



Horisont Energi | Company presentation

INVESTORDAGENE 2021

18-21 October, Christiania Teater

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Mission Statement

**ACCELERATING THE TRANSITION TO CARBON
NEUTRALITY THROUGH PIONEERING PROJECTS**

Vision

A NEW STANDARD FOR OTHERS TO FOLLOW

Overarching Goals

PREFERRED

PROFITABLE

PLURALISTIC



Who we are



Based in Stavanger on the western coast of Norway

- **Founded** in 2019
- **Strong investor line-up**

We are focusing industrial scale, value and carbon neutrality

- **Clean** hydrogen and **ammonia**
- End-to-end **carbon storage**
- Development of **strong projects, partnerships and positions**

Team with extensive competence and experience from

- **Offshore carbon facilities** developments
- **Onshore hydrogen** and **ammonia facilities** development

OBJECTIVE

Top-tier European Clean Energy Company

① First to market with world scale clean ammonia



DELIVER COST-COMPETITIVE CLEAN AMMONIA TO THE GLOBAL MARKET



BECOME THE PREFERRED SUPPLIER OF CLEAN AMMONIA IN NORTHERN EUROPE

② The carbon storage cost leader



EUROPE'S PREFERRED CARBON STORAGE PROVIDER

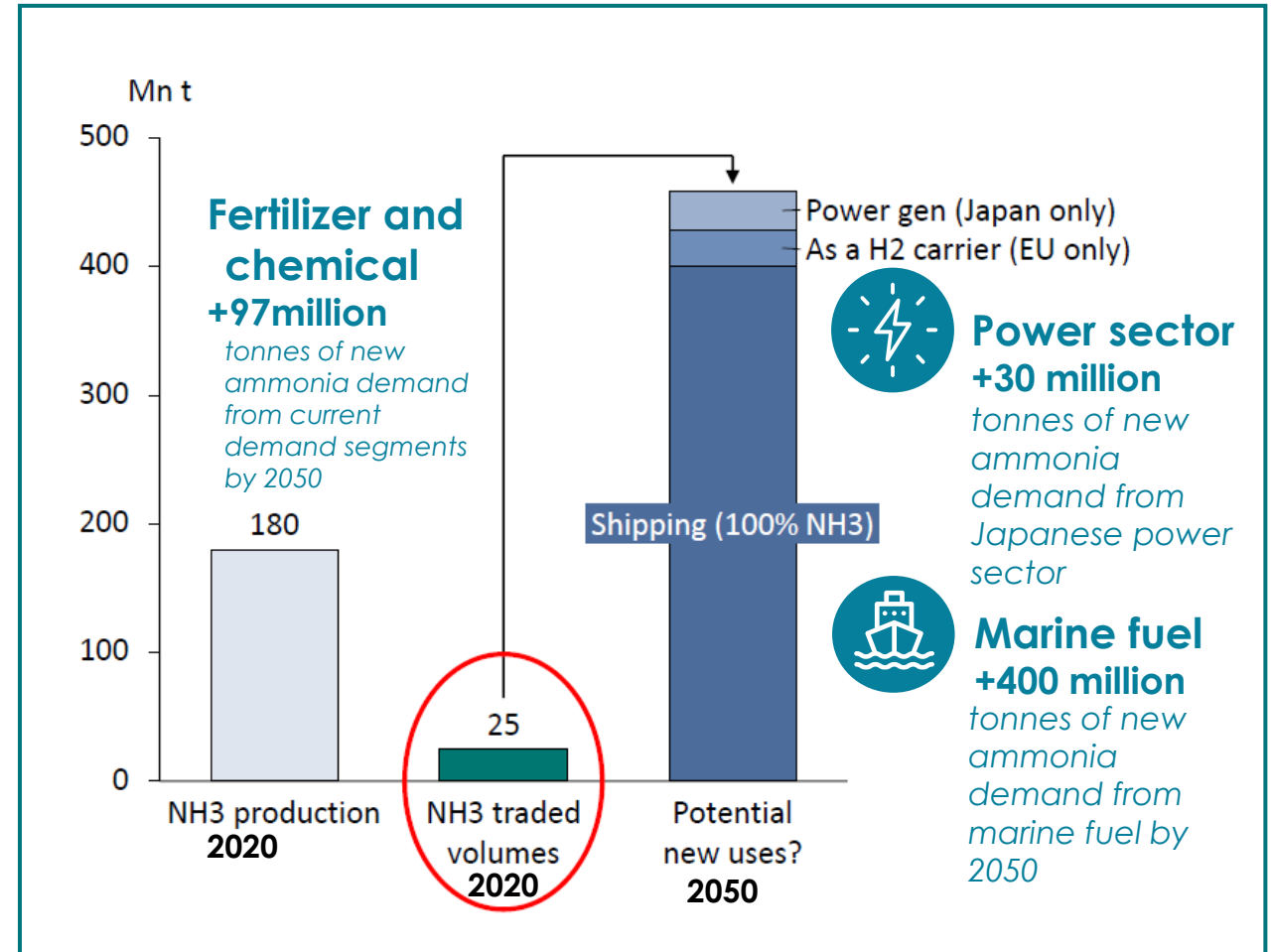


EUROPE'S LEADING CARBON STORAGE ASSET DEVELOPER



Why clean ammonia?

- ▶ Ammonia contain about **3 times higher energi density** than hydrogen (MJ / L)
- ▶ Shipping of ammonia is **1/4 the price of hydrogen** (\$/T km)
- ▶ Substantial **growth expected** in traded market from 2020 mainly in new sectors
- ▶ +400 million tonnes of new ammonia demand from **marine fuel** by 2050
- ▶ The **Japanese power sector** are driving development of ammonia use (+30 million tonnes)



Sources: Argusmedia.com: "The Hydrogen Economy: Going Green", May 2021.
Notes: Power generation expected to grow beyond Japan only.

Europe's first world-scale clean ammonia plant

PROJECT BARENTS BLUE

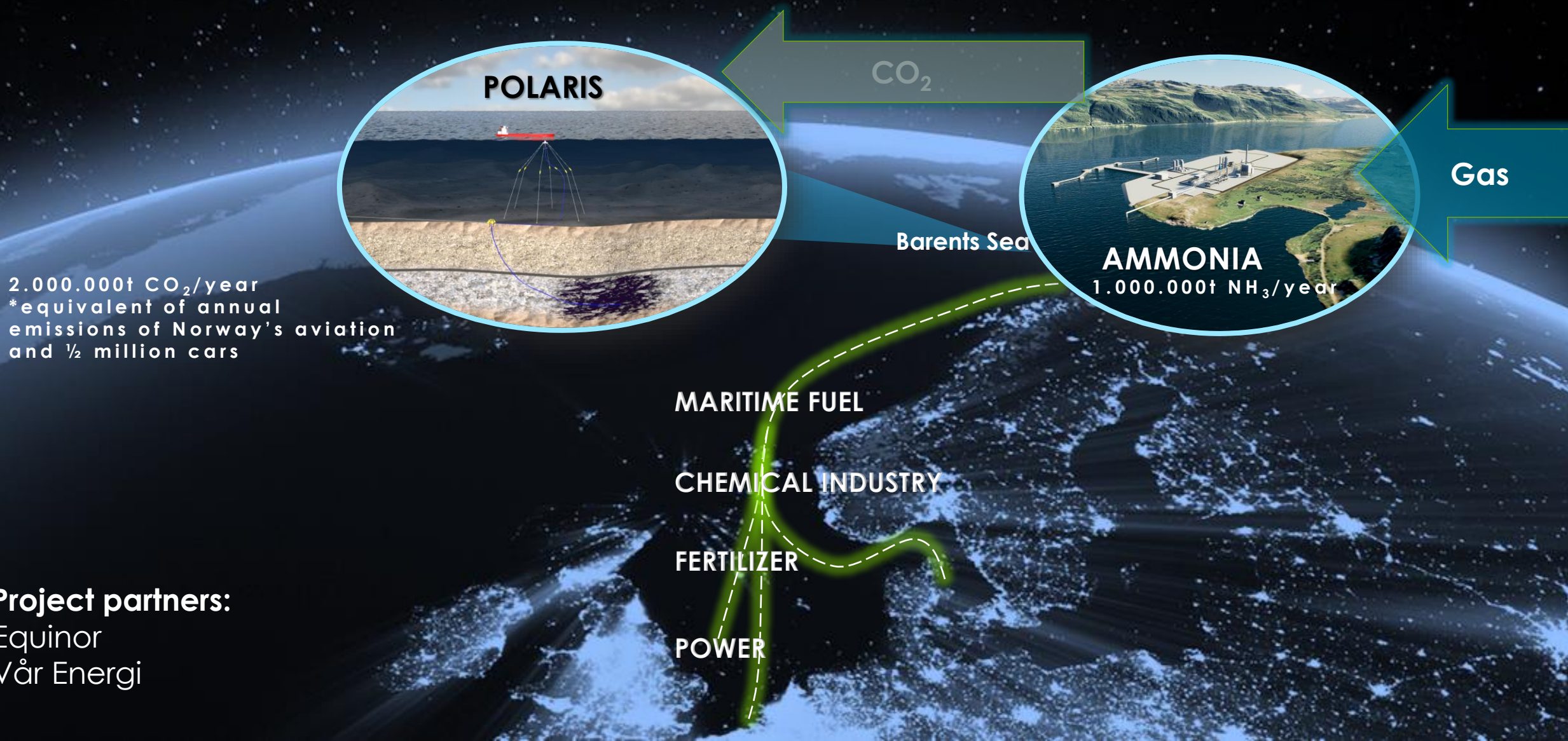


Developing the most carbon and energy-efficient ammonia plant in the world

- Zero emissions and environmentally-friendly plant
- Mostly self-sufficient on power, limited renewable electricity from the grid
- Focus on sustainable solutions and circular practices in design
- Start-up year: 2025
- **Annual output (NH₃): 1 million ton/yr (train 1)**
- CO₂ capture rate: above 99%
- CO₂ injection: 2 million ton/yr

Barents Blue

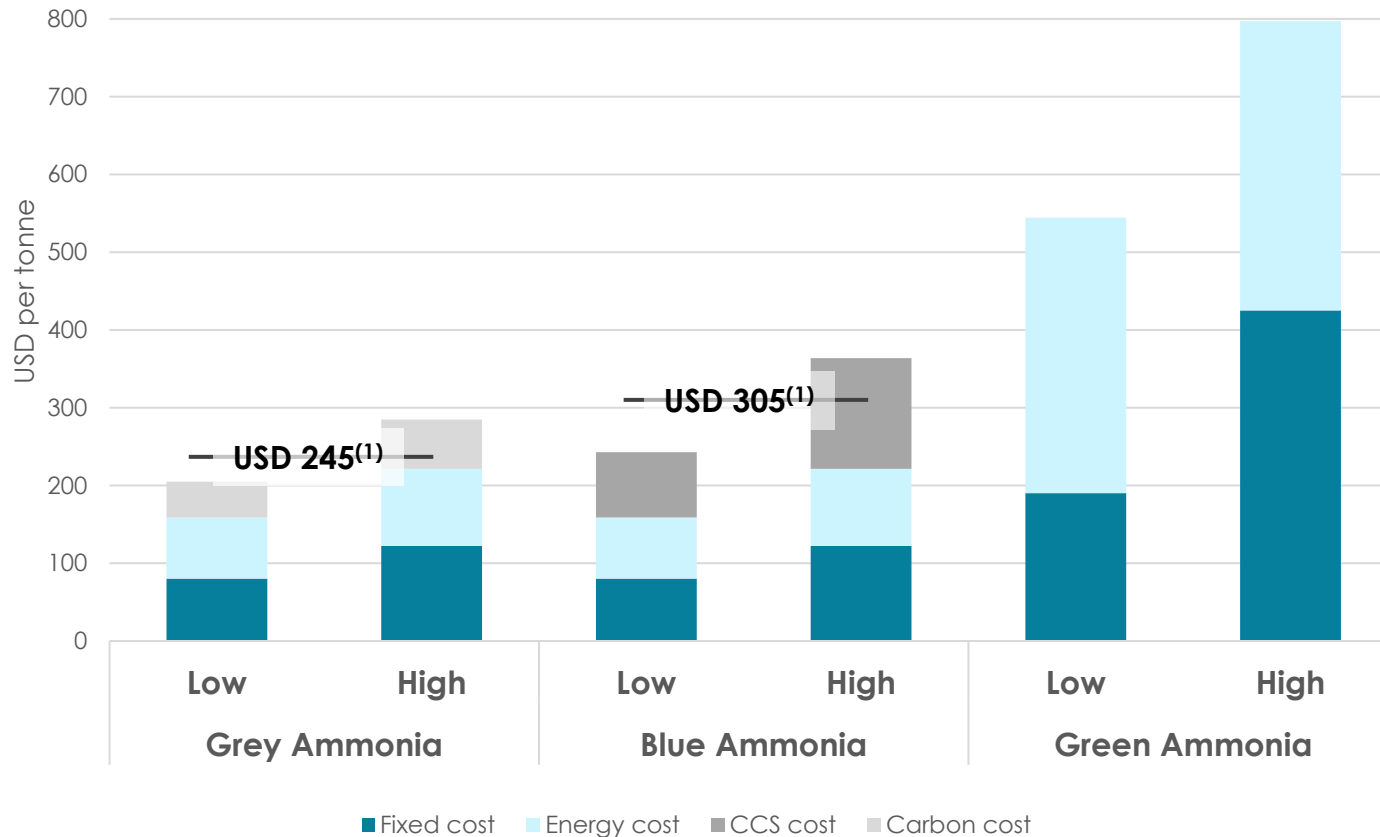
World-scale production of clean ammonia



Project partners:

Equinor
Vår Energi

Ammonia production cost benchmark



(1) Average of Low and High

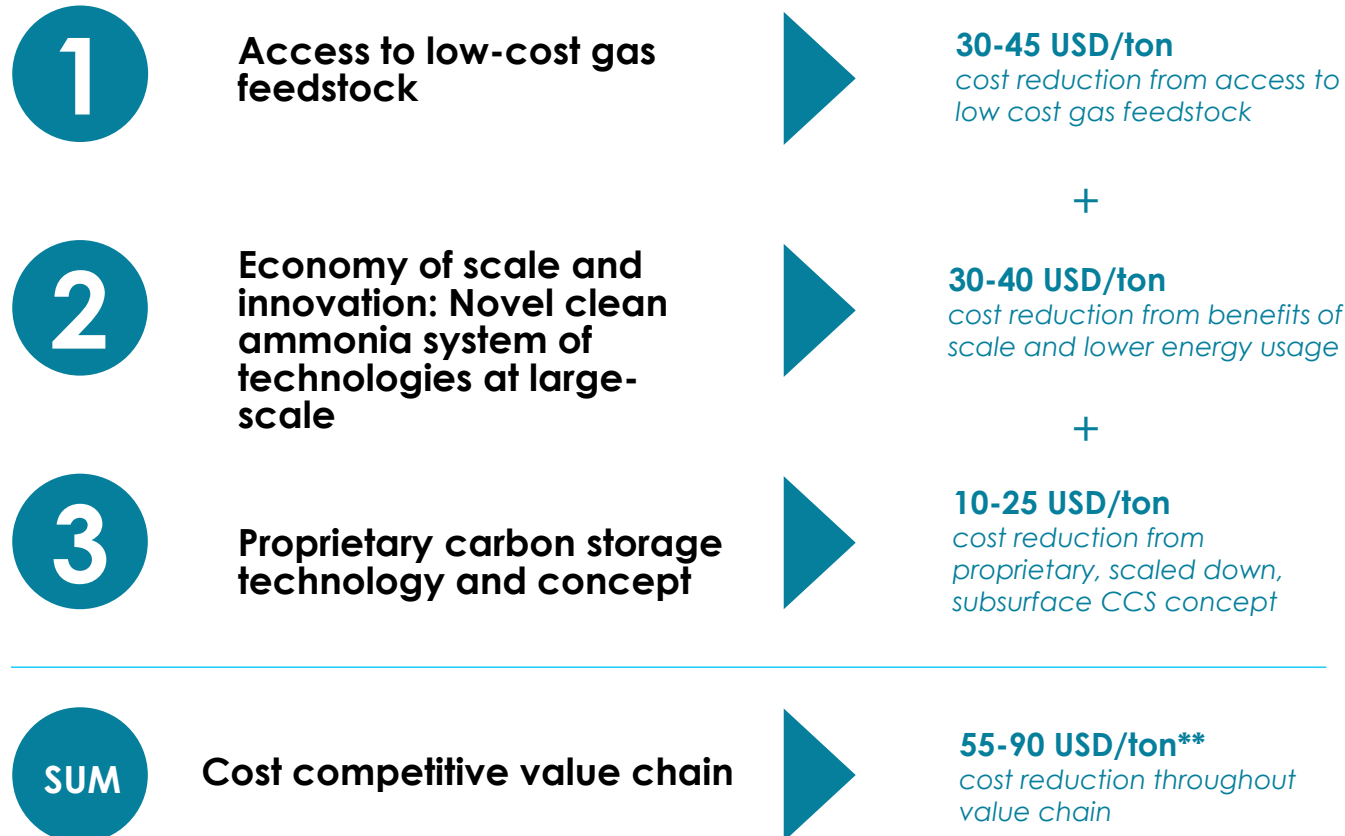
At least two types of ammonia offer clean production without CO₂ emissions; **Clean/blue** and **Green**.

- Clean ammonia is competitive in the present market
- Green ammonia will need a “premium” to be competitive

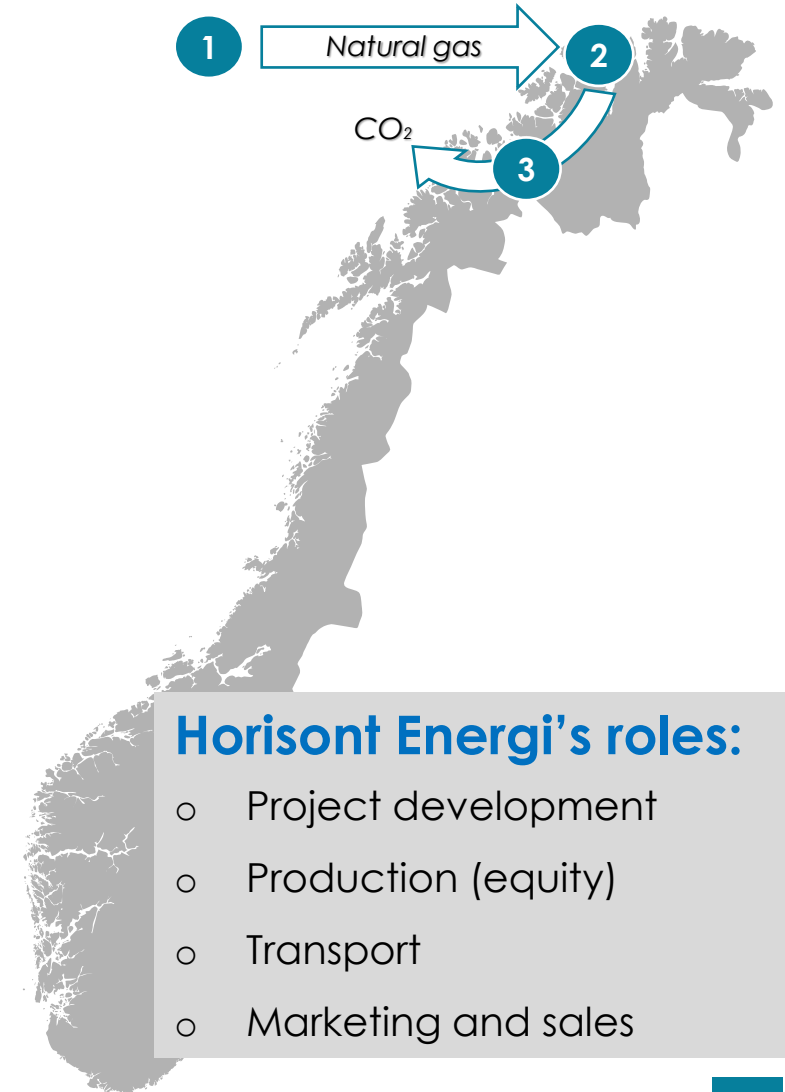
Source: Argus Media, Haldor Topsøe, Alfa Laval, Hafnia, Siemens Gamesa, Vestas, Yara International, ICE, Nord Pool

Notes: Fixed costs include capital cost assuming a 25-year economic life. Based on year-to-date average prices of ETS carbon credits (**EUR 24/tonne CO₂**), electricity prices in Continental Europe (EUR 30/MWh), natural gas at (USD 2.8/MMBtu). Assumes carbon capture cost of USD 60/tonne CO₂ and liquefaction, transport, and storage cost of USD 37.5/tonne CO₂. Assumes USD/EUR of 1.20.

The breakthrough solution by Horisont Energi

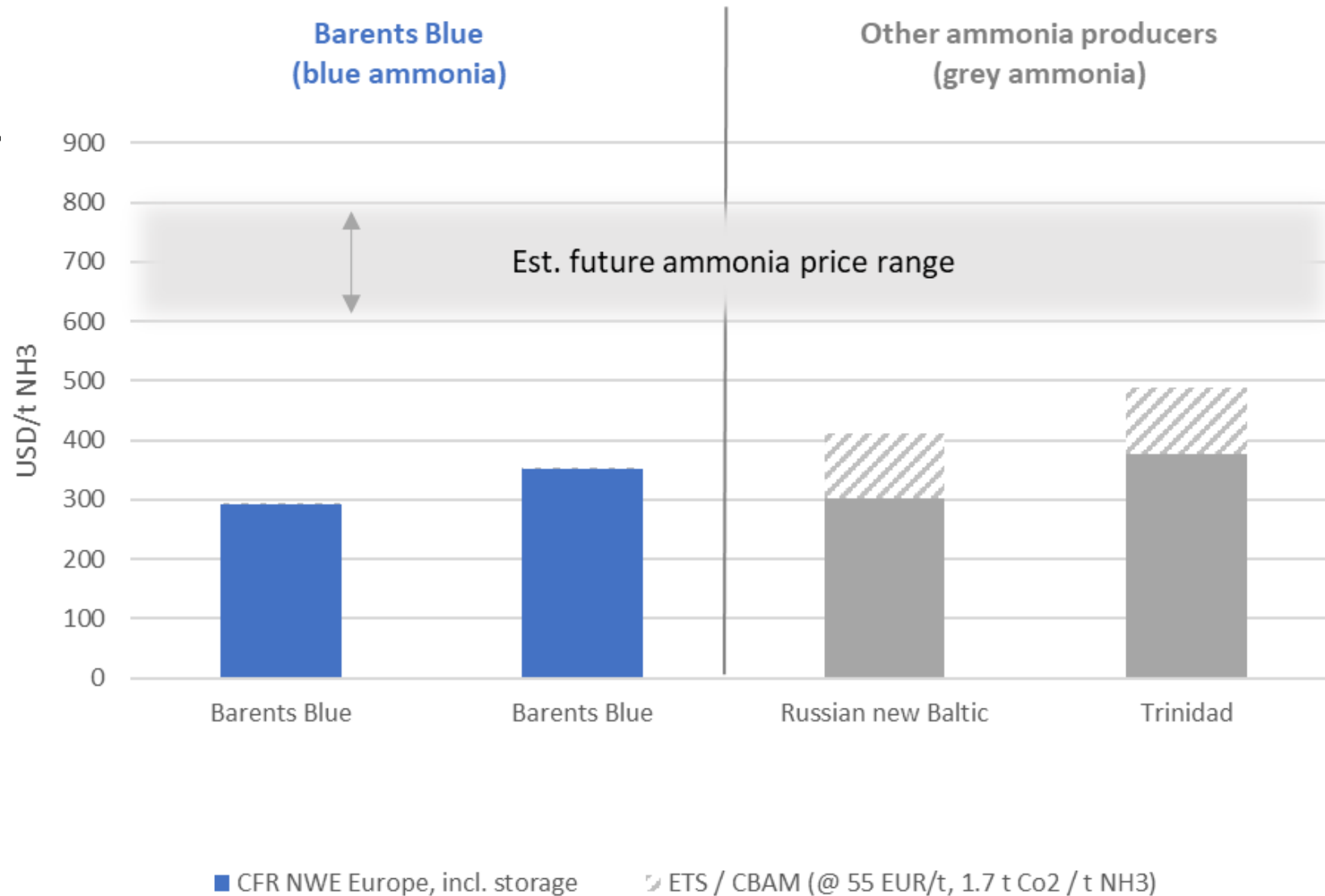


Horisont Energi's technology and value chain will provide a total cost reduction sufficient to compete with grey ammonia



The most competitive ammonia region in EU

Estimated unit cost
(incl. opex, capex,
gas purchase,
freight to market
and CCS)



Timeline Barents Blue

High level Schedule



Completed

- ✓ Project shaping & framing
- ✓ Site selection & civil study
- ✓ Ammonia plant design study
- ✓ Melkøya tie-in study
- ✓ Pipeline study
- ✓ Decision Gate 1 (feasibility)
- ✓ Permitting initiated

Very strong partnership set-up

Baker Hughes



Knutsen
Group



SAIPEM



TECHNIP
ENERGIES

subsea 7



ALCATEL
SUBMARINE
NETWORKS

Multiconsult

HALDOR TOPSØE

WOOD.

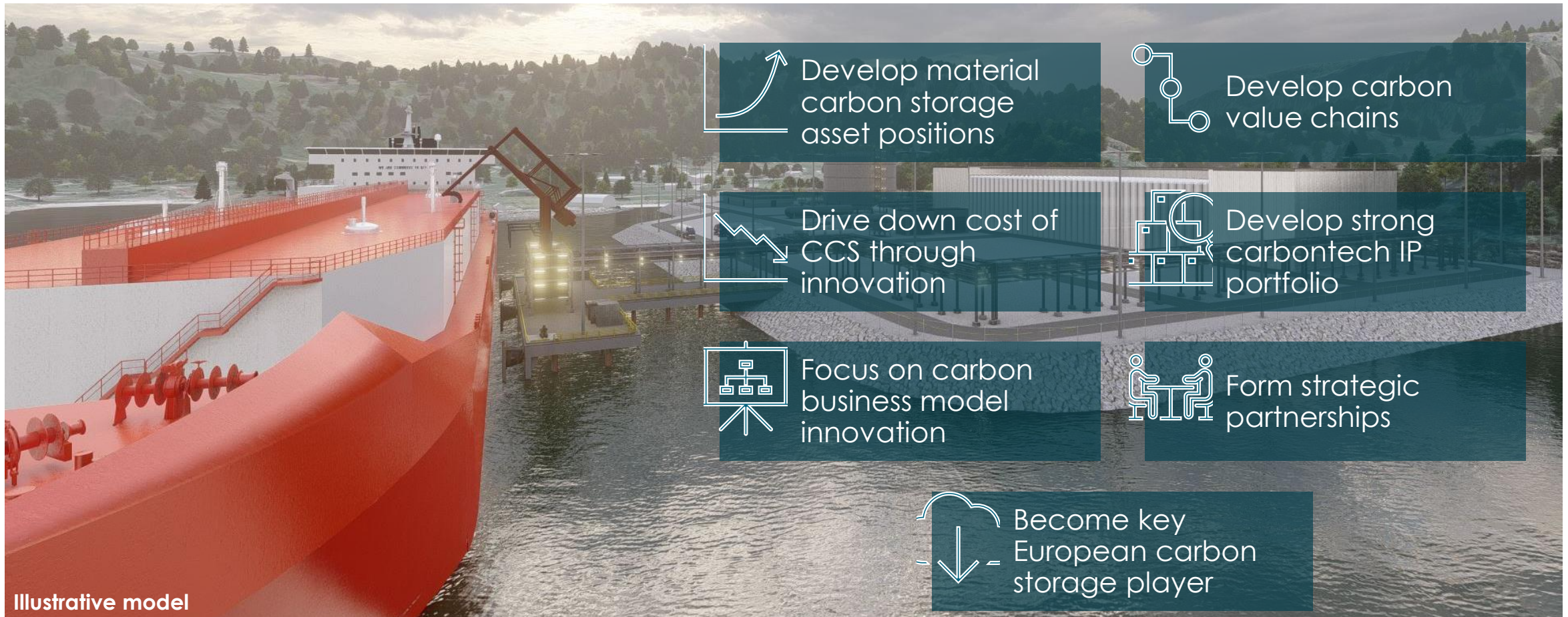
Carbon Transport and Storage as a Service

- Carbon transport and storage as service from customer to offshore storage
- Basis for growth is being established through development of carbon storage assets
- Simplified and fit for purpose offshore solutions to keep costs down
- Strong partnerships in the value chain, including Baker Hughes, TGS, Knutsen OAS Shipping
- Economies of scale will be ensured through flexible and expandable solutions

Illustrative model

Multiconsult

Commercialization and Growth in Carbon Storage



Investment highlights

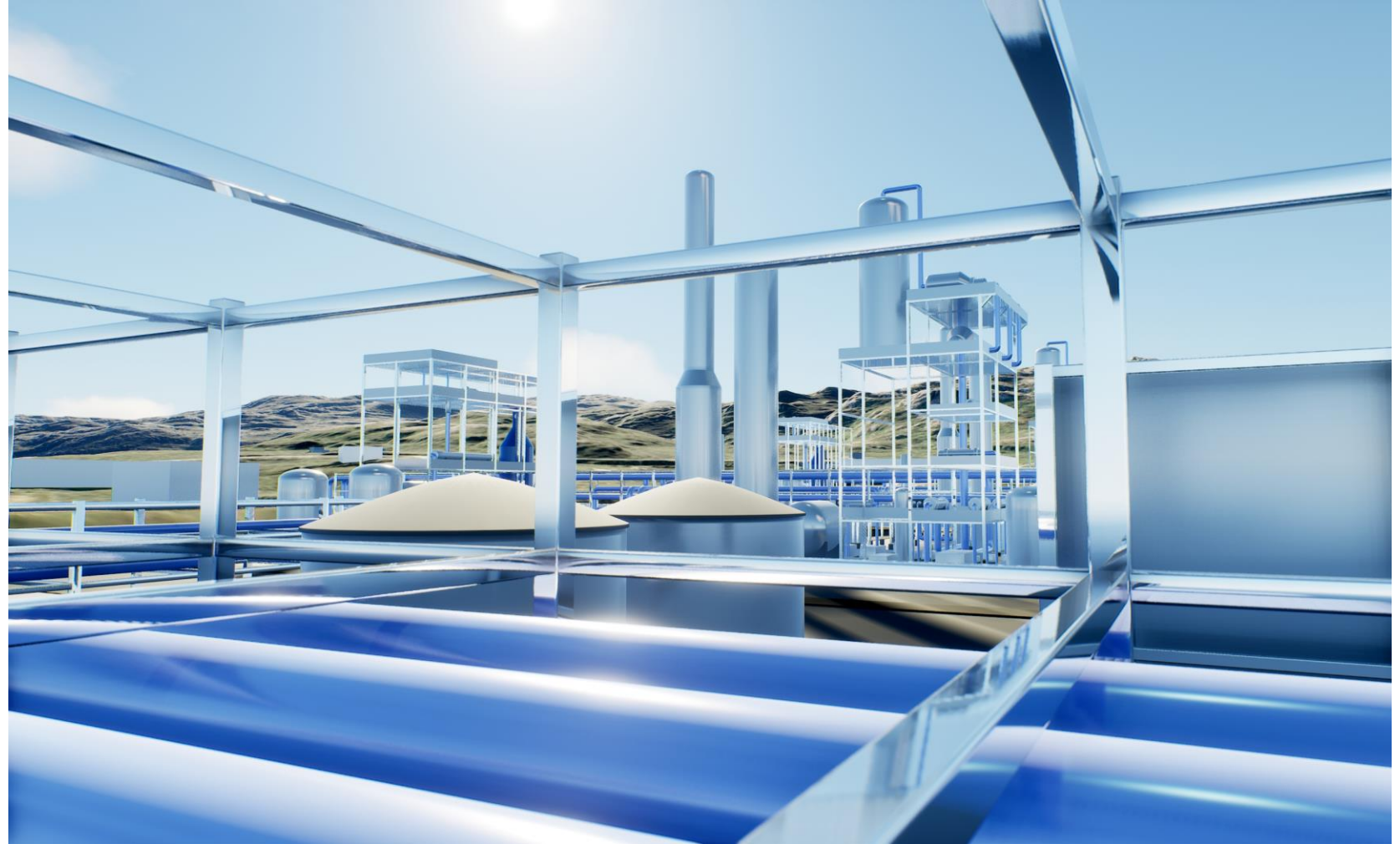
Early mover in world-scale clean ammonia production

Early mover in CCS establishing economies of scale in value chain

Highly attractive economics

Strategic partners in place for rapid development

Experienced and committed team



THANK YOU

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