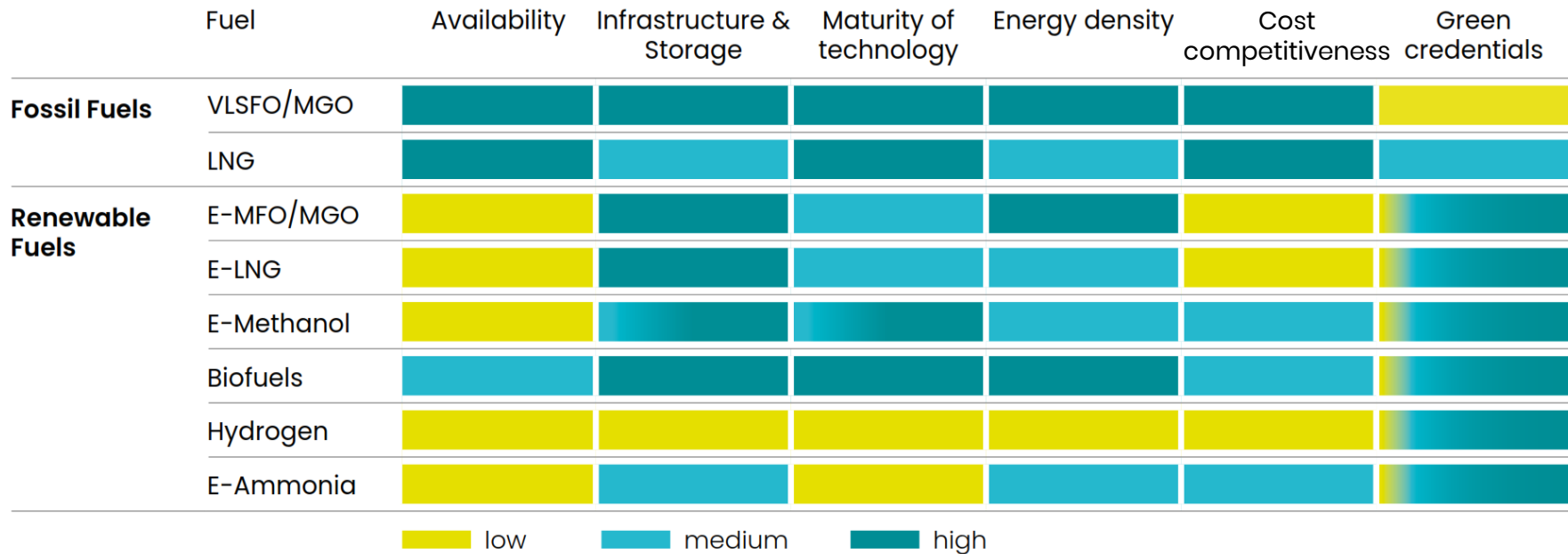


Natural gas includes LNG and LPG. Biomass includes biodiesel and LBG.
Historical data source: IEA WEB (2019)

Source DNV: Energy Transition Outlook 2020, Scenario



Alternative fuel options



Q & A and Discussion



Dr. Tue Johannessen

Head of Maritime Application and Viability
Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping



Cees Boon

Sector Coordinator Harbour Master Policy Department
Port of Rotterdam



Ricardo Batista

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Hannes Salomon

Expert – Sustainable Mobility
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