



WHEN TRUST MATTERS



**Nordic Council
of Ministers**

Nordic Roadmap project overview

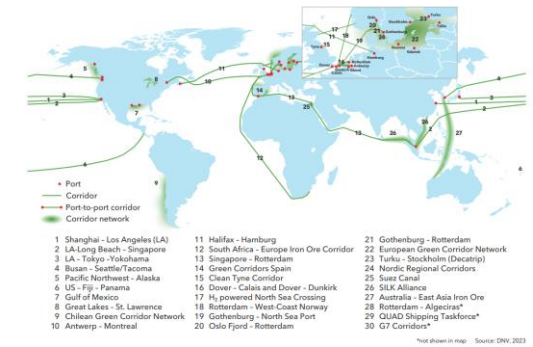
Øyvind Endresen, DNV, Project manager



The Nordic commitment

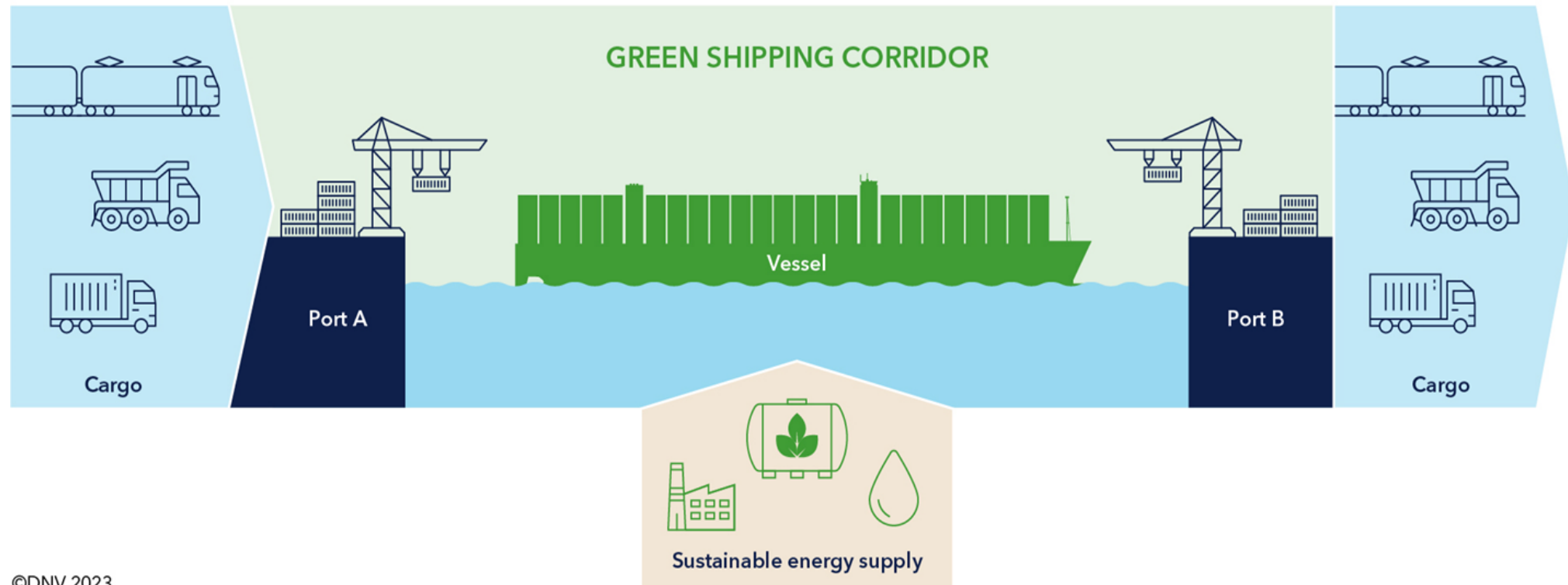
- ❖ **Declaration on Zero Emission Shipping by 2050** (COP26, November 2021)
 - ❖ **Clydebank Declaration for green shipping corridors** (COP26, November 2021)
 - ❖ **Ministerial Declaration on zero emission shipping routes between the Nordic countries** (May 2022)
 - ❖ **Joint Statement by the Nordic Prime Ministers on a Sustainable Ocean Economy and the Green Transition** (August 2022)
- + The 2023 IMO Strategy on Reduction of GHG Emissions from Ships

What is a green shipping corridor?



Clydebank Declaration (COP26):

“Green shipping corridors are zero-emission maritime routes between two (or more) ports”



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The Nordic roadmap project (2022-2025)

Nordic collaboration with more than 50 partners
coordinated by DNV and funded by the Nordic Council
of Ministers

Overall aim:

*Reduce key barriers and establish a common roadmap for
zero-emission shipping in the Nordics*

Objectives:

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



Contact persons:



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Task Leader
Collaboration
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Øyvind
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Manager

Ten technical deliverables to date



Key highlights from our deliverables

81 potential green corridors identified

140 fuel production assets

Technical and regulatory analysis for ammonia, hydrogen and methanol

6 green corridors short-listed

LCA for 28 green fuel and propulsion combinations

3 key bottlenecks for fuel uptake

Focus for the rest of the project (2023-25)



Ongoing work to establish 3 corridor pilot studies

Techno-economic feasibility studies:

- Public-private collaboration with high visibility
- Nordic roadmap partners can contribute
- Benefits include knowledge building and market positioning

Expected outcome of each pilot study:

- Established partnership
- Assessed specific corridor, relevant fuels, and key barriers
- Provided input to the roadmap, and prepared the ground for realization

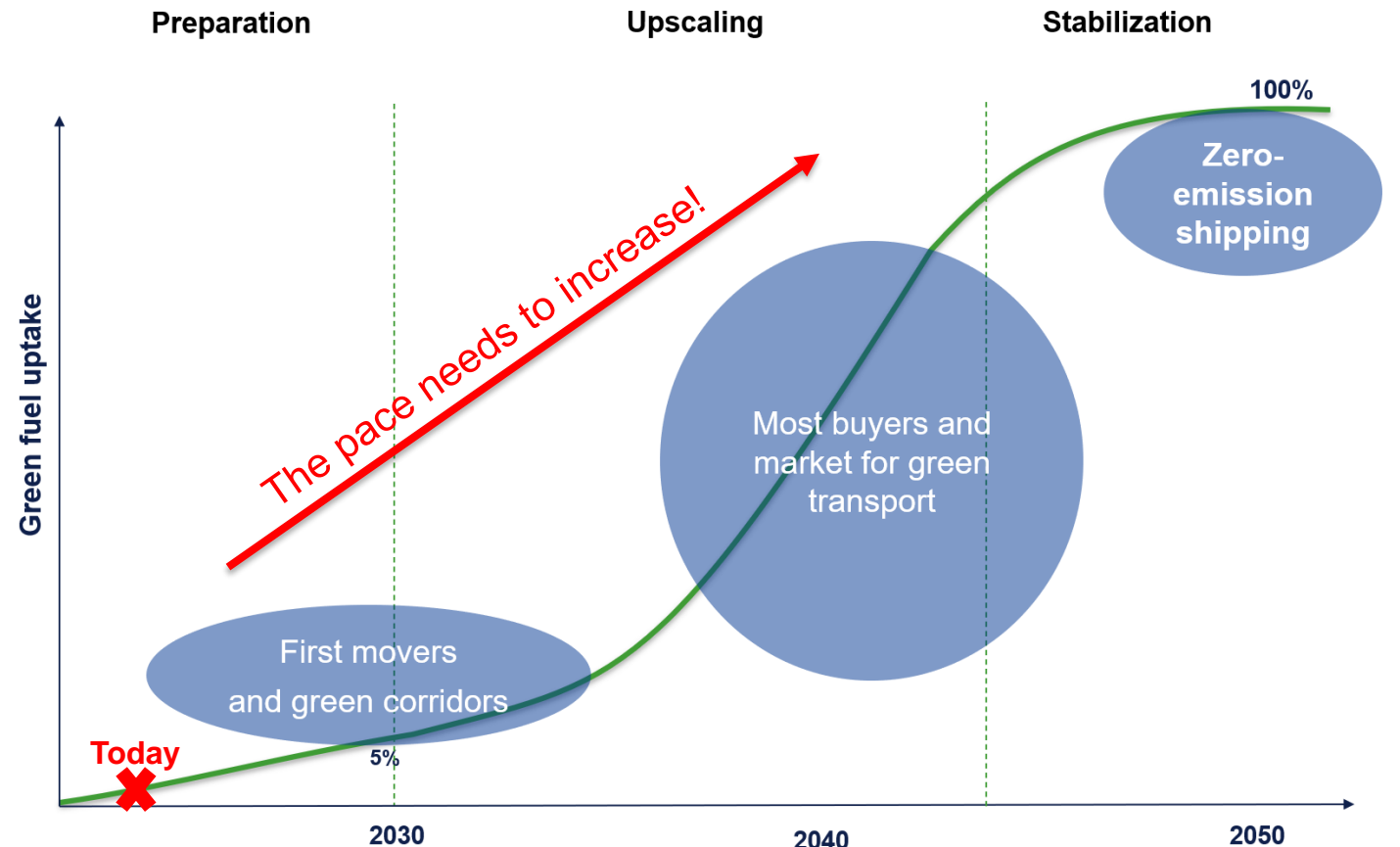


Nordic Fuel Transition Roadmap

Aims to **accelerate** the uptake of green fuels

- Assumes that the fuel transition follows an **S-curve**
- Details **stakeholder actions** to overcome barriers
- Identifies **green shipping corridors** as key enablers for acceleration

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 up-take of LNG and battery powered ships

3 key bottlenecks for fuel uptake

- Addressed in the Nordic Fuel Transition Roadmap

Barriers identified

- **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

Actions to overcome barriers

- **Cost- and risk-sharing** mechanisms such as procurement policies, green financing, and Contract for Difference (CfD)
- Creating a common **Nordic playground**:
 - Unified approach to matters relating to alternative maritime fuels safety
 - Building a market for green cargo transport, with standardized GHG emission accountability
 - Promoting green fuel infrastructure

For more information contact:

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