

The role of biofuels in the maritime sector

Which strategy to follow



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Key take-away message

Biofuels are already a cost-competitive low carbon fuel option for shipping containing no (or only limited) sulphur.

However, a 'dedicated' marine low carbon fuel has not yet been developed.

Design criteria:

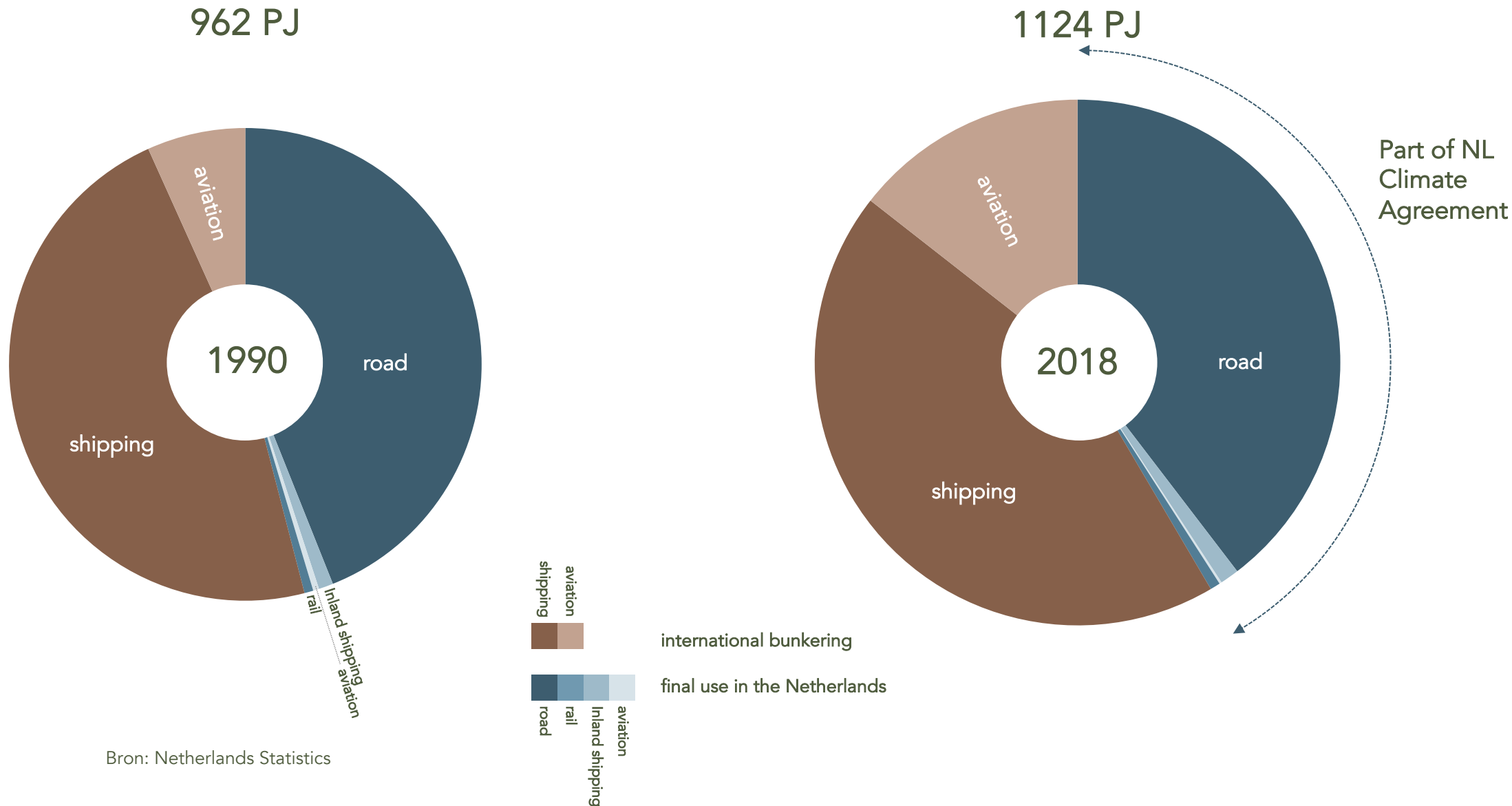
- Fuel on basis of extensive feedstock base
- Price competitive conversion
- Compatibility with existing engines
- New engines / new vessels have other options
- Biorefinery: multiple markets
- Development to e-Refinery and electrochemical fuels

Netherlands Platform Sustainable Biofuels

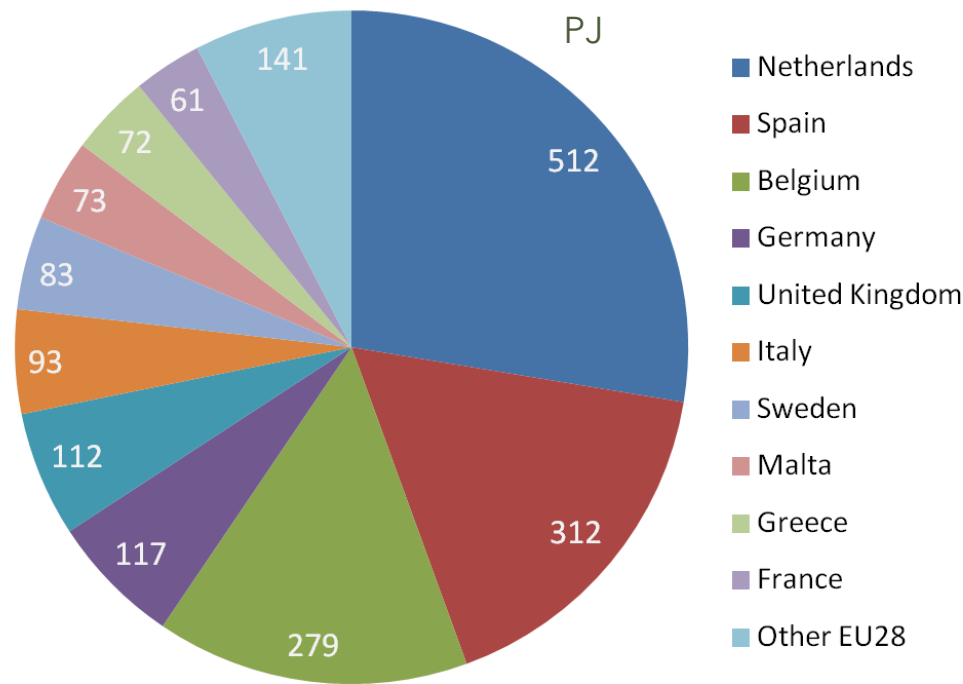


- Independent knowledge and innovation platform on all biofuels and renewable fuels
- Initiated partly financed by the NL Ministry of Infrastructure and Water Management
- An association of sector players
- Founded October 2016
- **Mission:** reducing climate impact in transport, stimulating demand and deployment of renewable fuels and their production, enabling built-up of biobased economy

NL International bunkering outnumber the transport fuels on Dutch territory



Energy in the EU international shipping sector



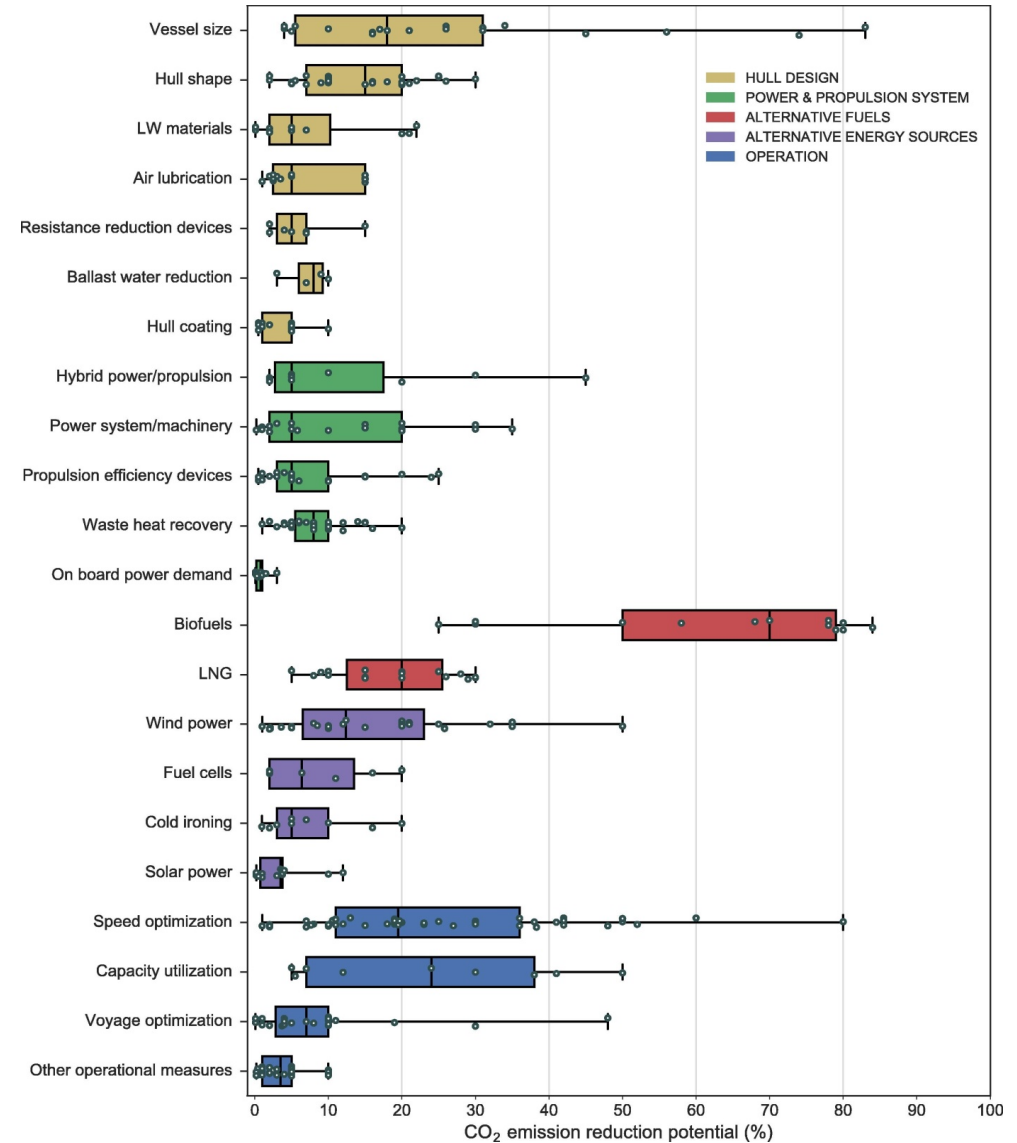
	Netherlands		EU	
Sector	Int. shipping	Road & Rail	Int. shipping	Road & Rail
Energy use (PJ)	512 PJ	415 PJ	1849 PJ	8830 PJ
CO2 emissions (mln tCO2-eq)	40,5	29,4	147	890

Source: Eurostat: (data for 2016)

A 2030 14% renewables target would equal **260 PJ** (2020 FuelsEU Maritime initiative?)

Shipping CO₂ emission reduction potential from individual measures

A 2017 review of around 150 studies by Bouman et al. pointed to biofuels as having the highest CO₂ emissions reduction potential, compared to other energy efficiency and alternative fuel options.



Three Platform publications on renewable fuels in shipping



Opt-in or obligation will favour utilisation in shipping over aviation and road



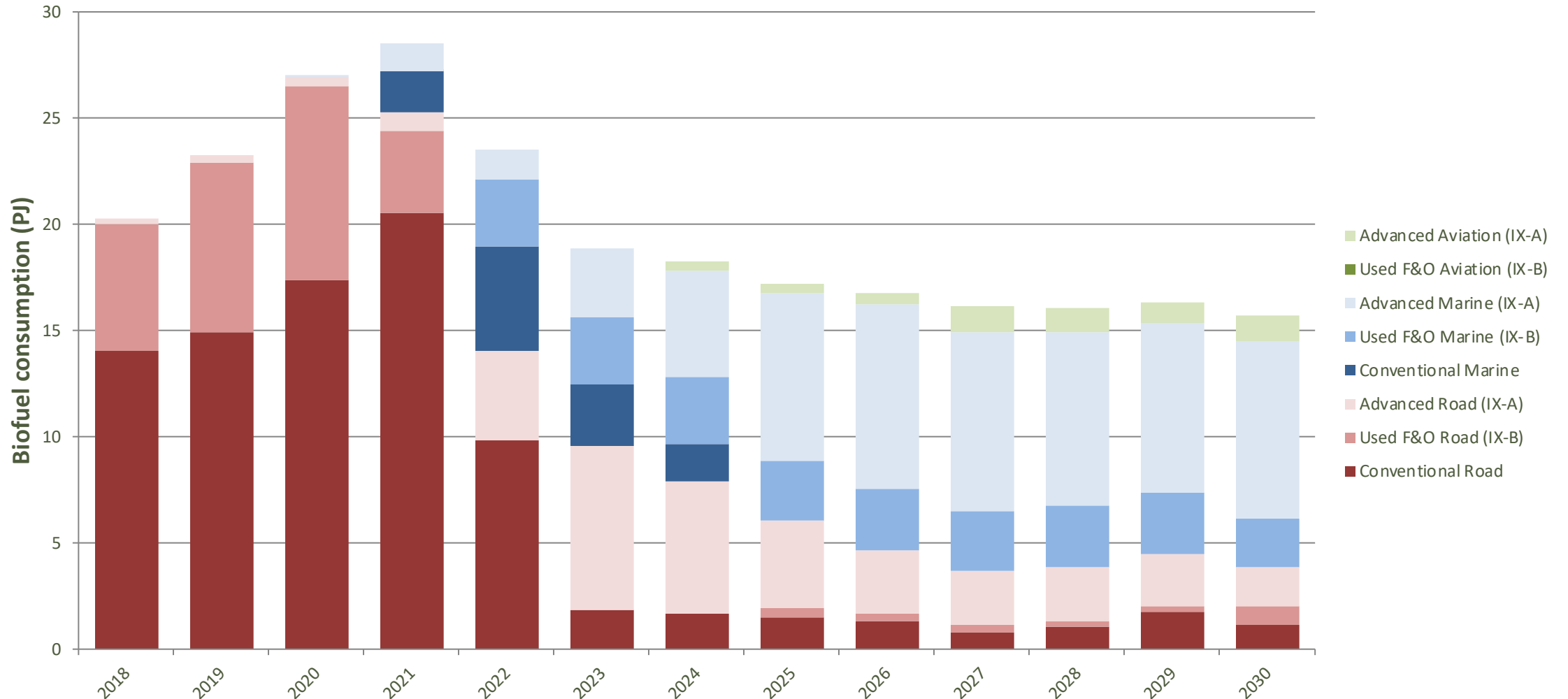
Wide range of biofuel options exists
Different status of 'drop-in fit'



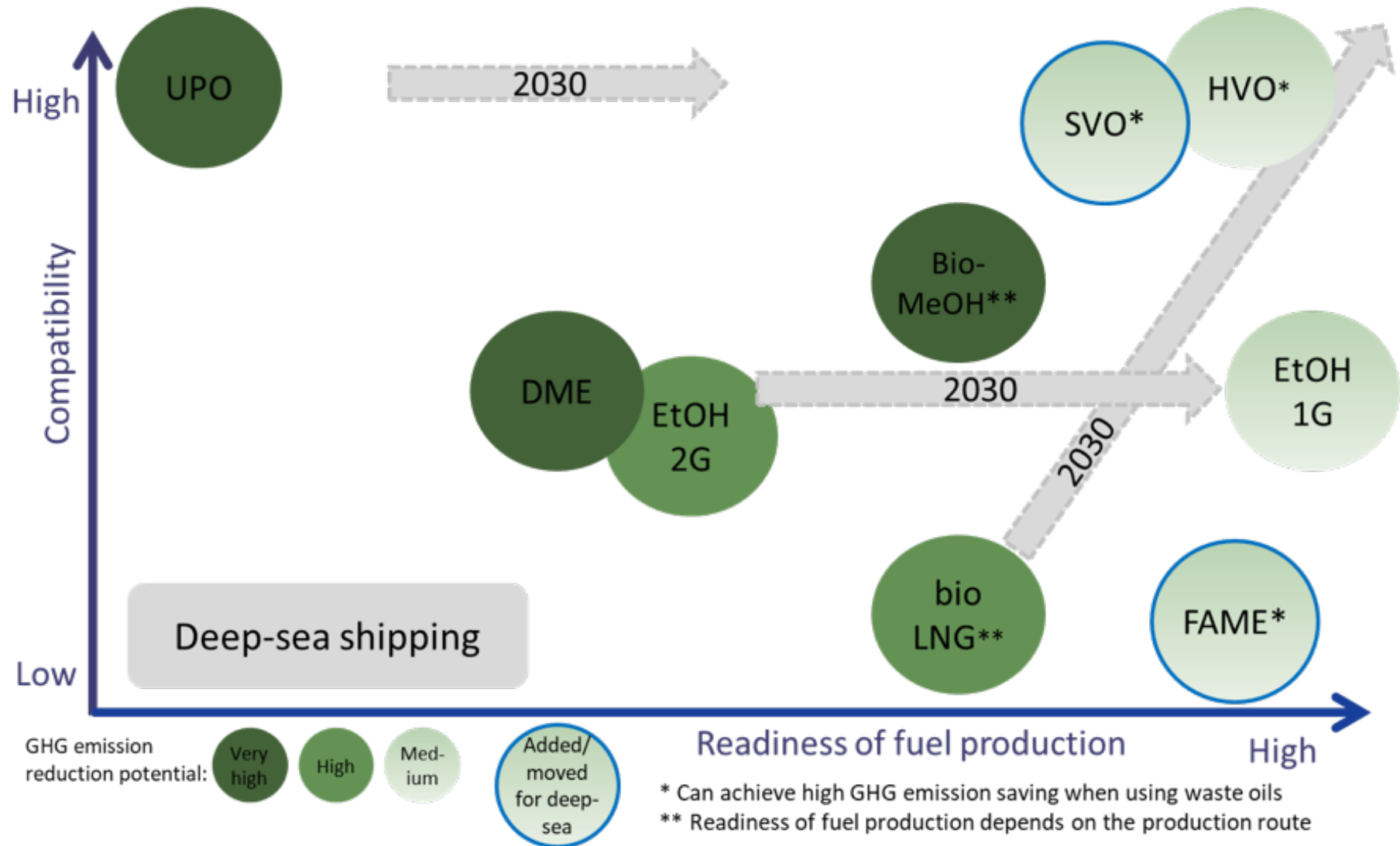
Stakeholders: the sector needs measures for the deployment of renewable energy in shipping'

Competition for biofuels between transport sectors, scenario for NL

NL biofuel deployment under RED II (baseline)



Biofuel options for deep-sea shipping



What should be on the roadmap agenda

- Address technical, economic and operational barriers to the use of biofuels in shipping
- Develop dedicated marine low-carbon biofuels taking into account:
 - Access to resources
 - Dedicated technology development for cost-competitive marine engine-fuel conversion
 - Development of bio-refinery / e-refinery business cases
- Start developing instruments (obligations) at EU-level to cope with IMO

More information:



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