Nordic Roadmap case study Gothenburg – Frederikshavn

Perspectives on public support opportunities

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Stena Line in numbers

6,100
employees

20 ferry routes
6 owned ports

40 vessels
33,300 yearly sailings

360+
energy saving projects

2.1
million freight units

1.8
million cars

6.5
million guests

19
billion SEK
in turnover

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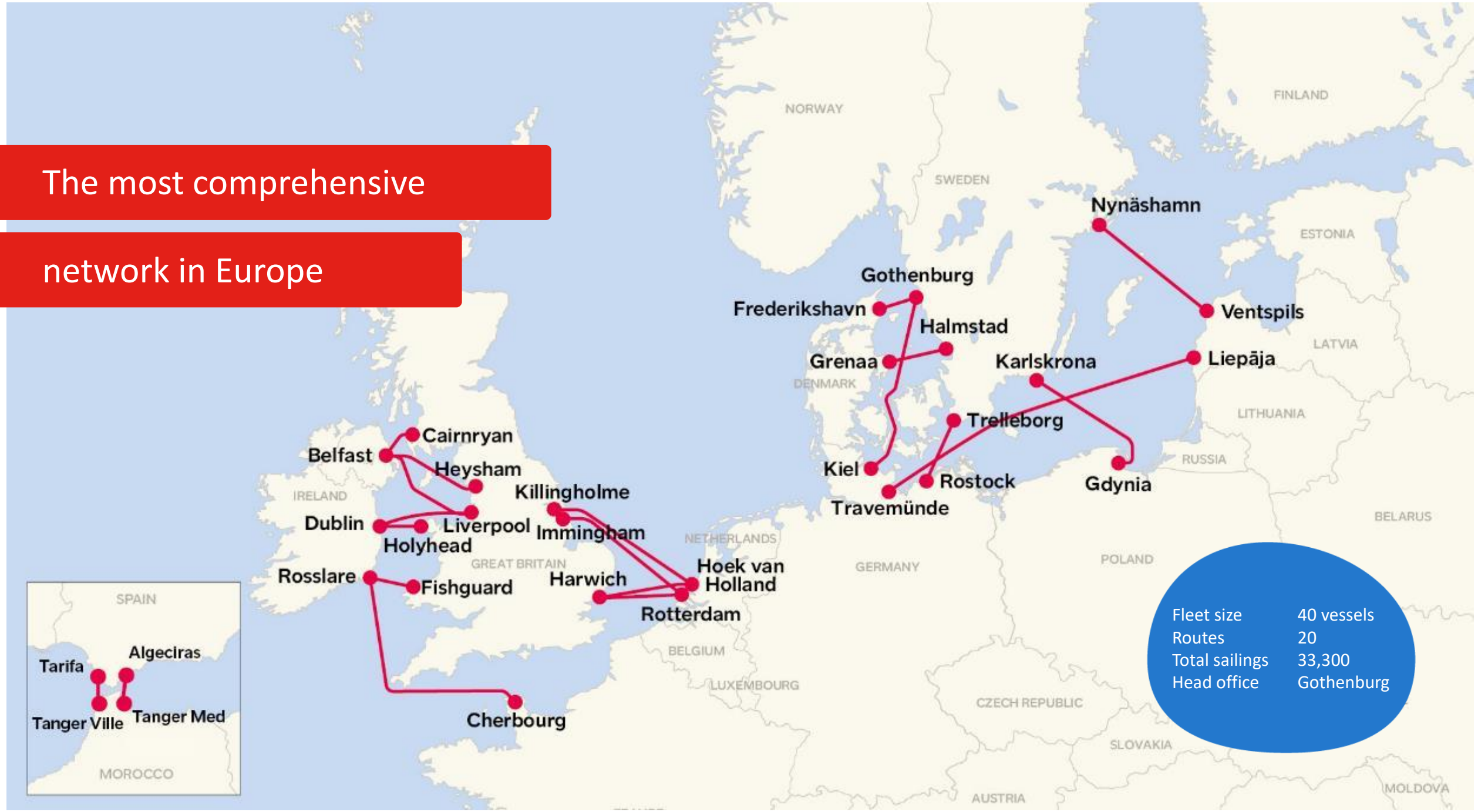
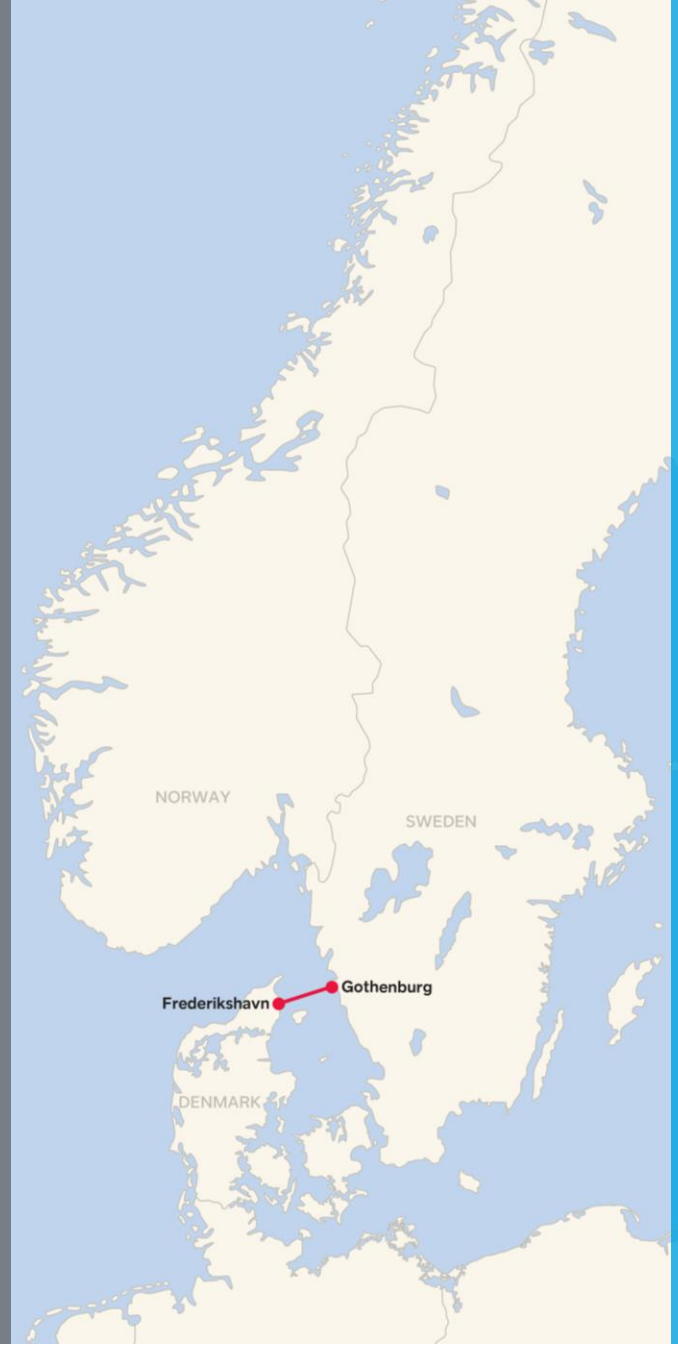
The most comprehensive network in Europe



Fleet size	40 vessels
Routes	20
Total sailings	33,300
Head office	Gothenburg

GOT-FRE service

- Stena initiated RoPax concept, has operated service between Gothenburg and Frederikshavn for more than 50 years
- Today two RoPax ferries operates the 40+ NM service
- A few concept studies for the service have been performed focusing on e.g., electrification and hydrogen
- Stena Line introduced methanol at the Gothenburg – Kiel service in 2015



Nordic Roadmap Pilot aim:

- Identify key barriers and next steps to turn the Gothenburg-Frederikshavn ferry route into a green shipping corridor by promoting most relevant fuel and propulsion solutions to be introduced near to mid-term.

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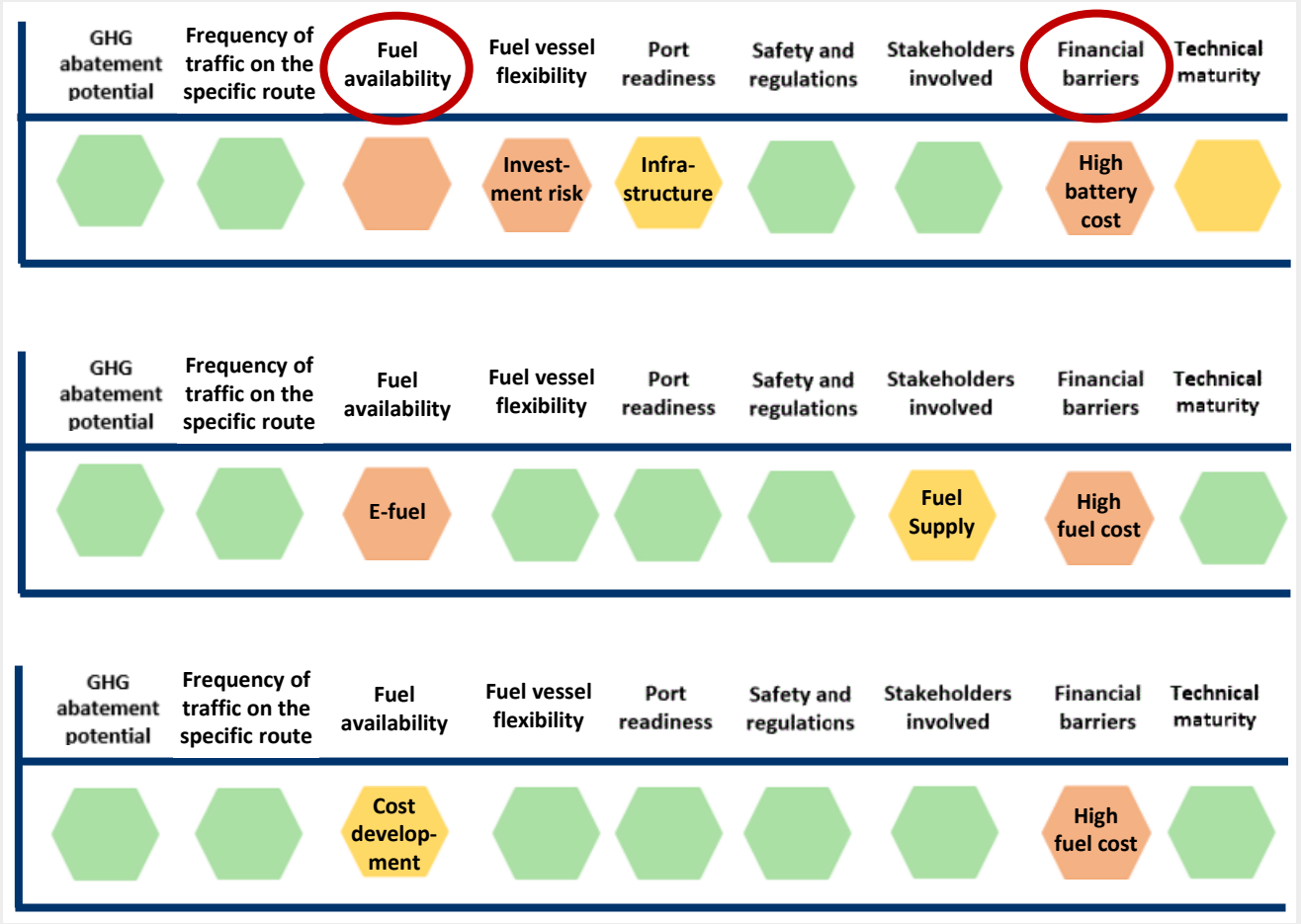
Key barriers for turning the Gothenburg-Fredrikshavn ferry route into a green shipping corridor:



Main barriers / challenges

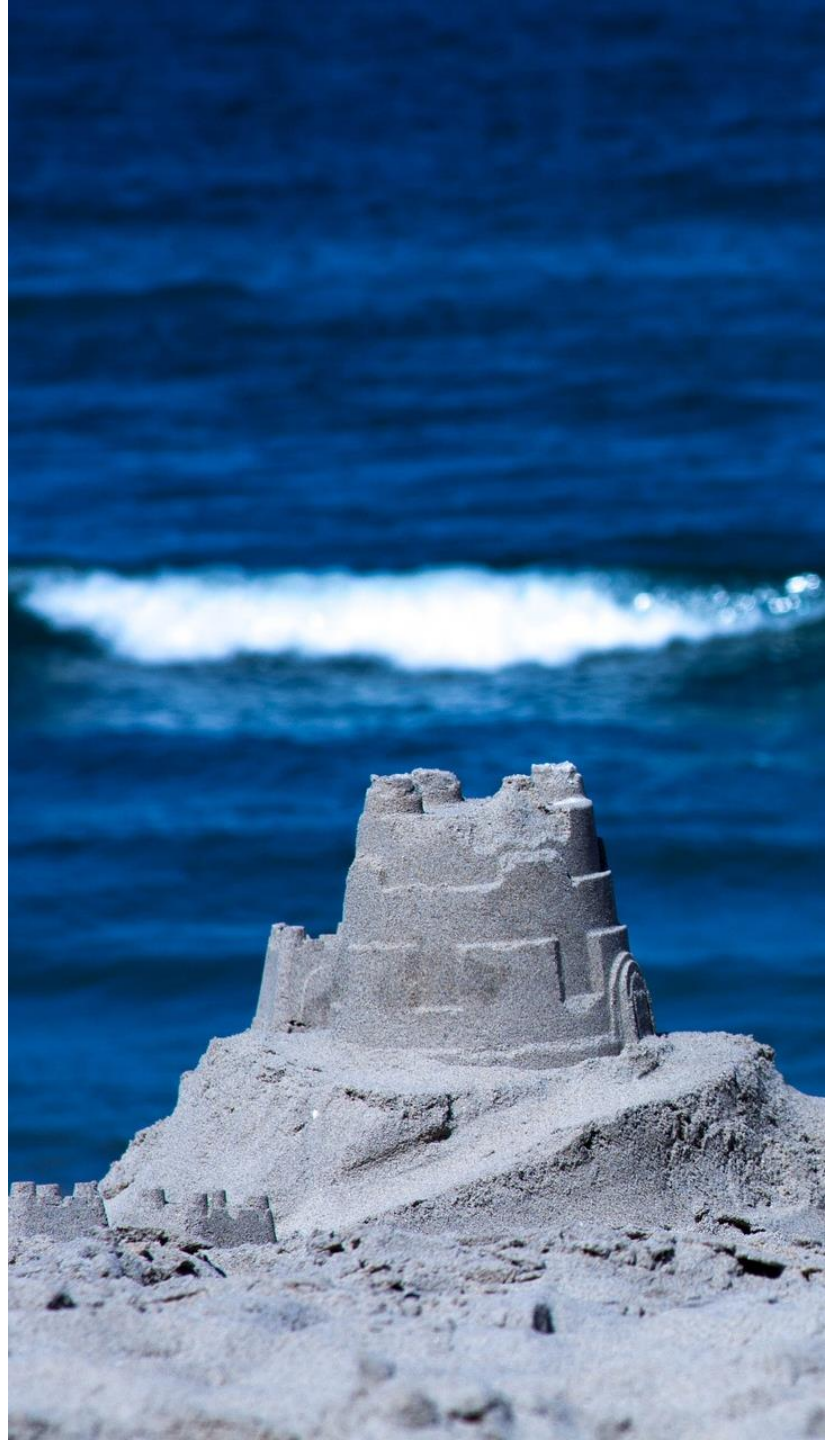
- High investment
- Economical risk - Uncertain second market value
- Power capacity

- Green methanol availability
- Fuel cost

- Biofuel availability
- Fuel cost

Costs and demand – a key challenge

- Shifting to renewable fuel and propulsion options in shipping increases costs significantly
- Cost and risk sharing between shipping actors and society needed
- Green shipping corridors: a starting mechanism for the marine fuel transition



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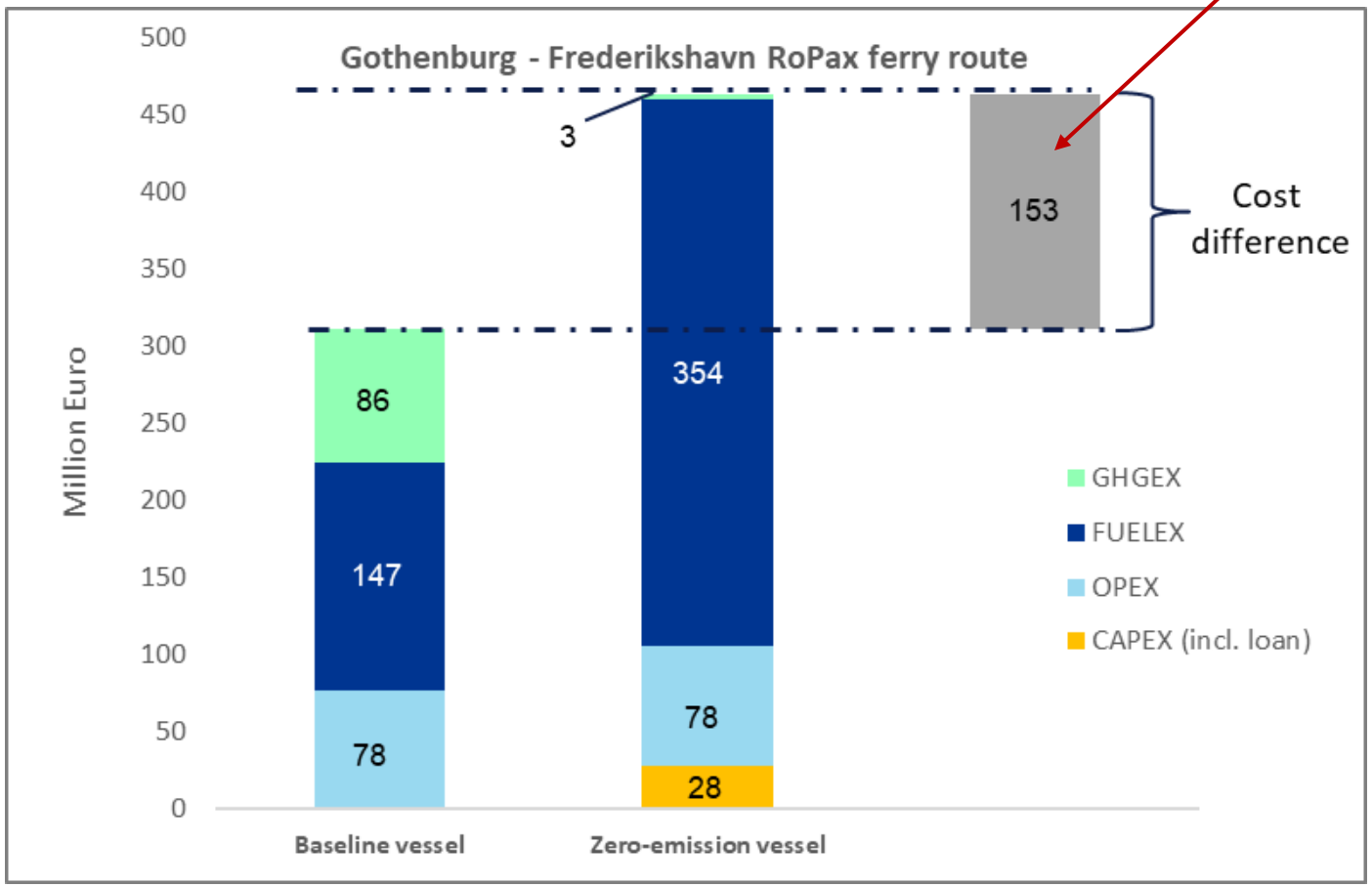
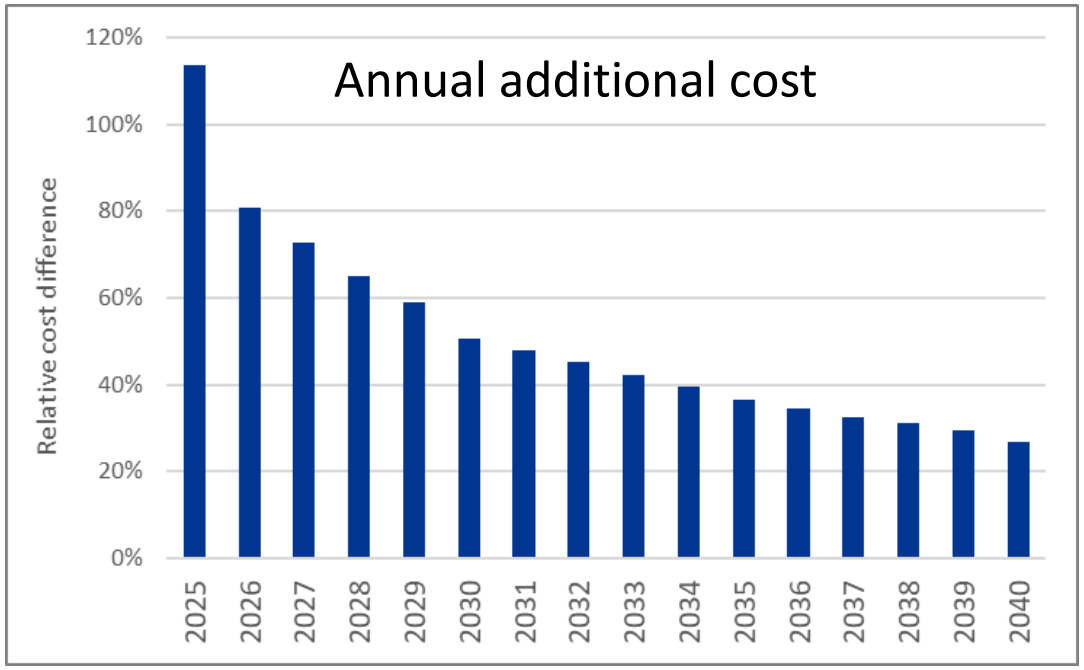
Rough Cost Gap Estimate for Gothenburg-Fredrikshavn ferry 2025-2040, baseline vs e-methanol

Substantial cost gap!





Reference: DNV, forthcoming. Funding opportunities for Nordic green shipping corridors

Challenges identified

- Cost gap need to be reduced
- A complex puzzle of funding sources
- Current implemented policies not enough to support large-scale marine fuel shift in the short-to-mid term
- Existing support systems generally lack focus on green shipping corridors or shipping in general

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Way forward

- Establish level playing field and enable the introduction of Nordic green shipping corridors
- Policies for closing the cost gap
- Risk sharing mechanisms for investments
- Use existing support systems to the extent possible
- But existing support systems need to be aligned with green shipping corridors concept or marine fuel transition
- More public funding needed
- Support build-up of green marine fuel production capacity as well as sufficient power supply in ports

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Thank you!