



WHEN TRUST MATTERS



**Nordic Council
of Ministers**

Nordic roadmap for introduction of sustainable zero-carbon fuels in shipping

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The Nordic Roadmap project

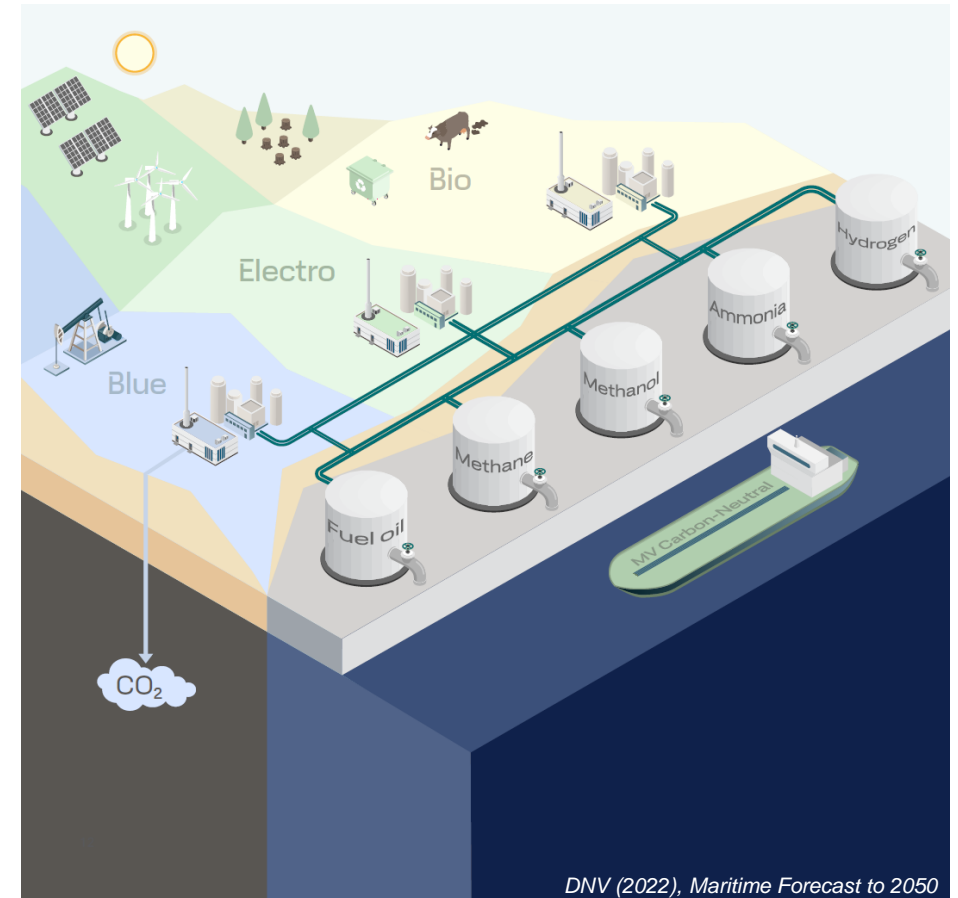
Overall aim:

Reduce **key barriers** to implementation and establish a common roadmap for the whole Nordic region and logistics ecosystem towards zero-emission shipping.

Objectives:

- Gain **technical knowledge** and regulatory development
- Develop a **Nordic Roadmap** for future fuels
- Establish a **Nordic collaboration platform** and piloting

A four-year Nordic collaboration (2022-2025), coordinated by DNV, and inspired by the *Green Shipping Programme* in Norway.



More than 35 partners

For more information,
visit the project website:

<https://futurefuelsnordic.com/>



Or contact:

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Contributing partners:



Supporting partners:



<https://futurefuelsnordic.com/partners-and-contributors/>

Seven technical deliverables to date

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



Key highlights from the technical deliverables

140 fuel production
assets

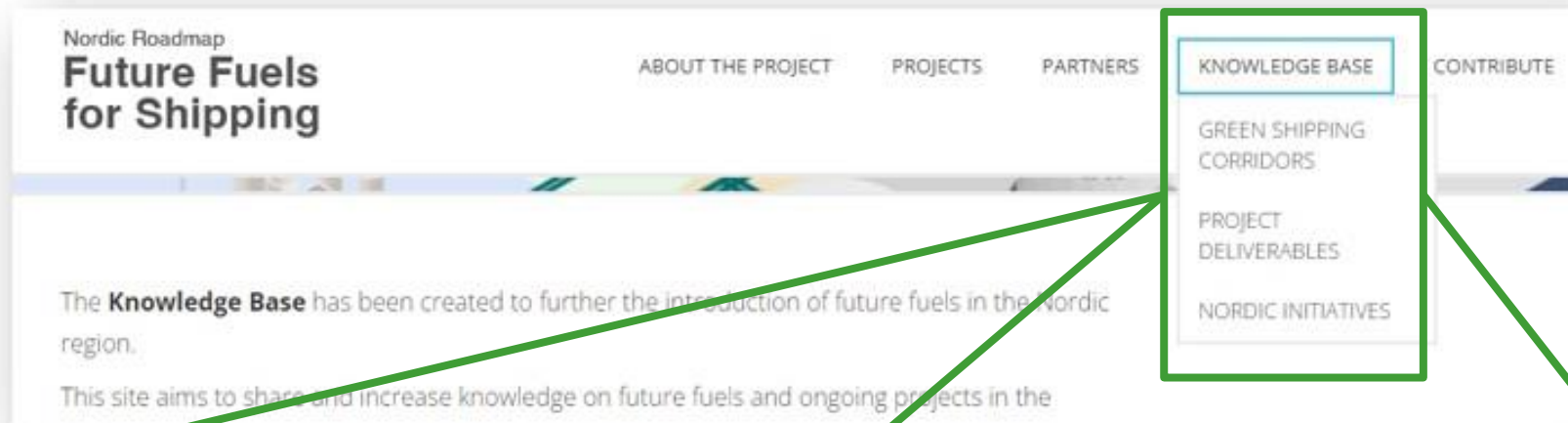
81 green corridors
identified

3 key bottlenecks for
fuel uptake

Technical and
regulatory analysis for
ammonia, hydrogen and
methanol

LCA for 28 green fuel
and propulsion
combinations

Project website – Knowledge Base



GREEN SHIPPING CORRIDORS

This page lists relevant and up to date literature, announcements, and projects on Green Shipping Corridors.

Literature:

- The UK Government (2021), Policy paper – COP 26: Clydebank Declaration for green shipping corridors, <https://www.gov.uk/government/publications/cop-26-clydebank-declaration-for-green-shipping-corridors>
- DNV (2022), Insight on Green Shipping Corridors – from policy ambitions to realization, <https://futurefuelsnordic.com/insight-on-green-shipping-corridors/>
- Global Maritime Forum and McKinsey & Company (2022), Green Corridors: Definitions and Approaches. A Discussion paper from the Global Maritime Forum, https://www.globalmaritimeforum.org/content/2022/08/Discussion-paper_Green-Corridors-Definitions-and-Approaches.pdf

PROJECT DELIVERABLES

This site lists technical and strategic deliverables from the Nordic Roadmap project:

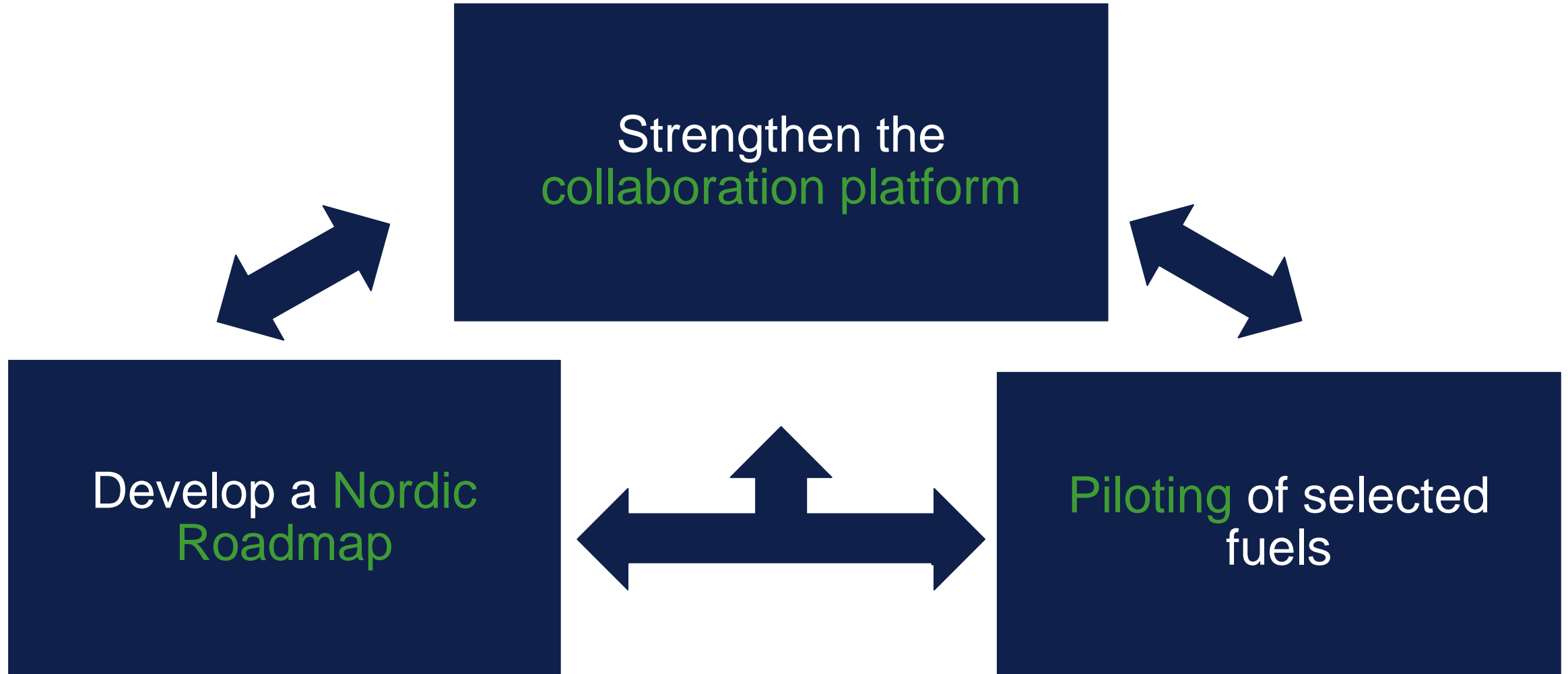
Task report	Date	Task leader
Insight into Zero-Carbon Fuels Safety and Regulations	Dec 2022	DNV
Insight on Green Shipping Corridors – from policy ambitions to realization	Nov 2022	DNV
AIS Analysis of Nordic Ship traffic	Oct 2022	DNV
Screening of Sustainable Zero-carbon Fuels	Oct 2022	Menon Economics

NORDIC INITIATIVES

This site lists important Nordic Initiatives related to the introduction of future fuels.

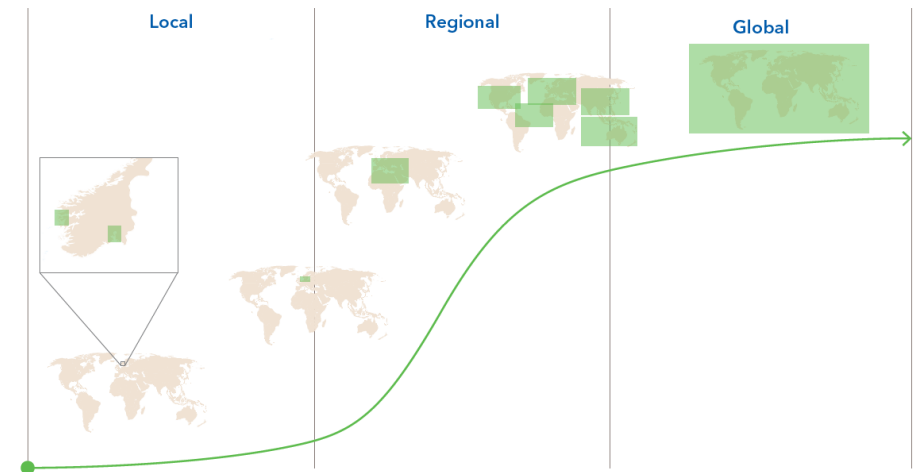
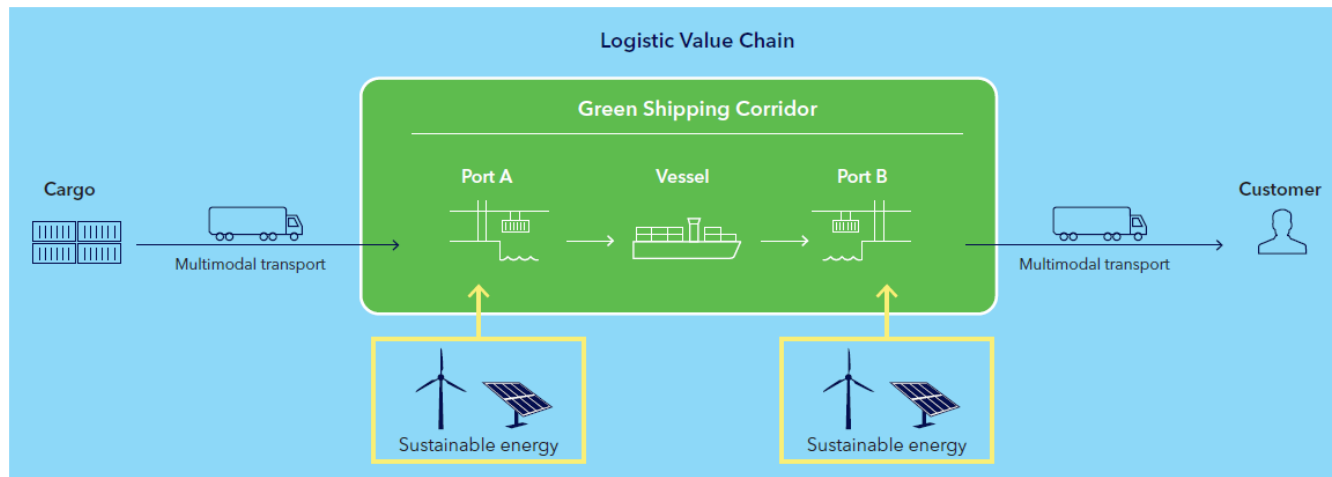
Project title	Contributors	Location
Alternative marine fuels: Prospects based on multi-criteria decision analysis involving Swedish stakeholders	Chalmers University of Technology, IVL Swedish Environmental Research Institute	Sweden
MarE-Fuel: Electrofuels for long range maritime transport	DTU	International

Focus for the rest of the project



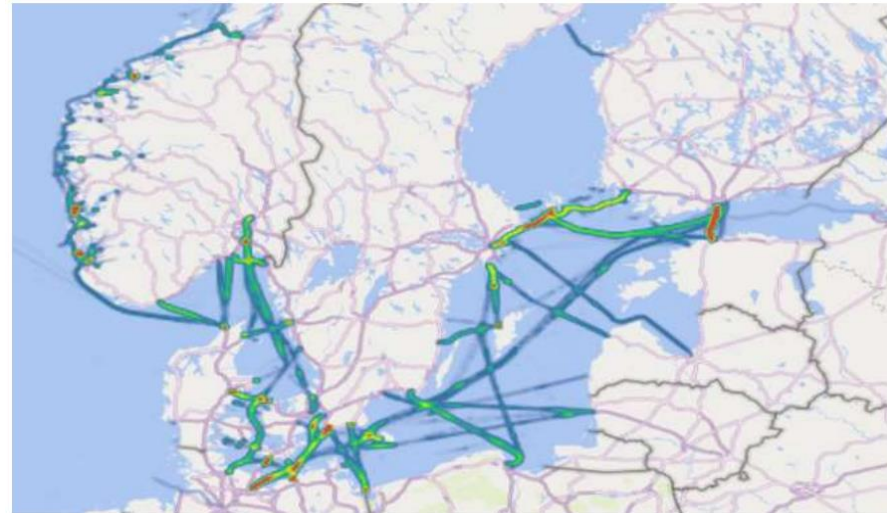
What is a green shipping corridor?

- Zero-emission maritime route between two (or more) ports
- Identifies barriers and actions to overcome them by involving stakeholders
- Key enabler to accelerate the uptake of zero-emission fuels – scaling via diffusion



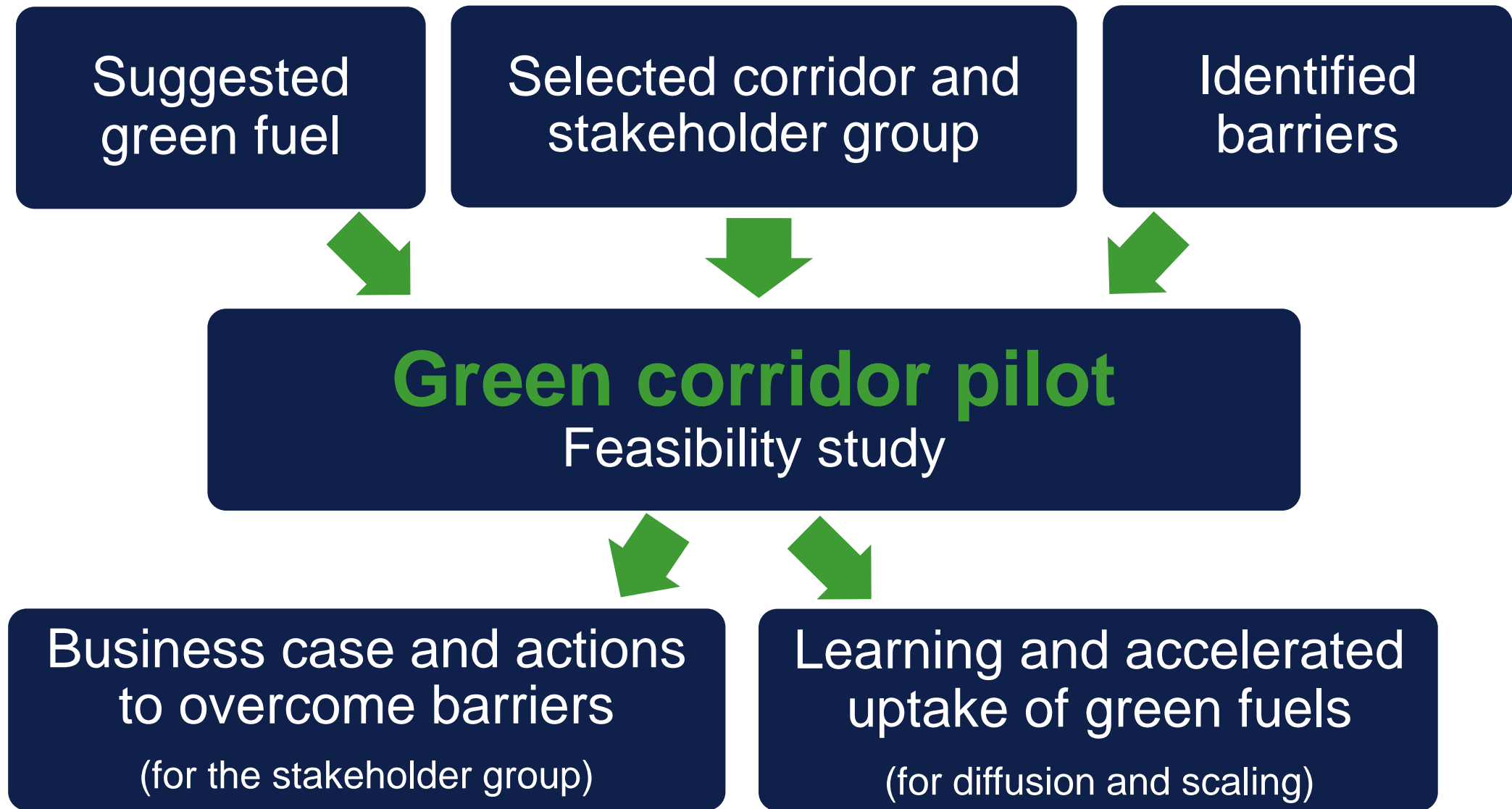
Mapping of Nordic Green Shipping Corridors

Longlist of potential pilots



Passenger traffic, 2019

Route type	Number of routes	Potential annual energy demand	
		Mtoe	% of Nordic ship traffic
Intra Nordic Ro-Pax routes	18	0.38	4.4%
Nordic international Ro-Pax routes	23	0.70	8.1%
Intra/international cargo routes	20	0.31	3.6%
Intra/international wet and dry bulk routes	20	0.07	0.8%
Total	81	1.46	17%



Suggested green fuel

Selected corridor and stakeholder group

Identified barriers

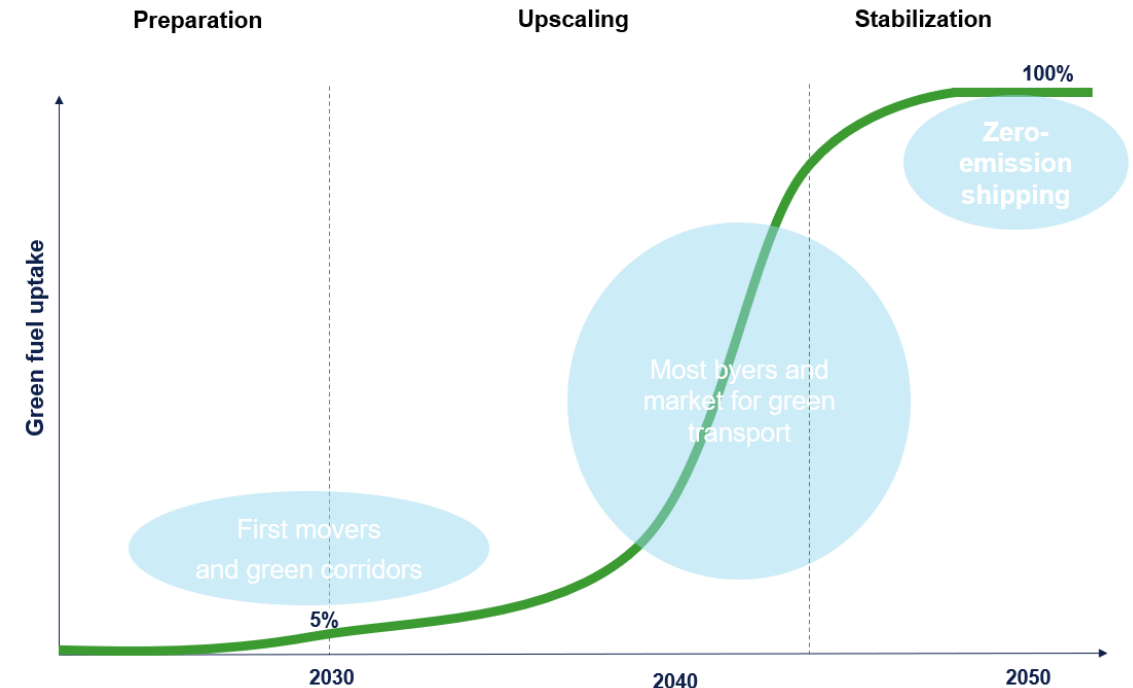
Green corridor pilot
Feasibility study

Business case and actions to overcome barriers
(for the stakeholder group)

Learning and accelerated uptake of green fuels
(for diffusion and scaling)

What is the Nordic Roadmap?

- **Transition plan** which aims to accelerate the transition to zero-carbon fuels:
 - Details what key **stakeholders** must do and by when to deliver the needed Nordic fuel transition
 - Assumes that the fuel transition follows an **S-curve**, where green shipping corridors will be key enablers to accelerate the transition
- 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

The Nordic Collaboration platform

The vehicle for

- Collaboration and information sharing
- Providing input to the Nordic roadmap
- Identifying and following up pilot studies

Contributing partners:



Supporting partners:



Open for additional partners!



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