

# Horisont Energi

SpareBank 1 Markets - Energikonferansen 2021

18 February 2021





# OUR MISSION STATEMENT

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BRIDGING THE GAP TO A  
**CARBON NEUTRAL FUTURE**



# Who we are



Based in Stavanger on the western coast of Norway

- **Founded** in 2019
- **12 employees** and **growing**

Focusing on commercialisation of carbon storage through

- **Clean hydrogen** and **ammonia**
- End-to-end **carbon storage**

Organised with competent and experienced personell for

- **offshore carbon facilities** developments; and
- **onshore hydrogen** and **ammonia facilities** development

# A top-tier European carbon tech company

## 1 The carbon storage cost leader



Europe's preferred carbon storage provider



Europe's leading carbon storage asset developer

## 2 First to market with world scale blue ammonia



Deliver cost-competitive clean ammonia to the global market



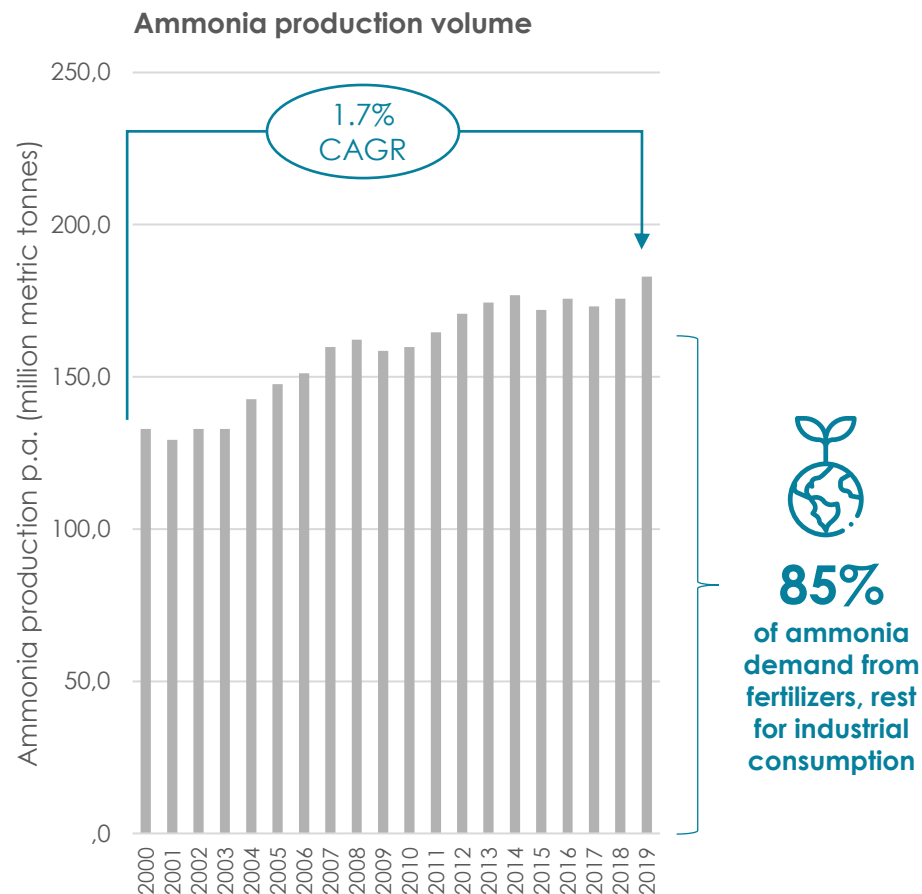
Become the preferred supplier of clean ammonia in Northern Europe



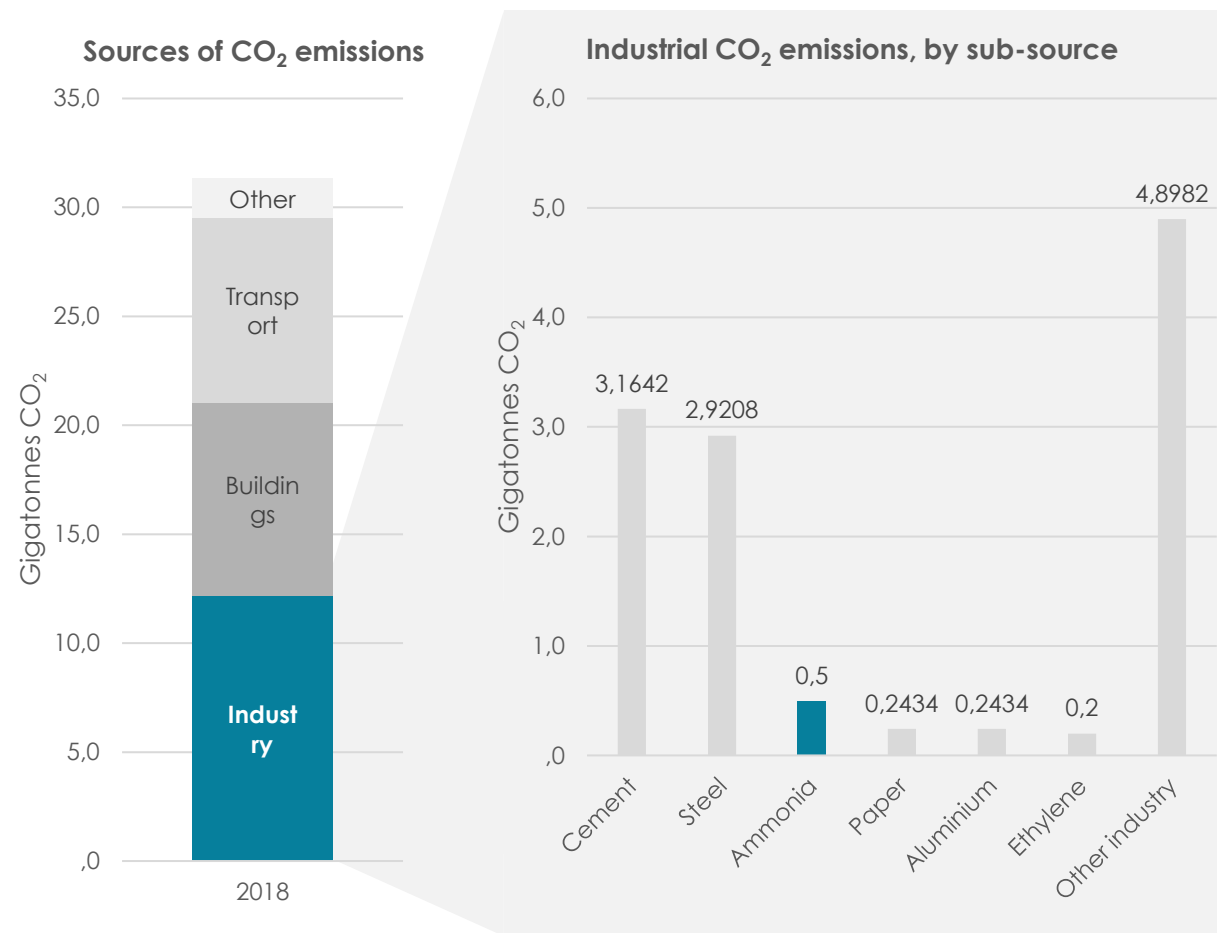


# Critical to decarbonize ammonia production

## Critical market growing steadily



## Large source of CO<sub>2</sub> emissions globally

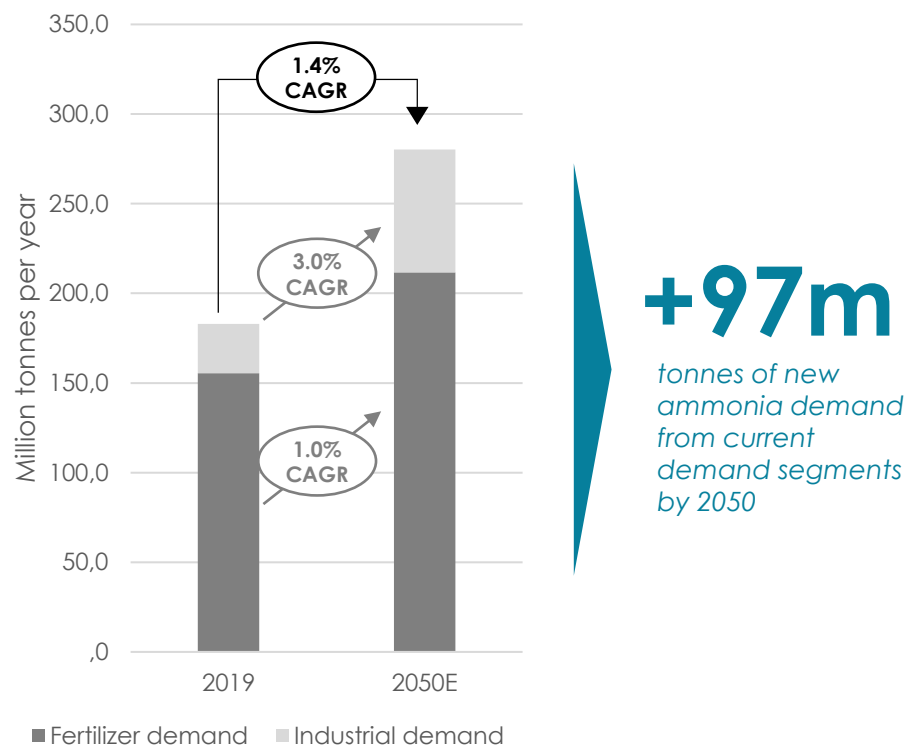


Source: U.S. Geological Survey: Mineral Commodity Summaries 2002-2020, Yara Fertilizer Handbook 2018, IEA, McKinsey & Company

Notes: Emissions include indirect emissions from electricity and heat production. Fertilizers' share of ammonia demand from 2017 (according to Yara Fertilizer Handbook 2018)

# (Clean) Ammonia demand likely to grow fast

## Current verticals: Fertilizer and industry



## Emerging verticals: Fuel and power



### Marine fuel

Ammonia considered a highly viable alternative fuel for maritime transport, with DNV-GL expecting its share of the fuel consumption to reach 30-60% of the total by 2050

**+150m**

tonnes of new ammonia demand from marine fuel by 2050



### Power sector

Countries reliant on imported fossil fuels for power production see ammonia as a high-potential alternative. Japan alone could demand 30m tonnes of ammonia to supply only 10% of its power needs. The ambition is 100% carbon free power production.

**+30m**

tonnes of new ammonia demand from Japanese power sector. Other countries may also make a similar transition.

- The ammonia market growth will come from Clean Ammonia, either Blue or Green
- In addition, the established ammonia production capacity will be de-carbonized, driven by carbon border taxes and ESG requirements

Source: U.S. Geological Survey: Mineral Commodity Summaries 2002-2020, Yara Fertilizer Handbook 2018, DNV-GL: Maritime Forecast to 2050, Institute of Energy Economics Japan,  
Notes: Assumes ammonia production growth in line with historical average, with 15% of total demand coming from industrial sector in 2019. Marine fuel demand assumes 30% of fuel mix in 2050 is from ammonia.

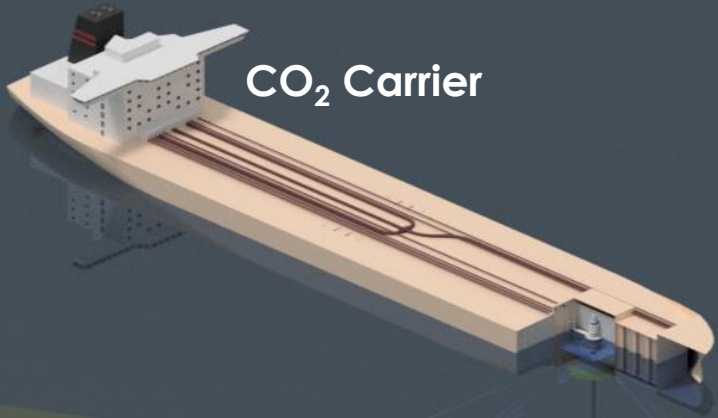
# Project Barents Blue

First green field world-scale clean ammonia project in Europe





# Polaris CO<sub>2</sub> Injection



Onshore Control Room



Offshore off-loading system

Power & control cable to shore

CO<sub>2</sub> injection system

CO<sub>2</sub> injection riser

## Technical data

- CO<sub>2</sub> injection 1.8-2.0 million tons/year
- 2 off CO<sub>2</sub> carrier vessel in transit
- Reservoir and environmental monitoring



# Summary

- Clean ammonia is a key component in a decarbonised economy
- Regulation and infrastructure is already in place for scaling clean ammonia
- Horisont Energi is the first pure carbon storage company offshore Norway
- We are uniquely positioned to deliver clean ammonia
- Horisont Energi will deliver both blue and green ammonia projects
- Project Barents Blue is the first green field world-scale clean ammonia project in Europe



**THANK YOU**