

NORHyWAY – Road Transport

Work Package 10 and 11

Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them.



Co-funded by the
European Union

VIREON – Your partner in renewable hydrogen across the Nordics

- Founded 2023
- Subsidiaries in Norway, Sweden, Denmark, Iceland and Finland
- Business segments:
 1. Hydrogen distribution and infrastructure
 2. Small scale hydrogen production

Largest shareholders



FLAKK GROUP



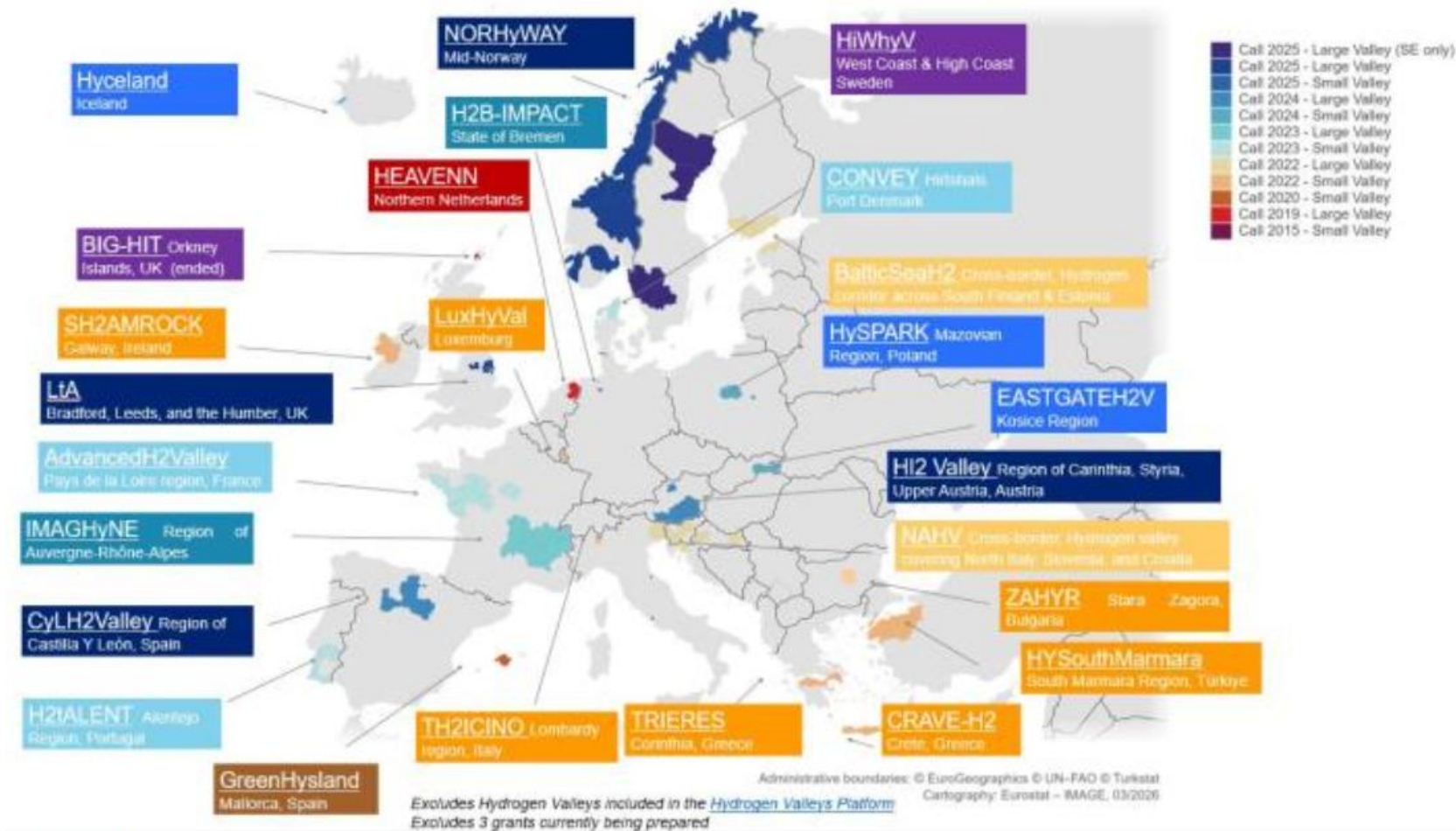
HOFSETH



The first Vireon refueling station at Hellesylt Hydrogen Hub



VIREON is an active member in three hydrogen valleys



- Vireon Denmark is a member of Convey
- Vireon Finland is a member of BalticSeaH2
- Vireon Norway is a member of NORHyWAY



Main objectives

Deployment of hydrogen refueling infrastructure

Demonstration of hydrogen use in heavy-duty road transport



VIREON 

A|S|K|O



Nils Heggen
TRANSPORT

SIEMENS



SINTEF

Our main focus area: Mid-Norway



Together we will:

Do engineering for new HRSs

Do engineering for upgrade of existing HRS

Work on certification & permitting

Research available hydrogen trucks & specifications

Increase 700bar capacity in Trondheim

Monitor real life operations

Develop business models





Per Øyvind Voie
CEO
per@vireon.com
+47 97665446





Norway's Toughest Crossing on Compressed Hydrogen

2026-04-29 | Mariann Ervik, Project Manager

We make it possible to live and thrive in small communities along our coast and in our fjords.



90+ ferries &
express boats



The image shows the interior of a ferry boat. Several passengers are seated in rows of grey seats, looking out at a vast, blue sea under a clear sky. The sun is low on the horizon, creating a shimmering reflection on the water's surface. The boat's interior is dimly lit, with the primary light source being the natural light from the large windows.

46 connections



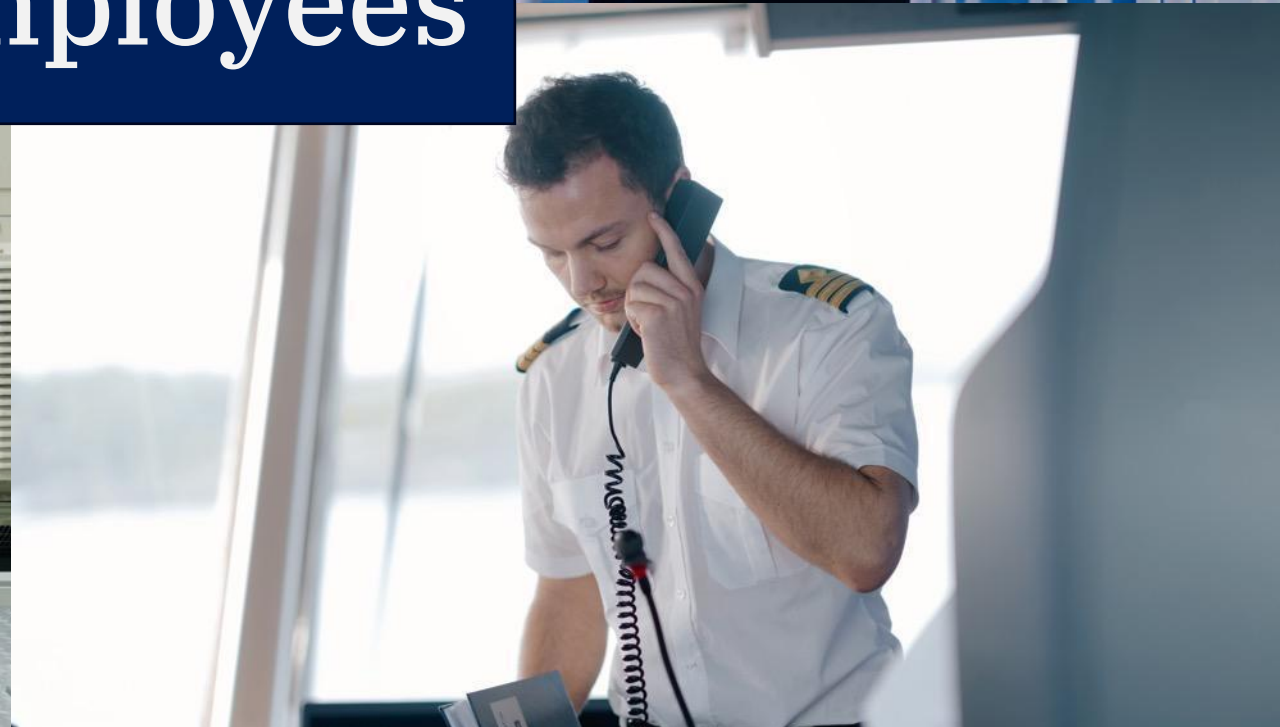
12,175,890
passengers



5,870,722 vehicles



1600 employees



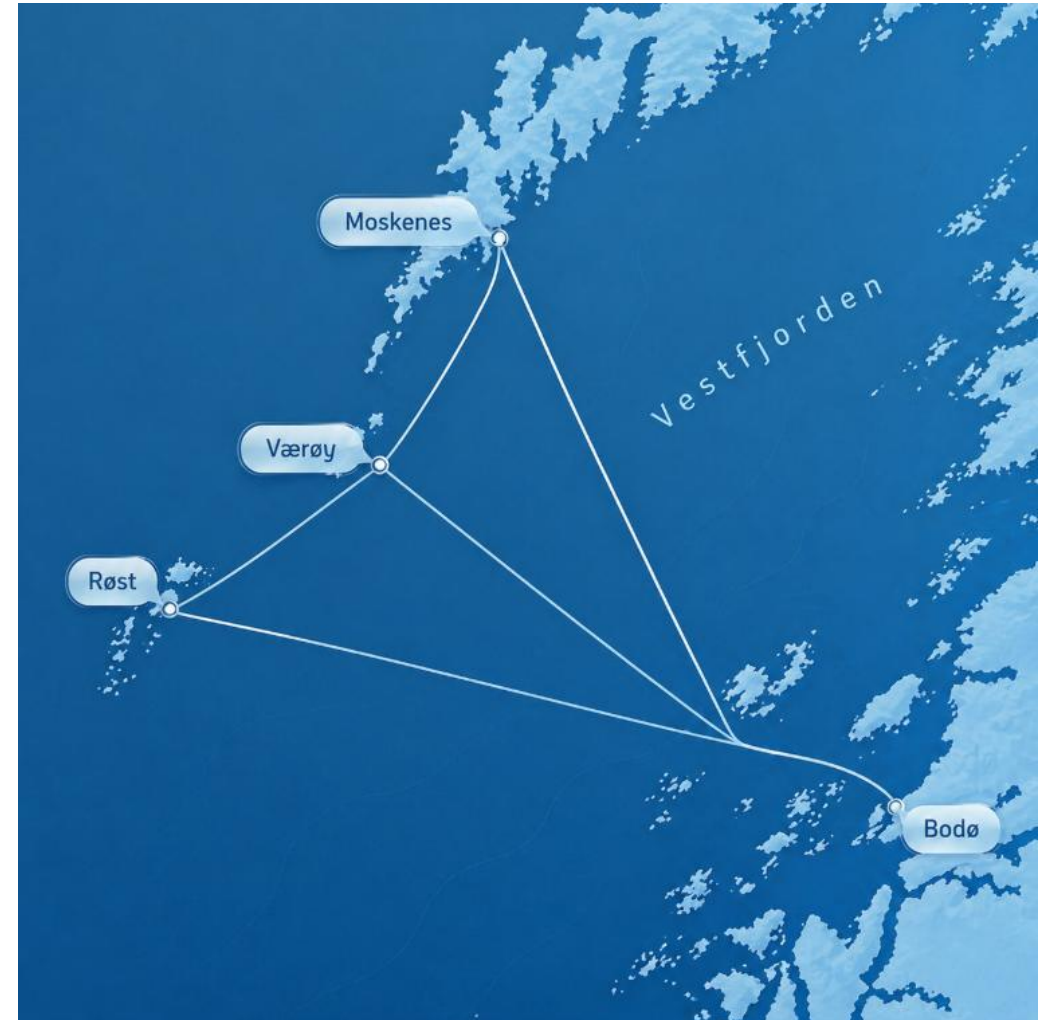
From Optimizing Assets to Driving Innovation

Then -

- Focused on optimizing existing vessels and infrastructure

Now -

- Public tenders drive zero emission technology
- Battery-electric ferries on shorter routes
- The shift created the basis for the Bodø–Værøy–Røst–Moskenes contract, with hydrogen operation



Hydrogen Ferries

Compressed Hydrogen

The ferries M/F Moskenes and M/F Røst shall operate on a minimum of 85% hydrogen and a maximum of 15% biofuel.

Technology based on compressed hydrogen (CH₂)



©norwegianshipdesign.no

LOA 117 m
Car capacity 120 PCU
Truck capacity 12 HGV
Passenger capacity 599 PAX
Speed 16–17 kn

Size and Capacity

Hydrogen Area

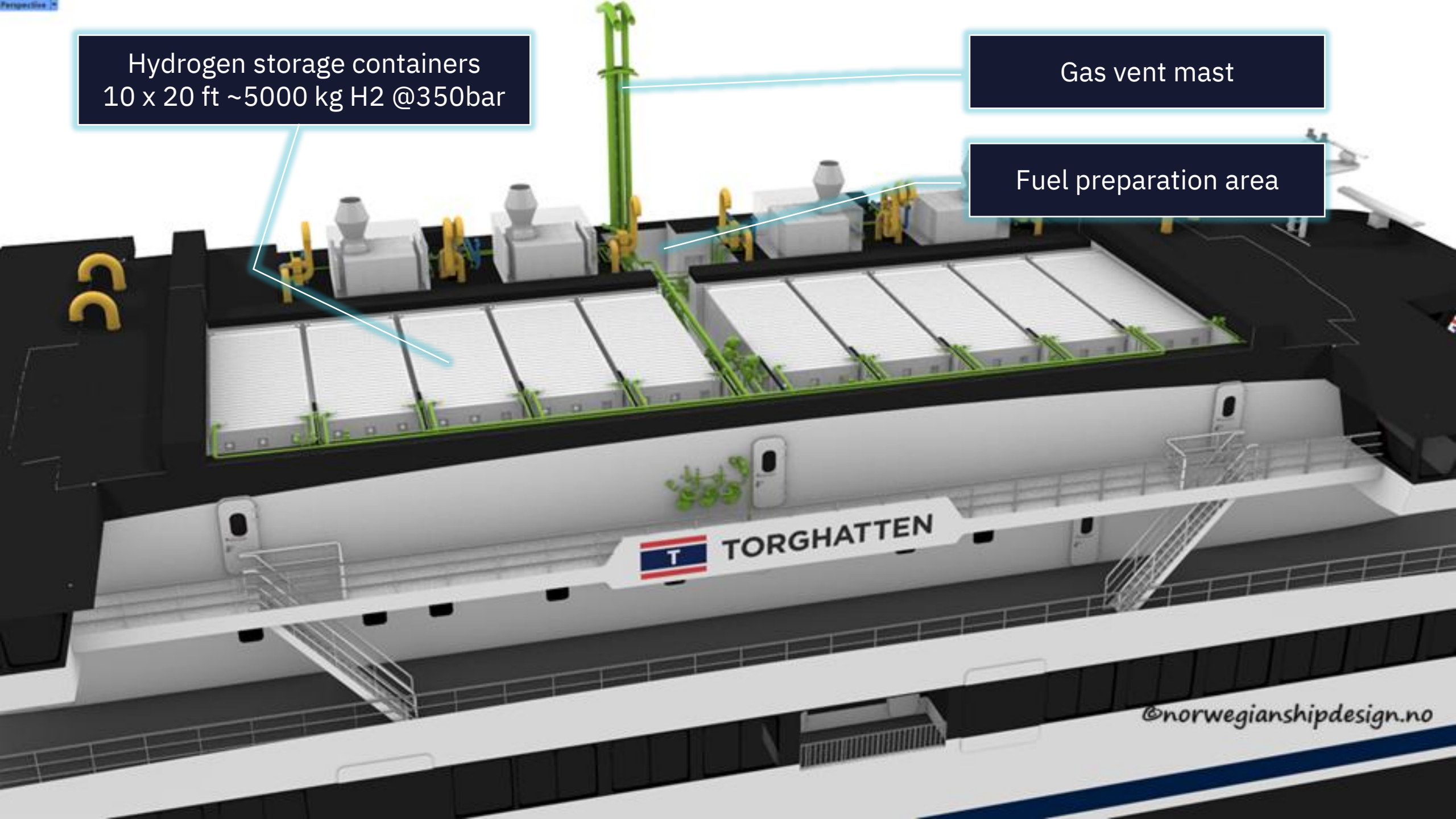


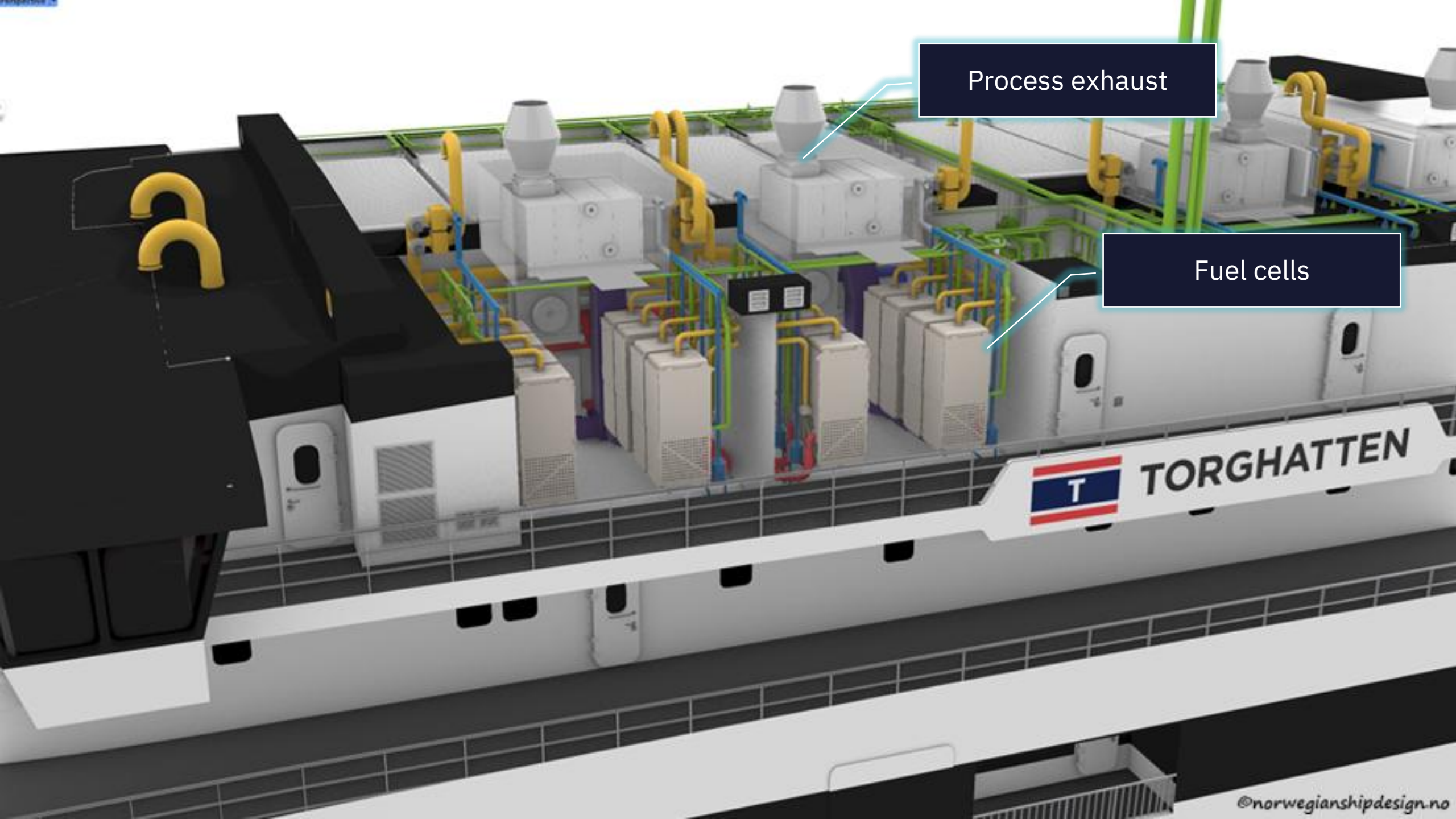
©norwegianshipdesign.no

Hydrogen storage containers
10 x 20 ft ~5000 kg H₂ @350bar

Gas vent mast

Fuel preparation area
















Process exhaust

Fuel cells

 TORGHATTEN

Key Partners

Area	Key Partners	Responsibility
Ship design		Vessel design for newbuilds.
Hydrogen Newbuilds x 2 		Shipbuilding yard Myklebust, hull from Cemre Shipyard.
		System integrator for power systems incl. Hydrogen energy systems.
		Supplier of fuel cells as subcontractor to SEAM.
		Detailed design of the onboard hydrogen systems.
Infrastructure 		Onboard hydrogen storage containers.
Regulatory 		Vessel classification and approval of Alternative Design.
		Regulatory oversight and acceptance of Alternative Design.

H₂ Onboard Storage Containers



GreenH Integrated H₂ Production and Bunkering

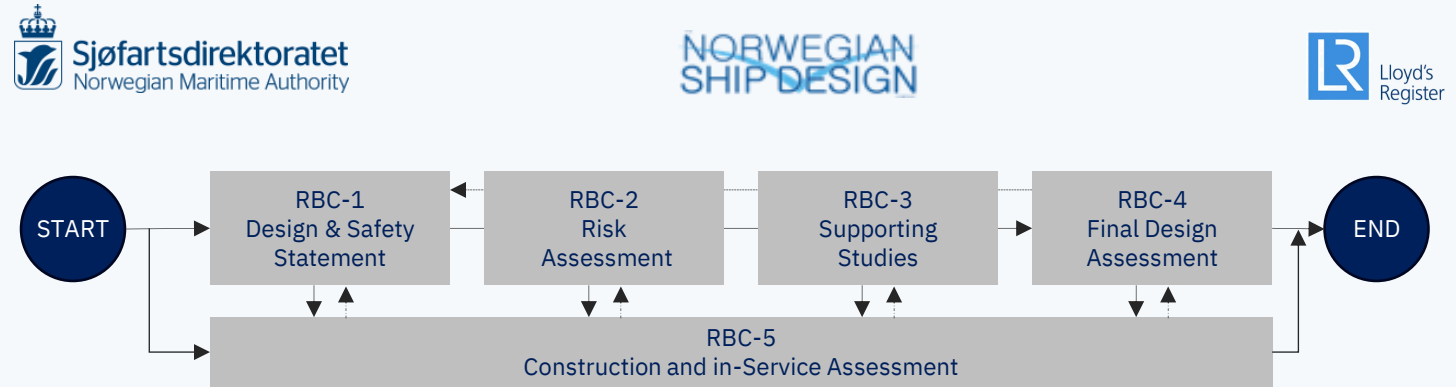
- Turnkey system from GreenH
- Direct bunkering from production to vessel
- A complete, local value chain



Navigating Regulatory Complexity Through Risk Based Certification

- No established regulatory framework at contract start
- Alternative Design Process required
- Risk-based approach
- High complexity, resource-intensive approval process

Risk Based Certification (RBC) Process



Milestone	Status	Status
RBC1 Design and Safety Statement	Completed	✓
RBC2 HAZID	Completed	✓
RBC2 Risk Assessment Report w/mitigating measures	Completed	✓
RBC3 Supporting Studies	Completed	✓
RBC4 HAZOP	Completed	✓
RBC4 Final Design Assessment	Ongoing	✓
RBC5 Construction and in-Service Assessment	Ongoing	✓



TORGHATTEN



©norwegianshipdesign.no



Tejs Laustsen Jensen
Hydrogen Denmark
(moderator)



Monica Johansson
Volvo



Lin April Løstegård
Norwegian Hydrogen Forum



Reidun Svarva
Torghatten



**The Nordic
Hydrogen Valleys
Conference**