

The Nordic Roadmap – Future Fuels for Shipping

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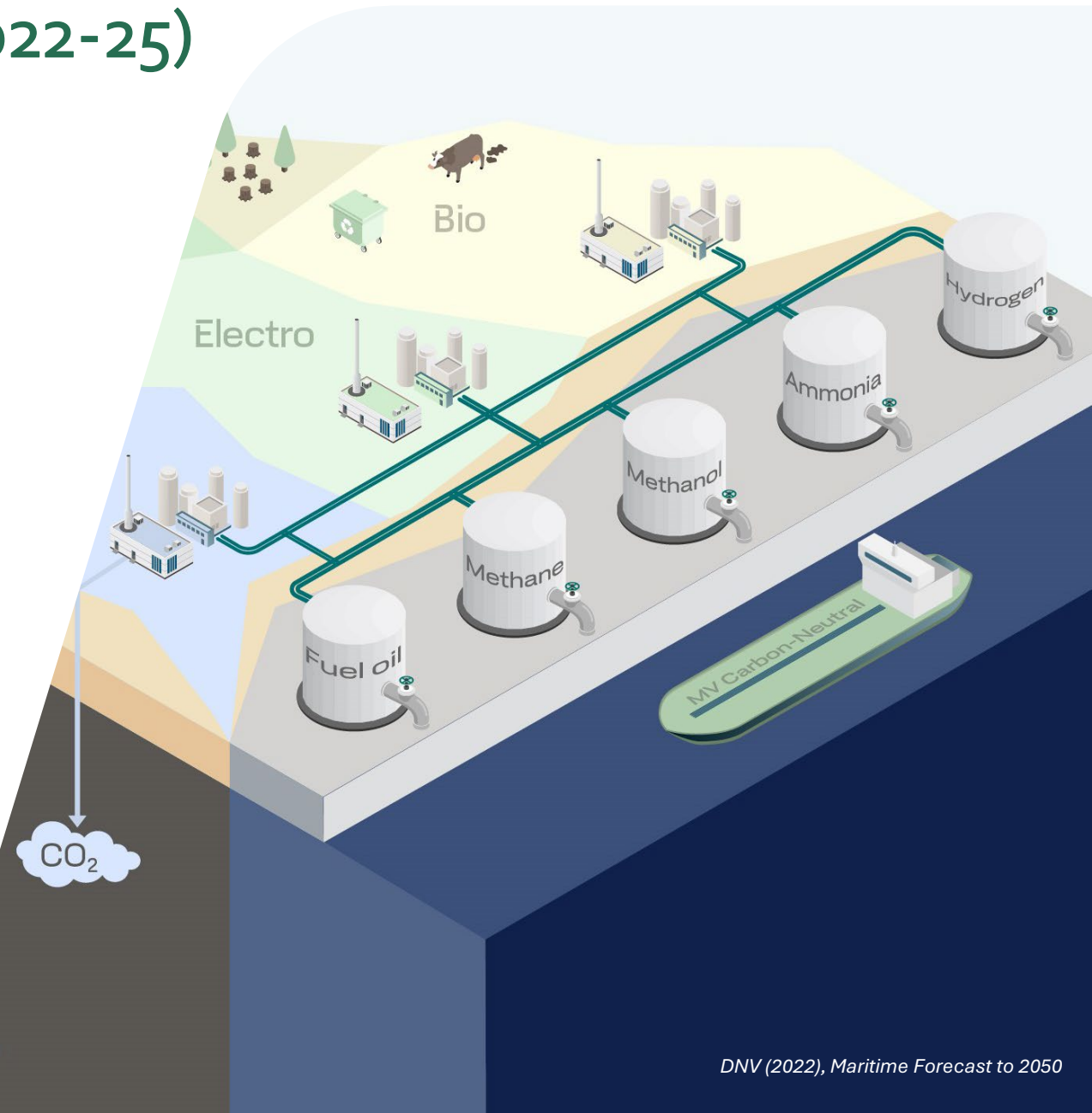
DNV

Agenda

- Overview of the Nordic Roadmap project
- Progress and deliverables so far
- Next steps
 - The Nordic collaboration platform
 - Green shipping corridor pilot studies
 - Nordic fuel transition roadmap

The Nordic roadmap project (2022-25)

- **Nordic collaboration** with more than 60 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



More than 60 partners

Contributing partners:



Supporting partners:



Ten technical deliverables to date

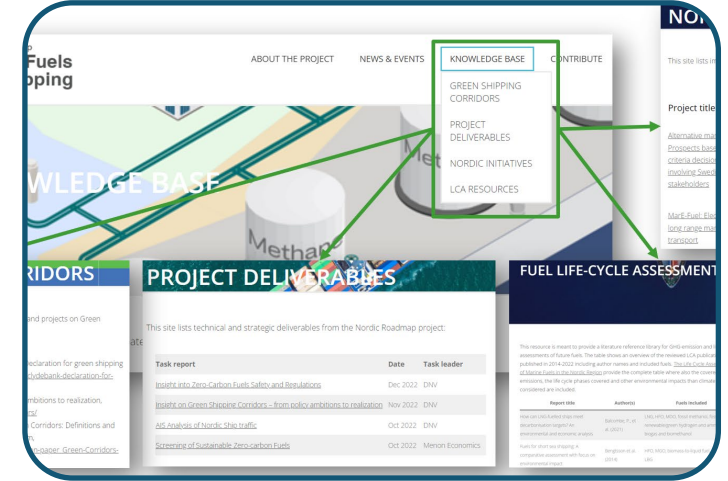


Focus for the rest of the Nordic Roadmap project



The Nordic collaboration platform


Upcoming events		
11 April 2024	Seminar in Gothenburg	Link to event
Autumn 2024	Conference in Denmark	Wait for more info
Completed events		
7 March 2024	Webinar on green shipping corridors	Link to event
8 Nov 2023	Webinar	Link to event
3 October 2023	Workshop in Reykjavik	Link to event
3 May 2023	Workshop in Helsinki	Link to event
5 November 2022	Conference in Oslo	Link to event



Conferences & Events

Promotion activities

Webpage development



Green corridor pilot studies:
Oslo – Rotterdam
Gothenburg – Frederikshavn
Esbjerg – Immingham

- 1) Out of **81+** longlisted potential green shipping corridors,
- 2) **6** promising corridors were investigated further, and
- 3) **3** green corridor pilot studies have been initiated.

Shortlist:
Umeå – Vasa,
Stockholm – Turku
Ystad – Rønne
Sandefjord – Strømstad
Hirtshals – Larvik
Torshavn – Reykjavik - Nuuk

Selection criteria

Pilot studies

Motivation

Pilot owner and participants

Maturity

Technical and business model

Distribution

Geographically and among fuel types

Esbjerg – Immingham

Fuel: Ammonia

Pilot owner: CIP (HØST PtX)

Gothenburg – Frederikshavn

Fuel: Methanol vs biofuels and electricity

Pilot owner: Stena Line

Oslo – Rotterdam

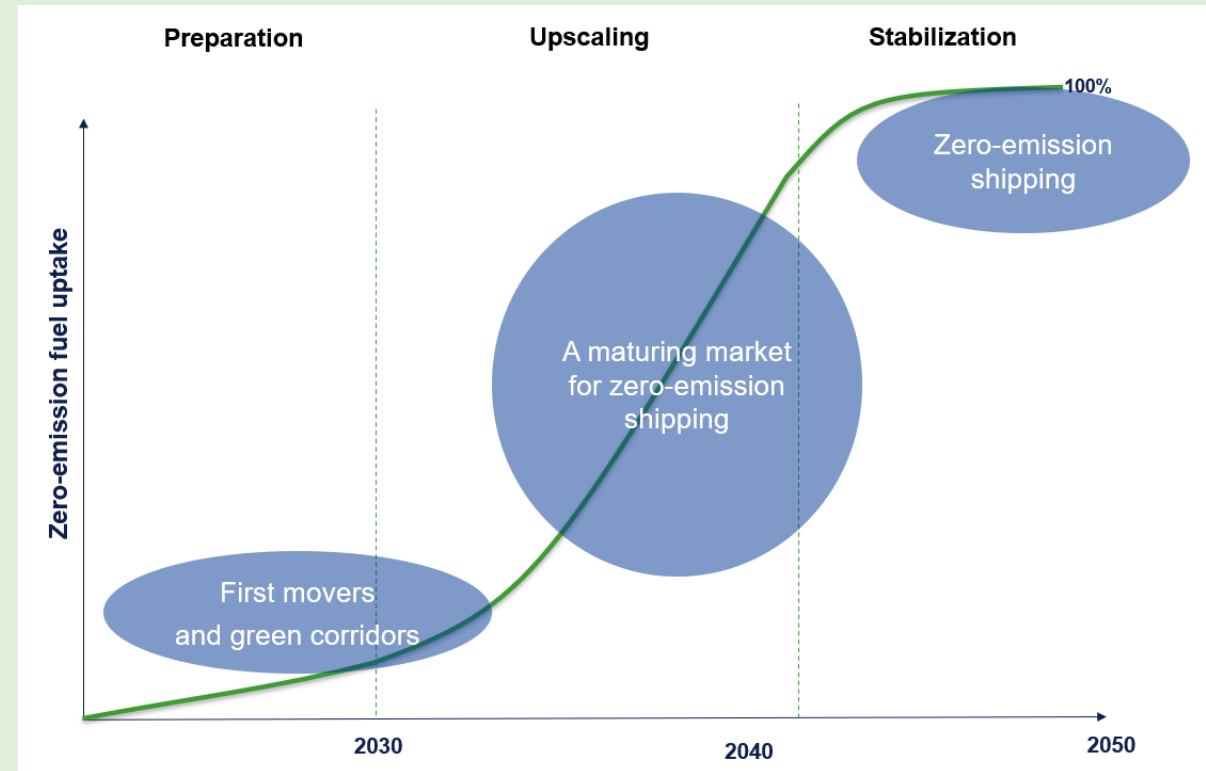
Fuel: Hydrogen

Pilot owner: Port of Oslo



A strategic document

- The Nordic Fuel Transition Roadmap is a **strategic plan** to support the development of demand and supply of zero-emission fuels
- The **2030 goals could be achieved** by enabling the use of zero-emission fuels for first-mover segments, operating in **green shipping corridors**
- **Assisting policy makers in each country** to set realistic goals, develop plans and implement measures for increased uptake of new fuels



3 key bottlenecks hindering the uptake of zero-emission fuels



Cost remains a significant challenge



Lack of **fuel availability** and **bunkering infrastructure**

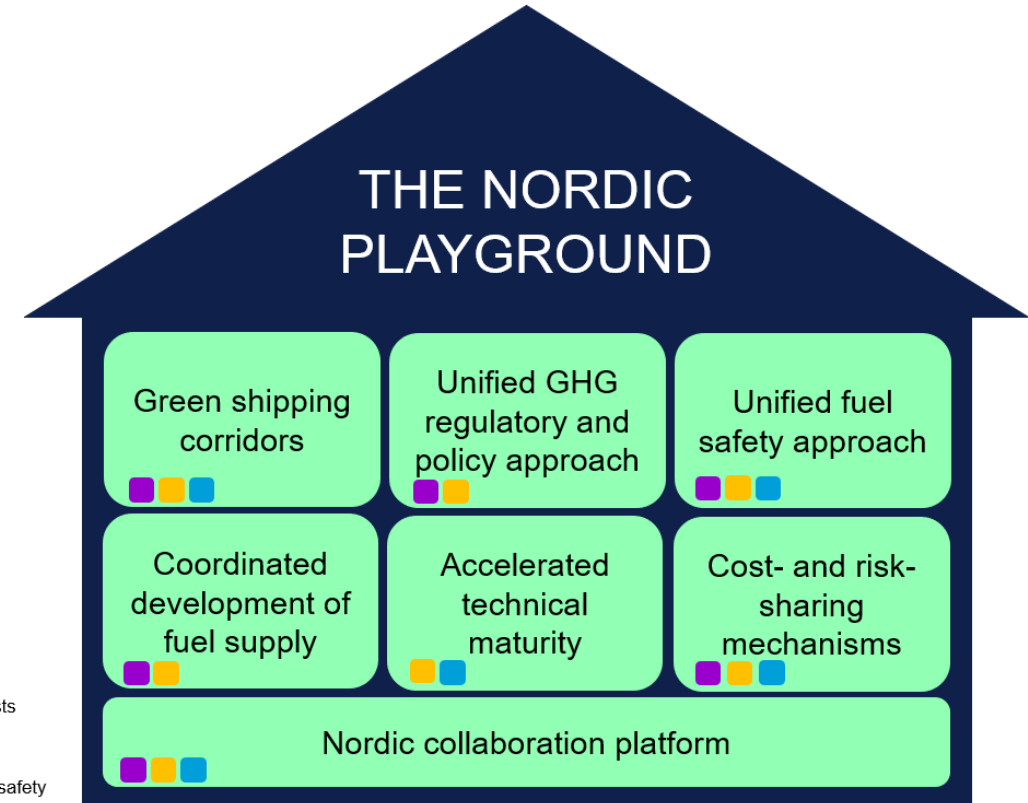


Lack of **safety requirements and experience** for ammonia and hydrogen, limiting early uptake

Nordic collaboration towards zero-emission shipping

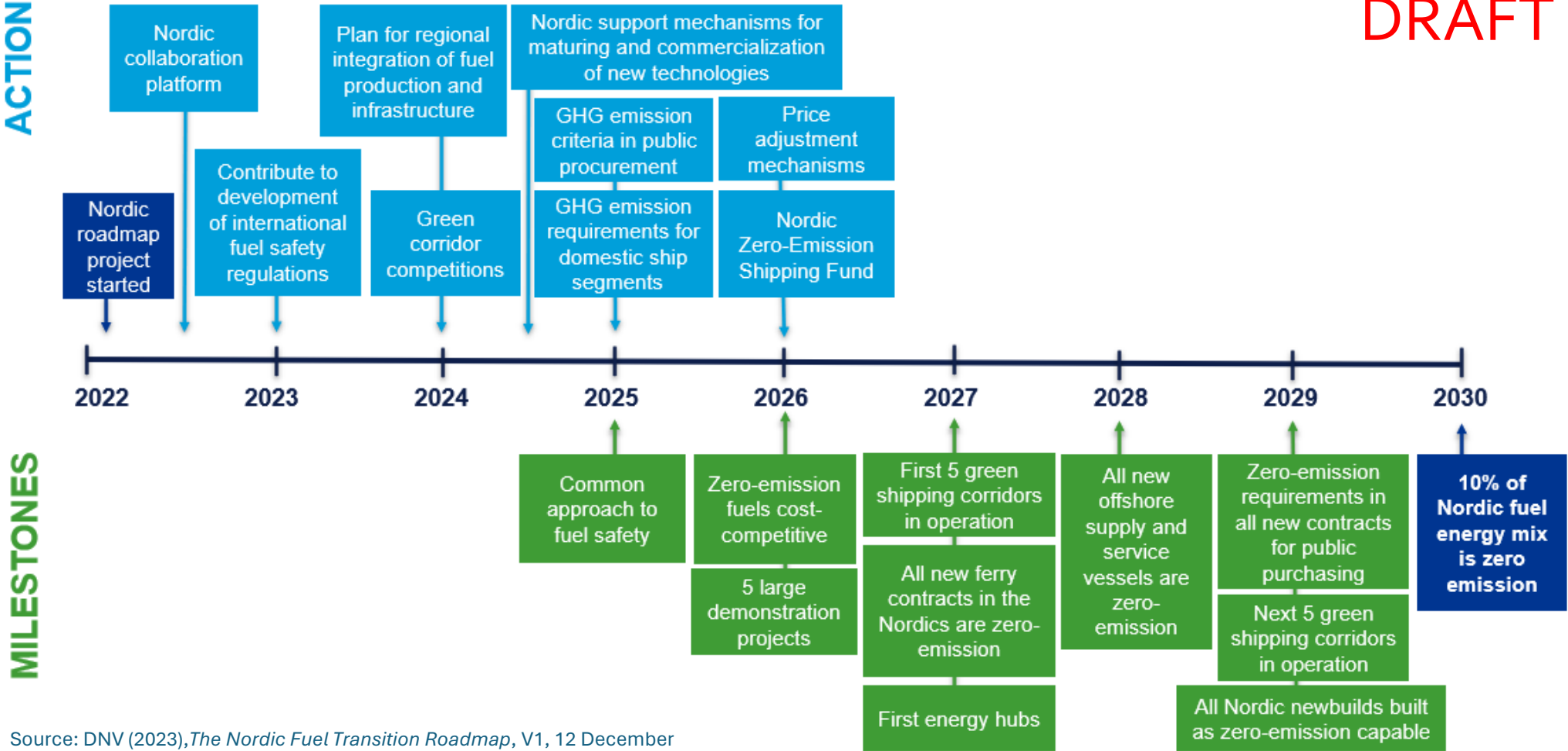
➤ *The Nordic Playground: 7 key strategic building blocks*, laying the foundation for upscaling in the next decade

- Each building block outlines a starting point for collaboration between stakeholders on specific topics, focusing on a **unified approach**
- The building blocks include **urgent actions** to reach the ambition to have 10% zero-emission fuel uptake by 2030, aligned with the IMO's "striving for" ambitions



Summary of key actions and expected responses towards 2030

DRAFT



Source: DNV (2023), *The Nordic Fuel Transition Roadmap*, V1, 12 December



futurefuelsnordic.com

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