



WHEN TRUST MATTERS

Fuel Transition Roadmap for Nordic Shipping

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The Nordic roadmap project (2022-2025)

Nordic collaboration with 70 partners coordinated by DNV and funded by the Nordic Council of Ministers

Objectives:

- Gain **technical knowledge** and regulatory development
- Establish a **Nordic collaboration platform** and **green shipping corridor pilot studies**
- Develop a **Nordic fuel transition roadmap**



- Fuels in focus: ammonia, hydrogen and methanol
- 10 technical deliverables to date
- 3 ongoing green shipping corridor pilot studies

For more information,
visit the project website:

<https://futurefuelsnordic.com/>

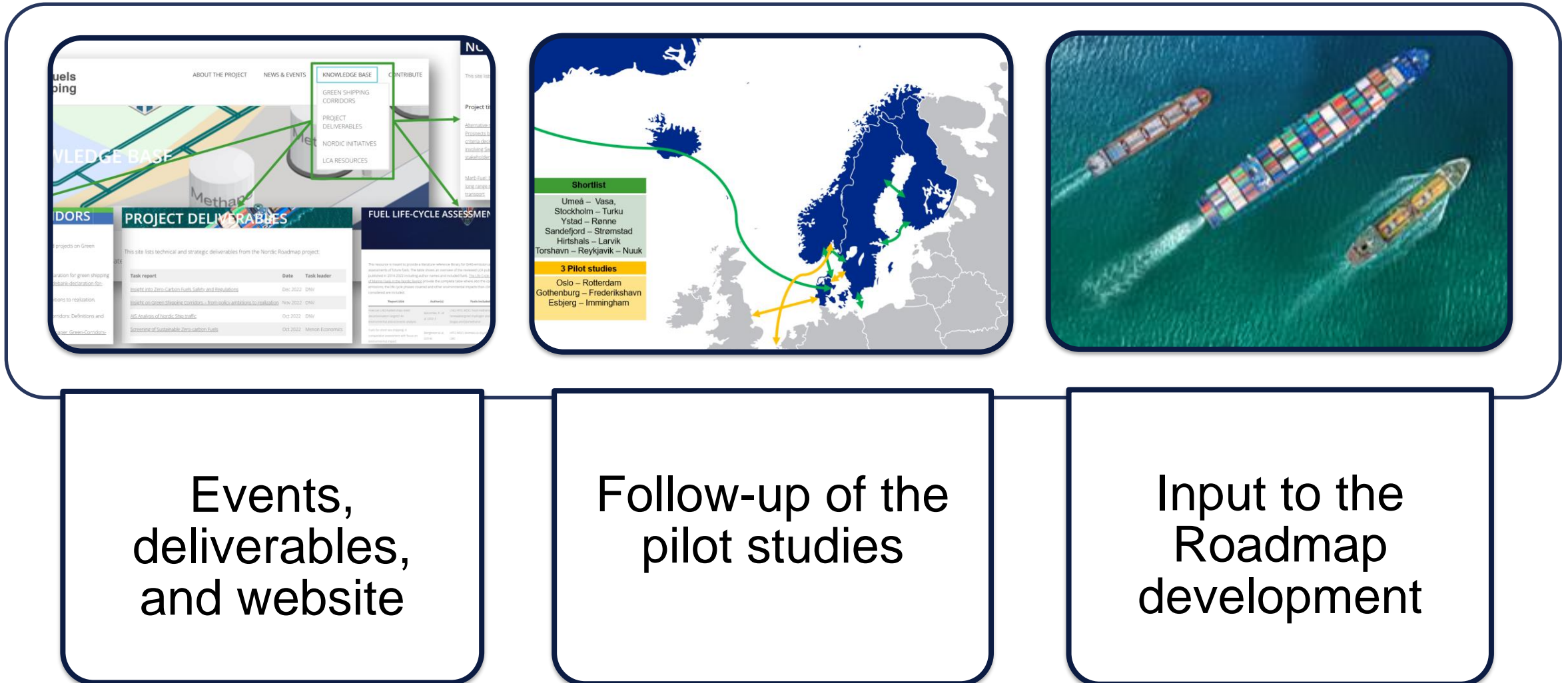


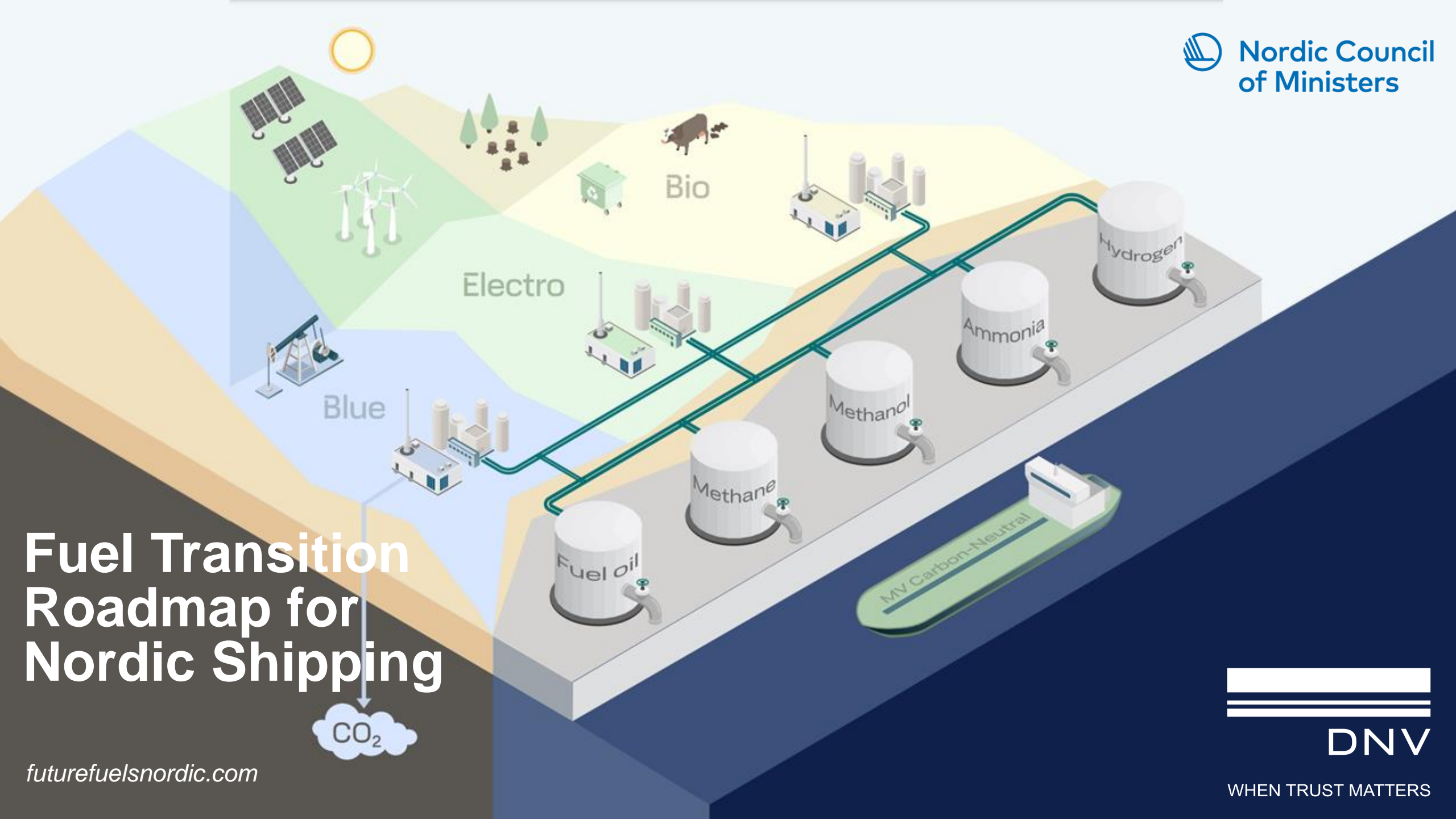
Ten technical deliverables to date



Reports available at: <https://futurefuelsnordic.com/project-deliverables/>

The Nordic collaboration platform





Fuel Transition Roadmap for Nordic Shipping



Vision for Nordic shipping

The Nordic vision is “*to become the most sustainable and integrated shipping region in the world*”, and a global force for accelerating the green transition of the transport sector.

The 2023 IMO GHG strategy and other Nordic commitments on green shipping corridors, green transition, cooperation on transport, infrastructure and energy supply.

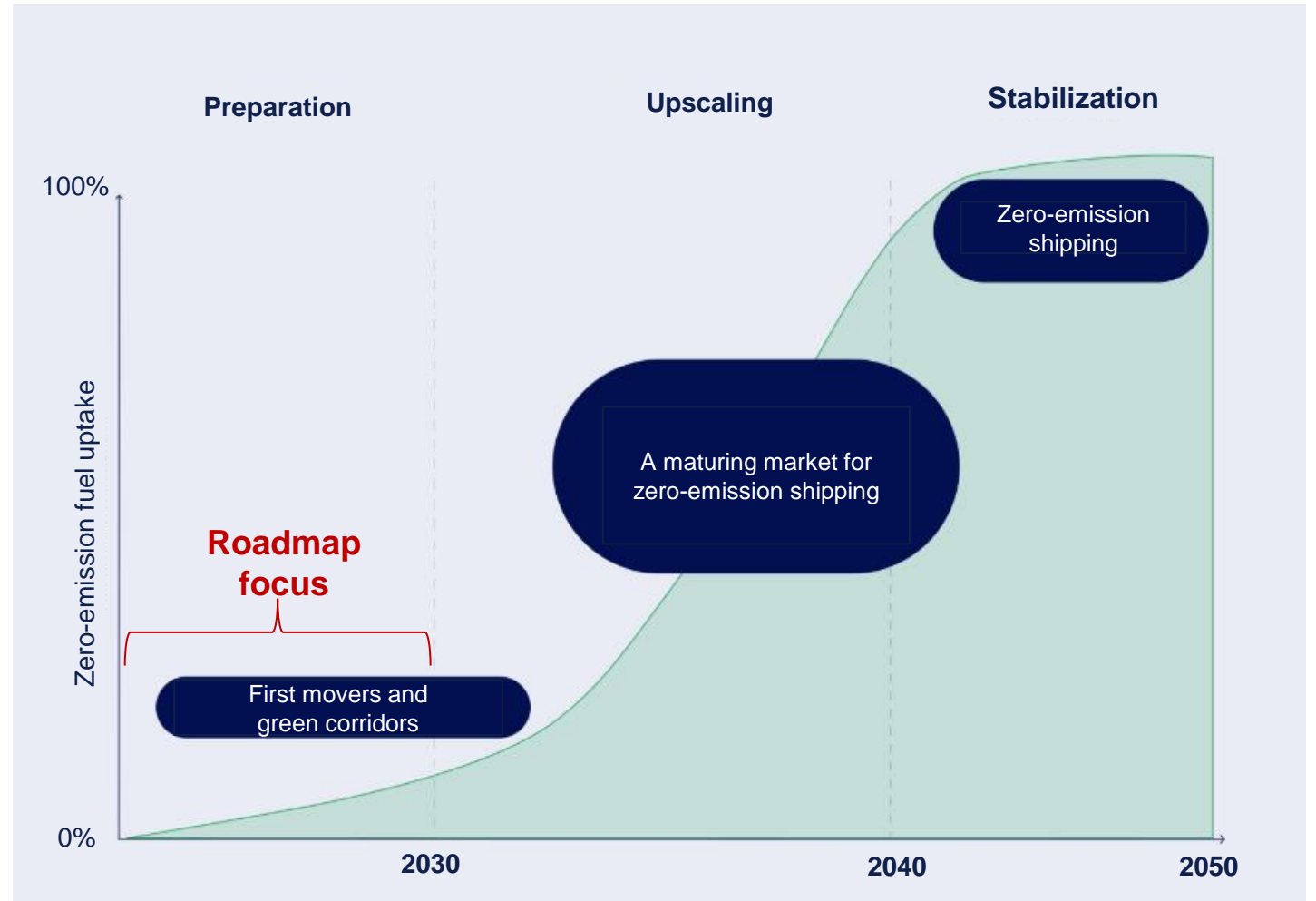
Goals for Nordic shipping

To achieve the main goal of **zero-emission shipping by 2050**, the roadmap defines the following milestones:

- By 2025, the first green shipping corridor shall be realized.
- By 2030, zero or near-zero GHG emission technologies, fuels and/or energy sources should represent **at least 10%** of the energy used by Nordic shipping.
- By 2040, zero or near-zero GHG emission technologies, fuels and/or energy sources should represent **at least 90%** of the energy used by Nordic shipping.

The Fuel Transition Roadmap for Nordic shipping

- Aims to **accelerate** the uptake of zero-emission fuels in the Nordics
- Assumes that the fuel transition follows an **S-curve**
- Critical for success to get **input** from all players in the maritime value chain



The S-curve can describe the market development of many new technologies, including uptake of LNG and battery powered ships

Roadmap content

Zero-emission by 2050



Chapter 1 Introduction

Chapter 2 Goals and vision for Nordic shipping

Chapter 3 Nordic shipping today

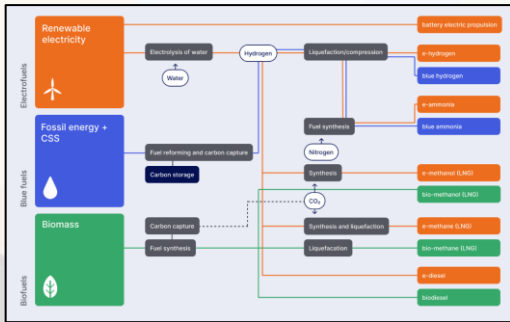
- Status on ship traffic, fuel consumption and emissions
- Current uptake of zero-emission fuels and technologies

Chapter 4 Zero-emission fuel options and barriers hindering their uptake

Chapter 5 Roadmap Actions

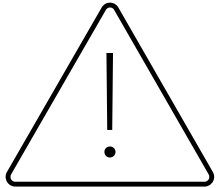
- Seven building blocks

Chapter 6 Moving further: Upscaling and stabilization phases



Barrier focus – what are the key challenges?

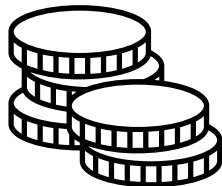
3 key bottlenecks hindering the uptake of zero-emission fuels



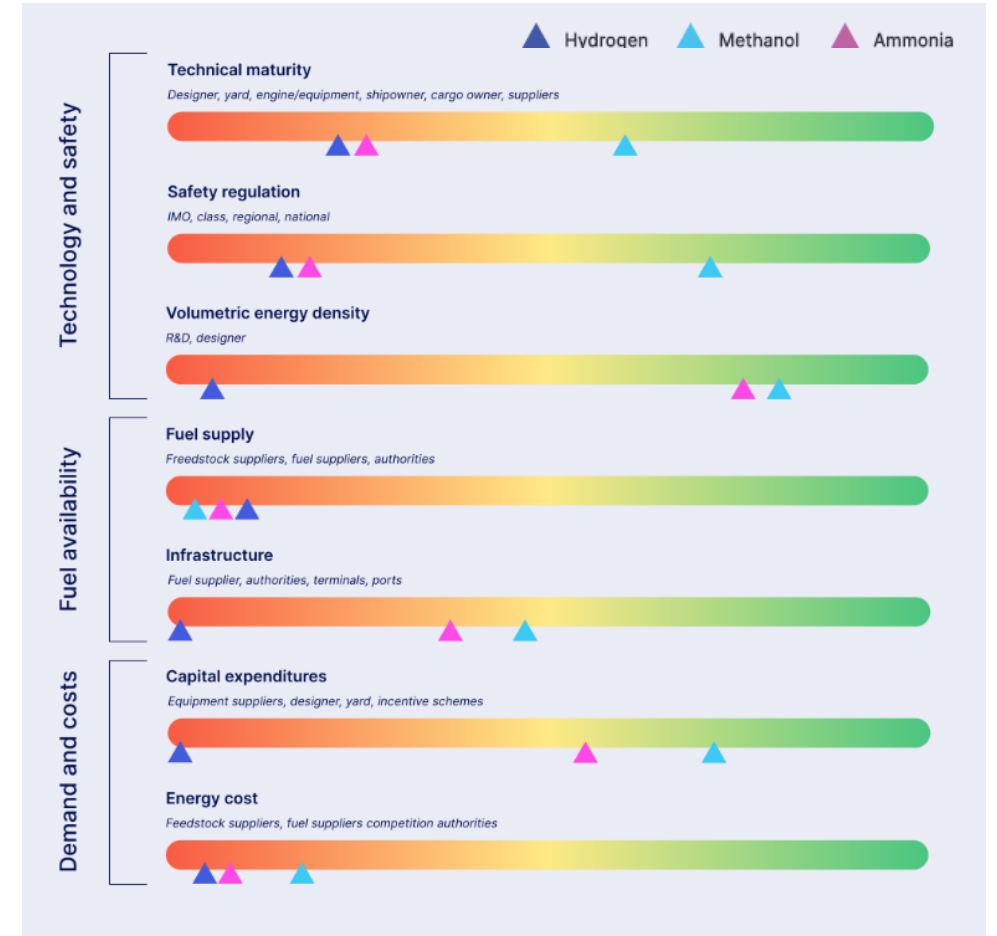
Technology and safety



Fuel availability



Demand and costs



Source: DNV – Nordic Roadmap project, <https://futurefuelsnordic.com/>
DNV (2022), Insight paper on green shipping corridors, <https://futurefuelsnordic.com/insight-paper-on-green-shipping-corridors>

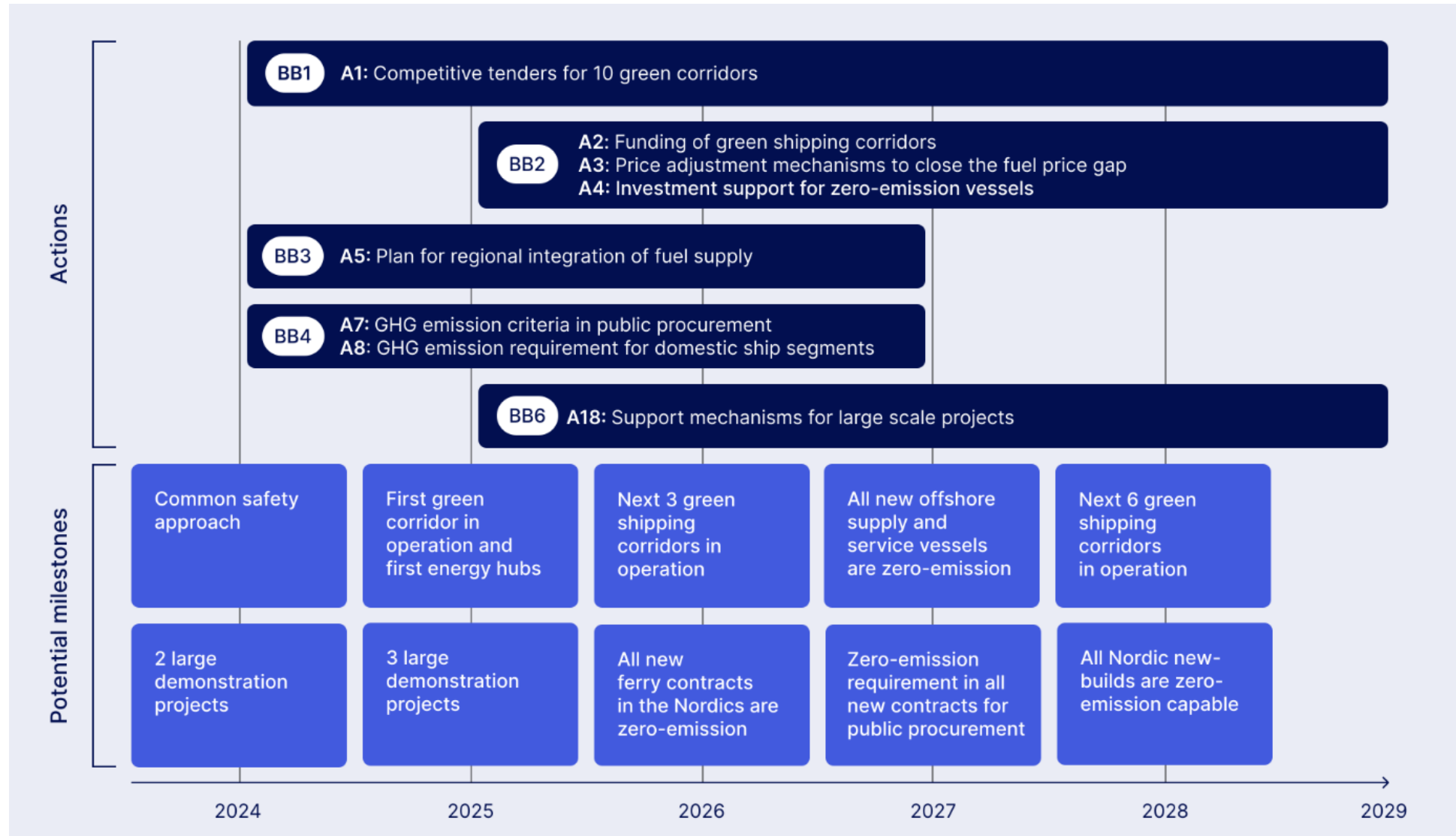
The Roadmap will lay the foundation for upscaling in the next decade

7 strategic building blocks with 20 specific actions towards 2030

- Actions to overcome **key barriers**
- Creating a **Nordic playground** – with a unified approach
- **Targeted collaboration** between stakeholders and Nordic governments
- Focus on first mover segments, operating in **green shipping corridors**

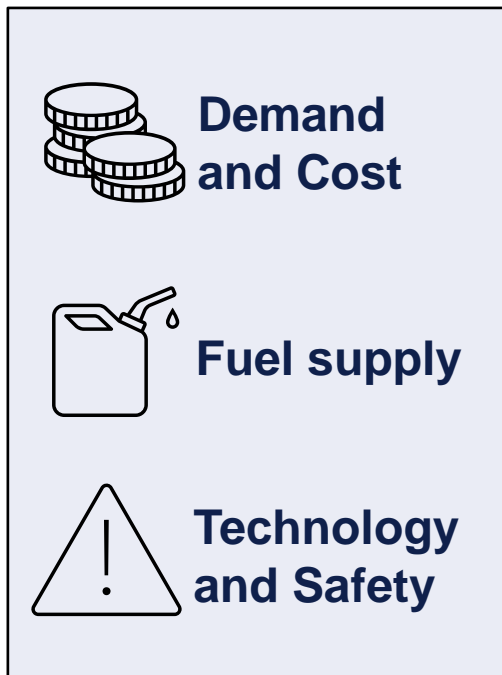


Critical actions and potential milestones towards 2030 – highlighting 8 of the 20 actions

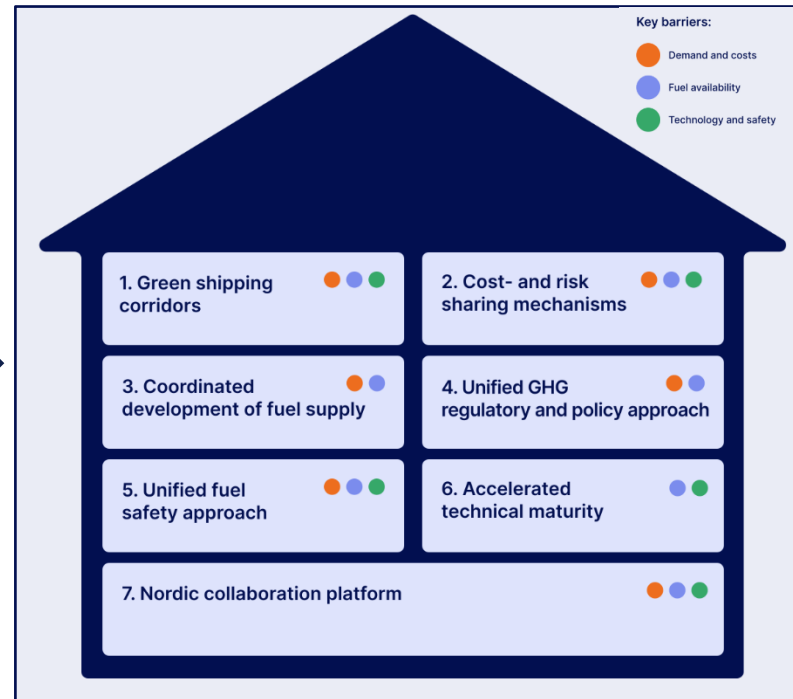


Roadmap development

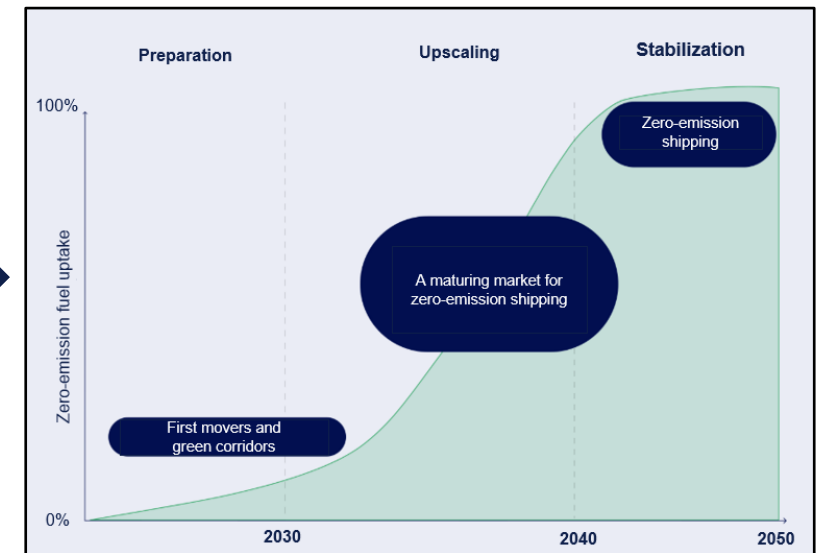
3 key bottlenecks hindering the uptake



7 building blocks with 20 actions towards 2030

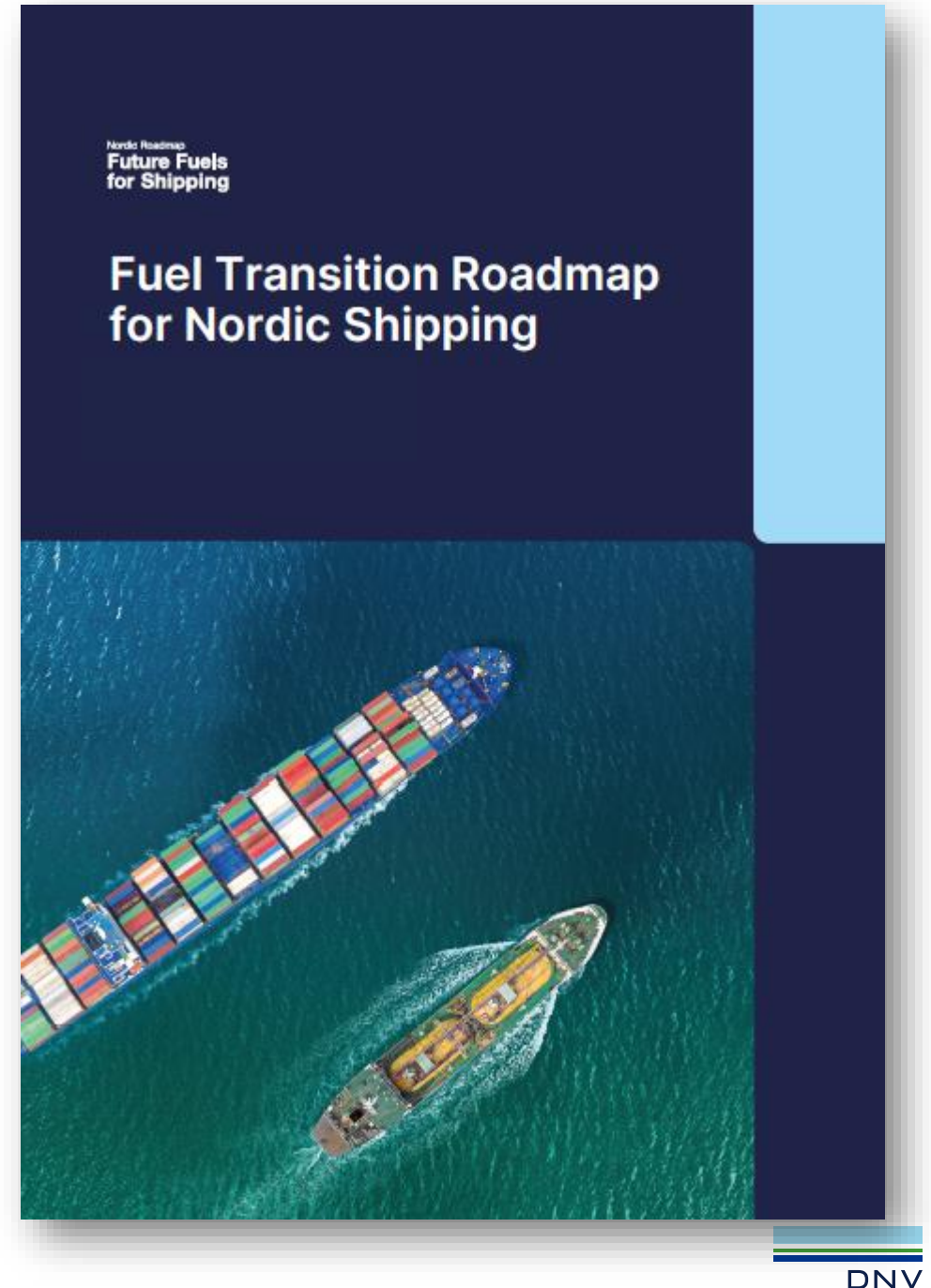


Accelerating the fuel transition – making the right preparations before upscaling



Next step: Implementation

- We urge Nordic governments to **implement the actions** identified, including:
 - Contribute to closing the cost gap
 - Set up competitive tenders for green corridors
- The actions will **provide confidence** for the industry to invest in zero-emission vessels, and the needed fuel infrastructure
- By leading the way, the Nordics can benefit from **value creation** and boosted exports, *and* play a **key role** in the global fuel transition



Thank you!

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