



# Northern Lights JV DA

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# CO<sub>2</sub> transport & storage at scale



## NORTHERN LIGHTS SCOPE

### CO<sub>2</sub> capture

Capture from industrial plants.  
Liquefaction and temporary storage.



### Transport

Liquid CO<sub>2</sub>  
transported by ship.



### Receiving terminal

Intermediate onshore storage.  
Pipeline transport to offshore  
storage location.



### Permanent storage

CO<sub>2</sub> is injected into a saline aquifer.

100 km

2 600m



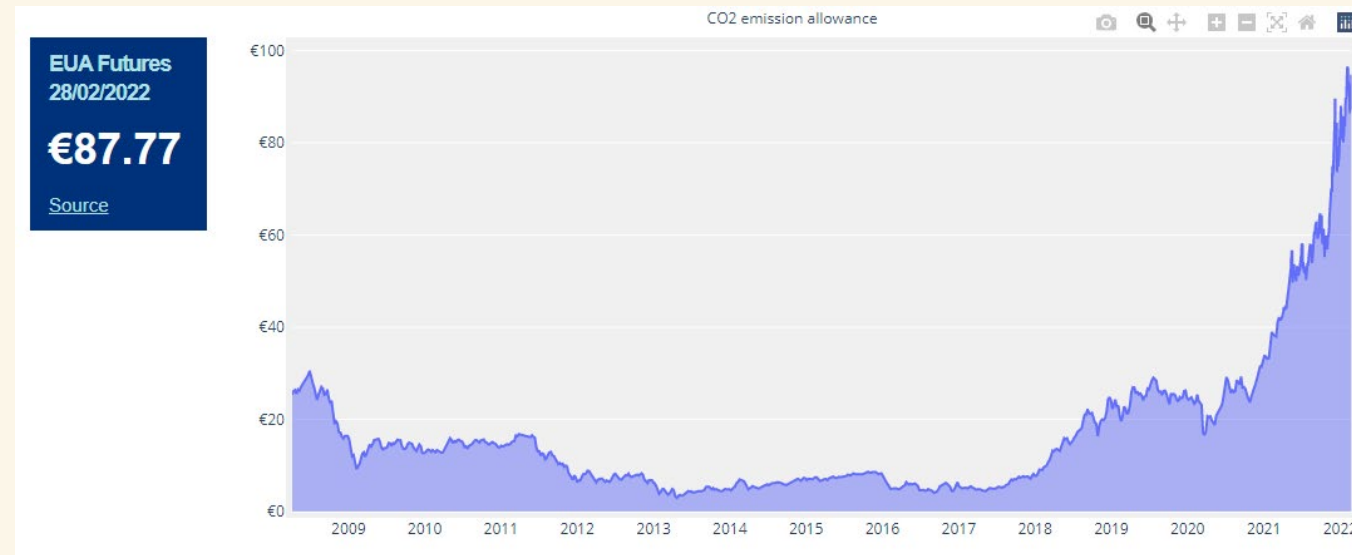
# European CO<sub>2</sub> value chain

- Northern Lights is developing the first open source CO<sub>2</sub>-transport and storage network.
- Offering flexible ship based transport and permanent storage.
- Discussions with potential customers ongoing.
- Expecting to sign first commercial contract in 2022.

## EU ETS importance

- The high CO<sub>2</sub> price helps put CCS on the agenda but it is too early to say if it is triggering investment decisions.
- We are experiencing high interest from industrial companies in countries with CO<sub>2</sub> taxation schemes on top of ETS. Typically these countries also offer support mechanisms for realisation of industrial climate change mitigation initiatives.

## EU ETS 28th February 2022



Source: <https://sandbag.be/index.php/carbon-price-viewer/>

# EU Project of Common Interest



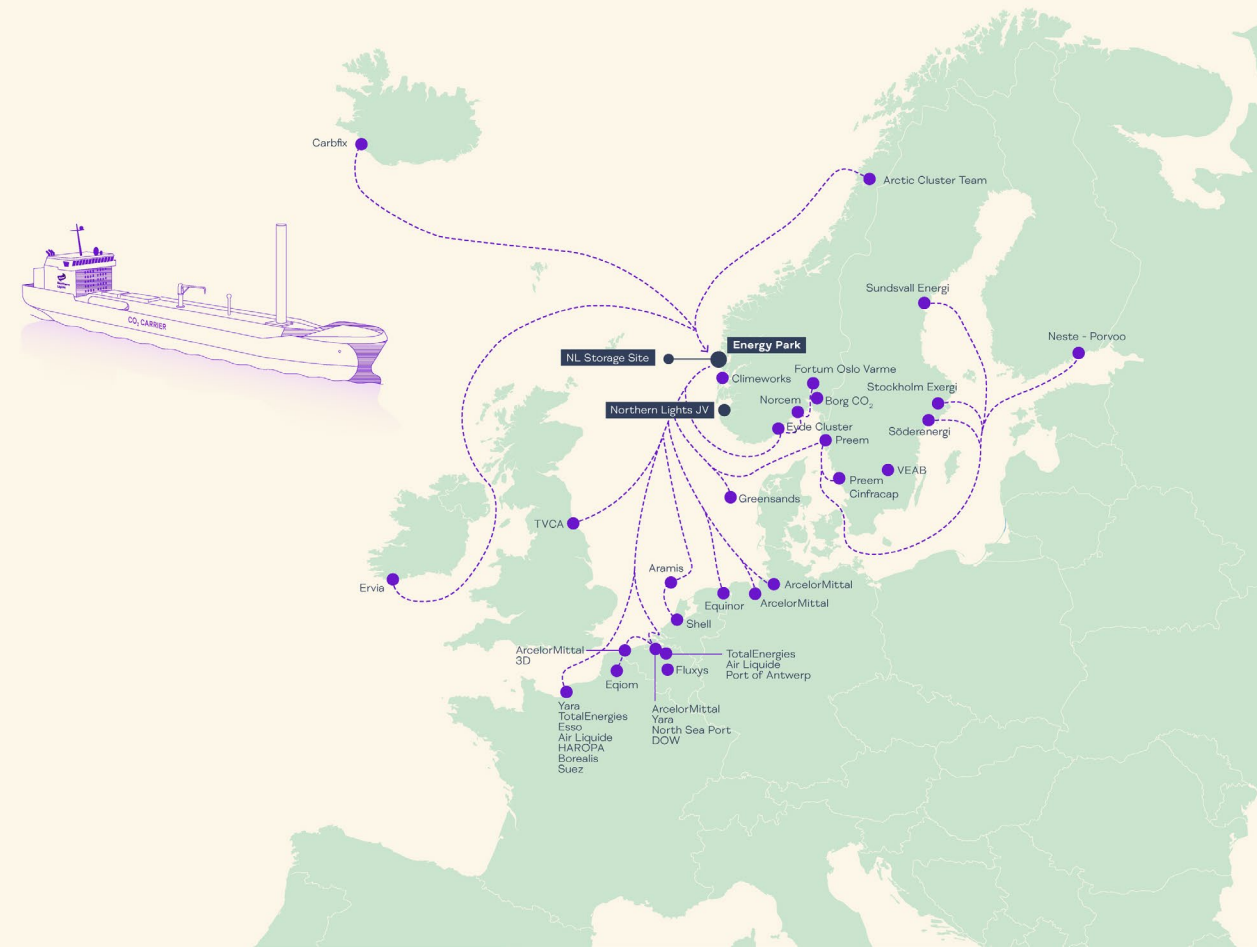
Nominated to the 5<sup>th</sup> PCI list.  
EU parliament approval expected March 2022.



- ✓ Infrastructure projects that link the energy systems of EU countries
- ✓ Eligible for European **Connecting Europe Facilities (CEF) funding**, accelerated permitting and authorisation processes
- ✓ Preselected for EU funding €4.25 M for Phase 2 FEED studies

## Northern Lights has been nominated to the 5<sup>th</sup> list (November 2021) with 18 promoters and 22 affiliates

- Capture potential of ~19 Mtpa in 2030 by promoters only (~32 Mtpa including affiliates)
- Promoters in Norway, France, Belgium, Netherlands, Germany, Sweden, and Finland
- Capture sites and promotion on standardisation



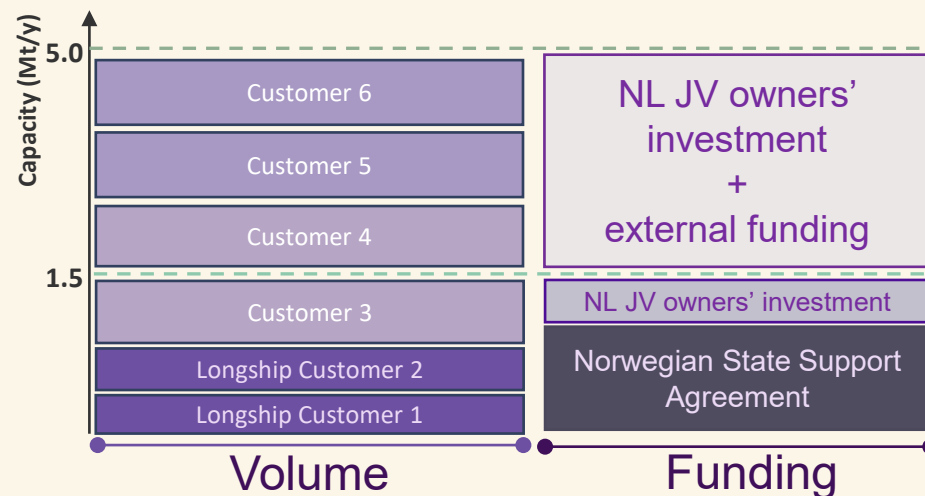
# Market concern: Availability of capacity

## → Storage capacity being developed in two phases:

- Phase 1 → capacity to transport, inject and store up to 1.5 Mtpa of CO<sub>2</sub>
  - Construction of both on- and offshore facilities commenced in 2021
  - Operational by mid 2024
- Phase 2 → capacity to transport, inject and store over 5 Mtpa of CO<sub>2</sub>
  - Capacity to be increased as demand grows across Europe
  - Part of the Phase 1 infrastructure has already been designed to 5 Mtpa capacity (pipeline and umbilical)
  - Ambition to be operational by 2026

## → PCI storage capacity needs to scale up beyond Phase 2 in line with the market development, and availability of funding

- Possible Phase 3 from 2028

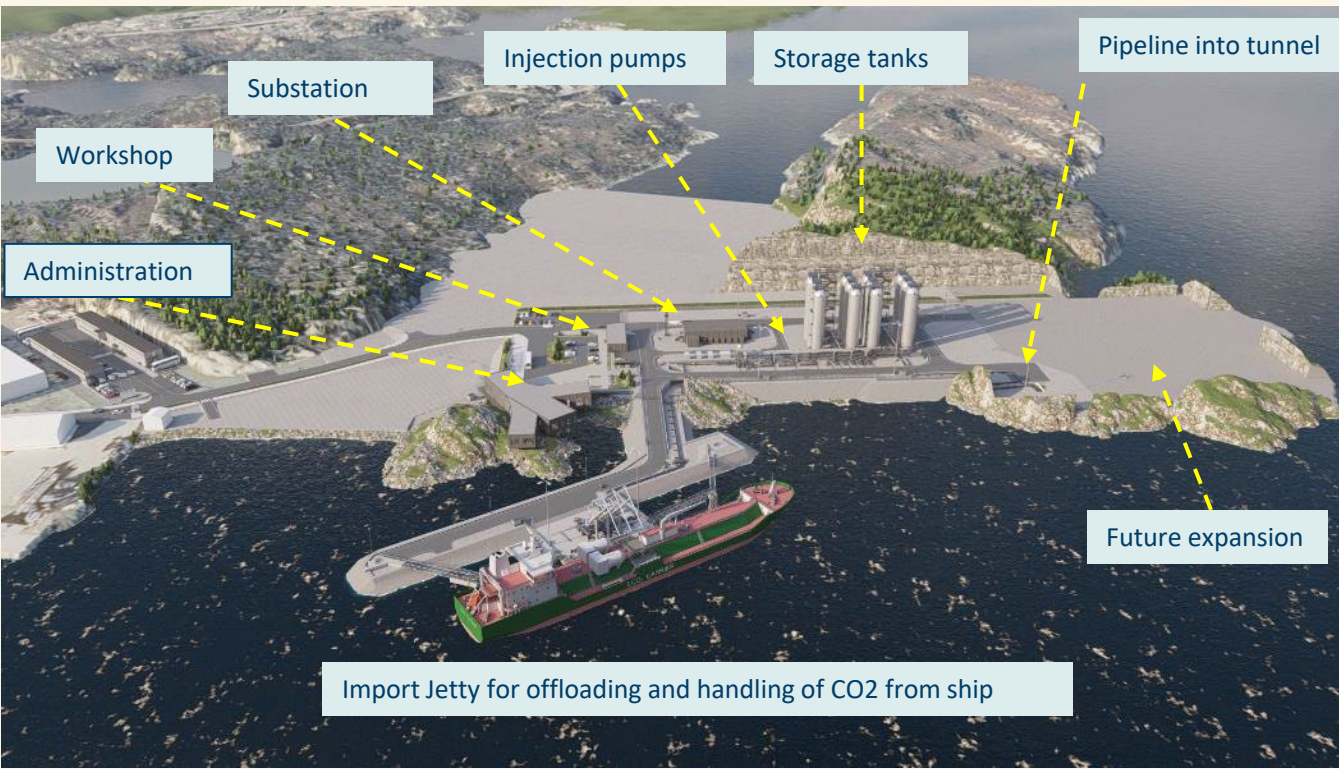


# Receiving terminal Øygarden



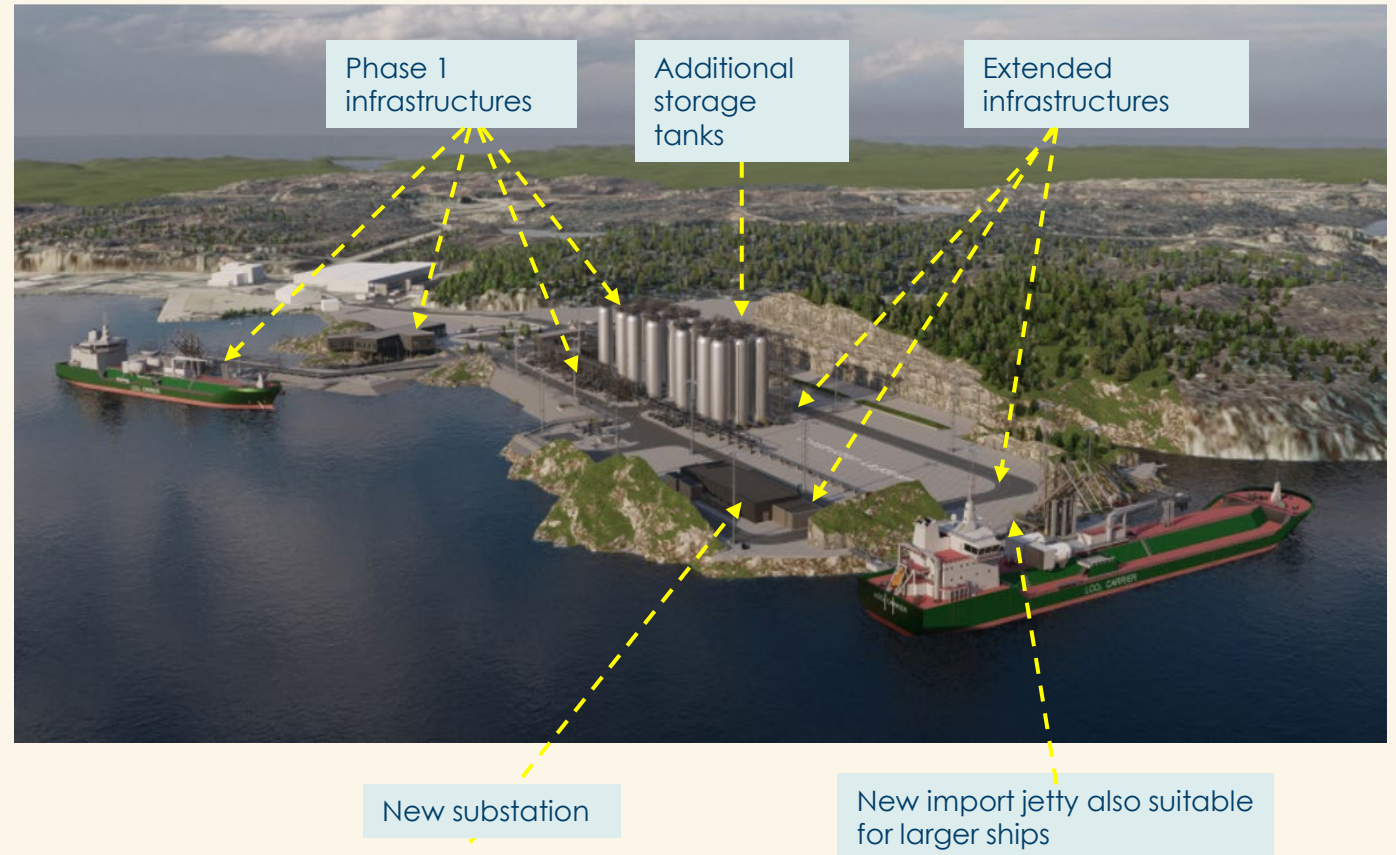
- Civil works completed
- Import jetty construction well under way
- Project office and visitor centre in place

- Detail engineering and procurement ongoing
- Fabrication and installation of plant started
- Additional area for expansion included



# Phase 2 scope of work

- Additional area for expansion included and prepared
- Integration with Phase 1
- Additional connected storage with Phase 1 (temporary storage tanks)
- New pumping unit, new substation, control system update
- New/extended utilities
- New jetty
- SURF expansion (additional structures for additional wells)
- Drilling & completion wells 3,4,5





# Northern Lights

[norlights.com](http://norlights.com)