

Networking on CCUS

- Added value to CCUS deployment

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Chairwoman of NGCCUS, 2022

Norwegian Ministry of Petroleum and Energy

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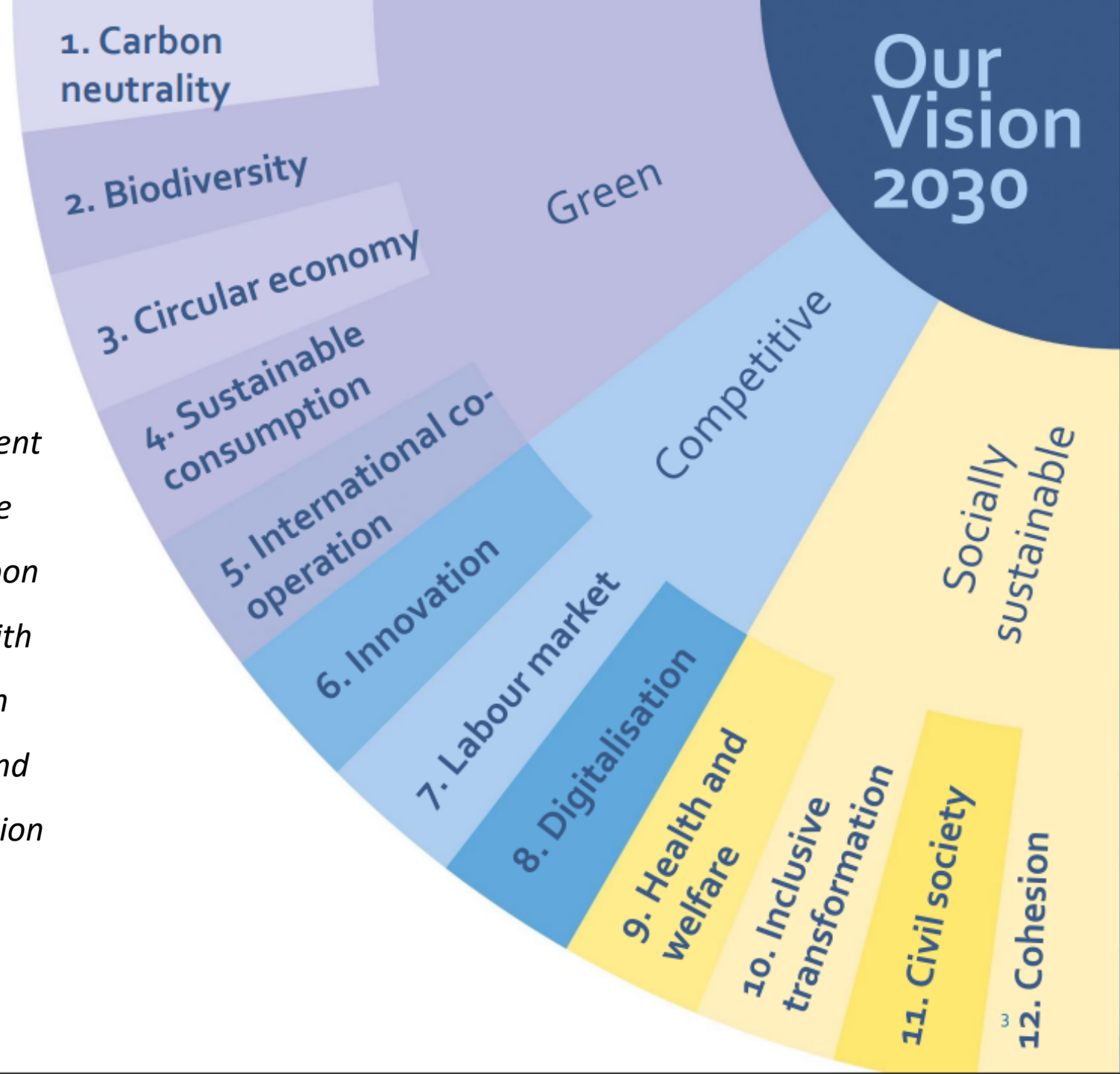


*The Nordic-Baltic cooperation (NB8)
is a regional cooperation format*

The cooperation brings together Nordic and Baltic countries in order to discuss important regional and international issues in an informal atmosphere

**Declaration of Nordic Carbon Neutrality
by the Nordic Prime Ministers in 2019:**

*“We will intensify our cooperation
in order to (...) Contributing to further development
and deployment of carbon capture and storage
(CCS), carbon capture and utilization (CCU), carbon
capture and mineralization (CCM), bioenergy with
CCS (BECCS) technologies, conducting research
to resolve the remaining technical challenges and
developing business models for the implementation
of CCS, CCU and CCM.”*



NGCCUS, 2019-2021, 2022-2024

Why was the group established?

- The NGCCUS emerged in 2018, after it was noted that there was a significantly increased interest for CCUS and decarbonization strategies in these regions

Who is involved in the group?

- Representatives from Nordic countries and autonomous regions, as well as the Baltic countries

Organisation of the group

- Chairmanships rotating 2022-2024 – Norway in 2022 followed by Iceland in 2023 (follows the chairmanship of the Nordic Council of Ministers)
- Working language is English
- The secretariate is Nordic Energy Research (NER)
- The NGCCUS is granted an annual financial contribution and can apply for additional funding for projects
- The group reports to the EK-E

NGCCUS, 2022-2024

New mandate and work plan 2022-2024

- Two annual meetings – spring and autumn
- Series of workshops, webinars and discussions
- Reference group for Baltic Carbon Forum
- Project and policy initiatives
- Enlarged networking on demand also with the Nordic Working Groups

What does the group aim to do?

- promote information exchange and cooperation on CCUS policy development and decarbonization,
- stimulate creation and dissemination of new knowledge
- facilitate dialogue on CCUS related to EU/EEA processes
- facilitate dialogue on how Nordic, Baltic and EU strategies can play together and reinforce each other.
- prepare proposals for EK-E and assist the formal Nordic cooperation

NGCCUS, 2021, 2022

Webinars carried out in 2021

- Bio-CCS and incentives for negative CO2 emissions
- Hydrogen, electro-fuels, CCU and CCS in a Nordic context

Webinars planned in 2022

- How to target negative CO2 emissions, the EU ETS, BECCS and certification
- The implementation of the “Fit for 55” –package and its impact on CCUS
- Hydrogen and CCUS

NGCCUS, *added value to CCUS deployment – financing*

Our added value?

- Facilitate dialogue on CCUS related policy issues on financing
- Consider how Nordic, Baltic and EU strategies on financing and incentives can play together and reinforce each other
- Dynamic way of exchanging information and adapting to current Nordic-Baltic policies
- Contribute to a long-lasting cooperation on CCUS in the Nordic-Baltic region through networking

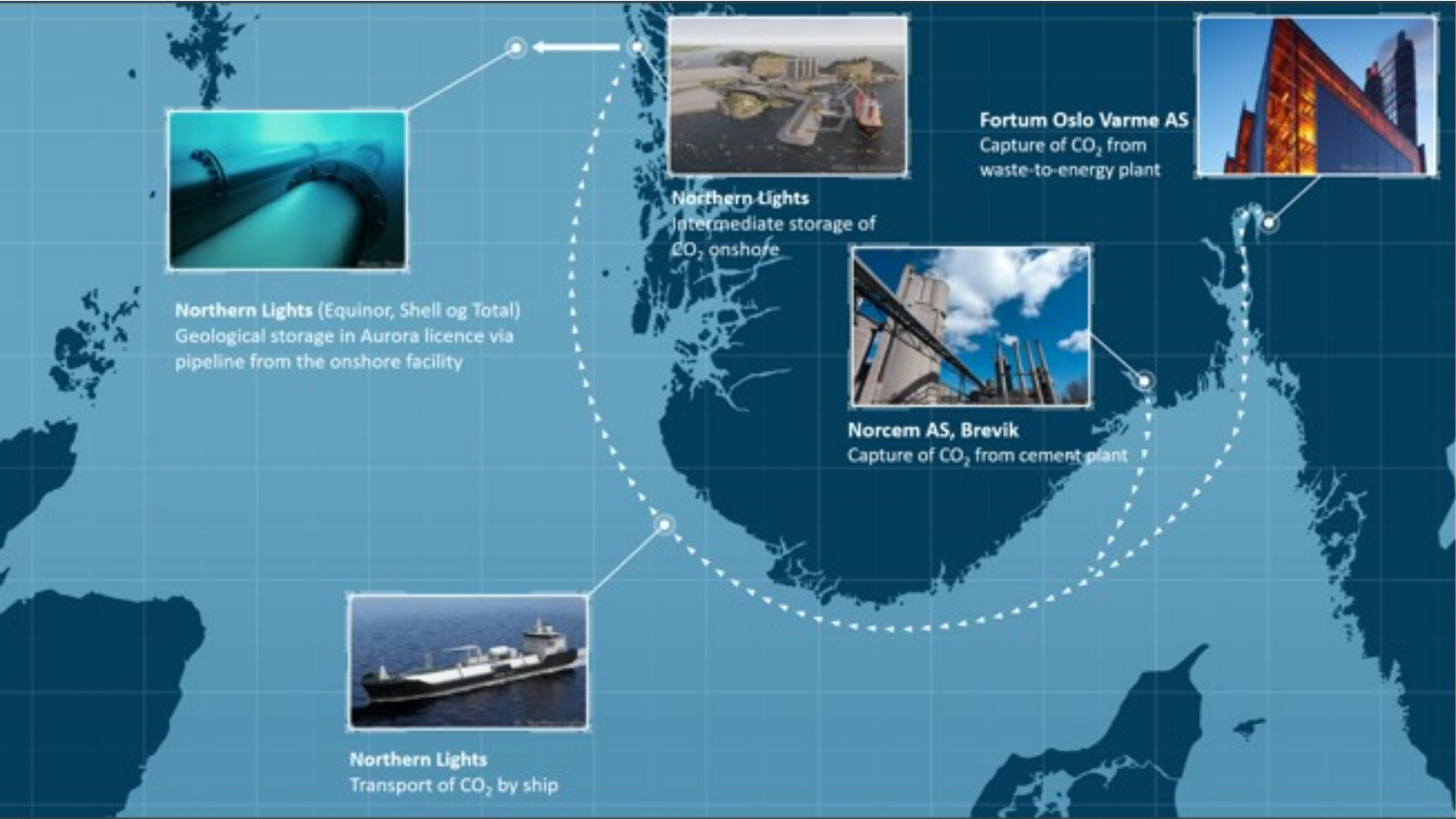
How?

- Network collaboration
- Meetings, workshops and seminars
- Knowledge creation and dissemination




An example from *Norway*

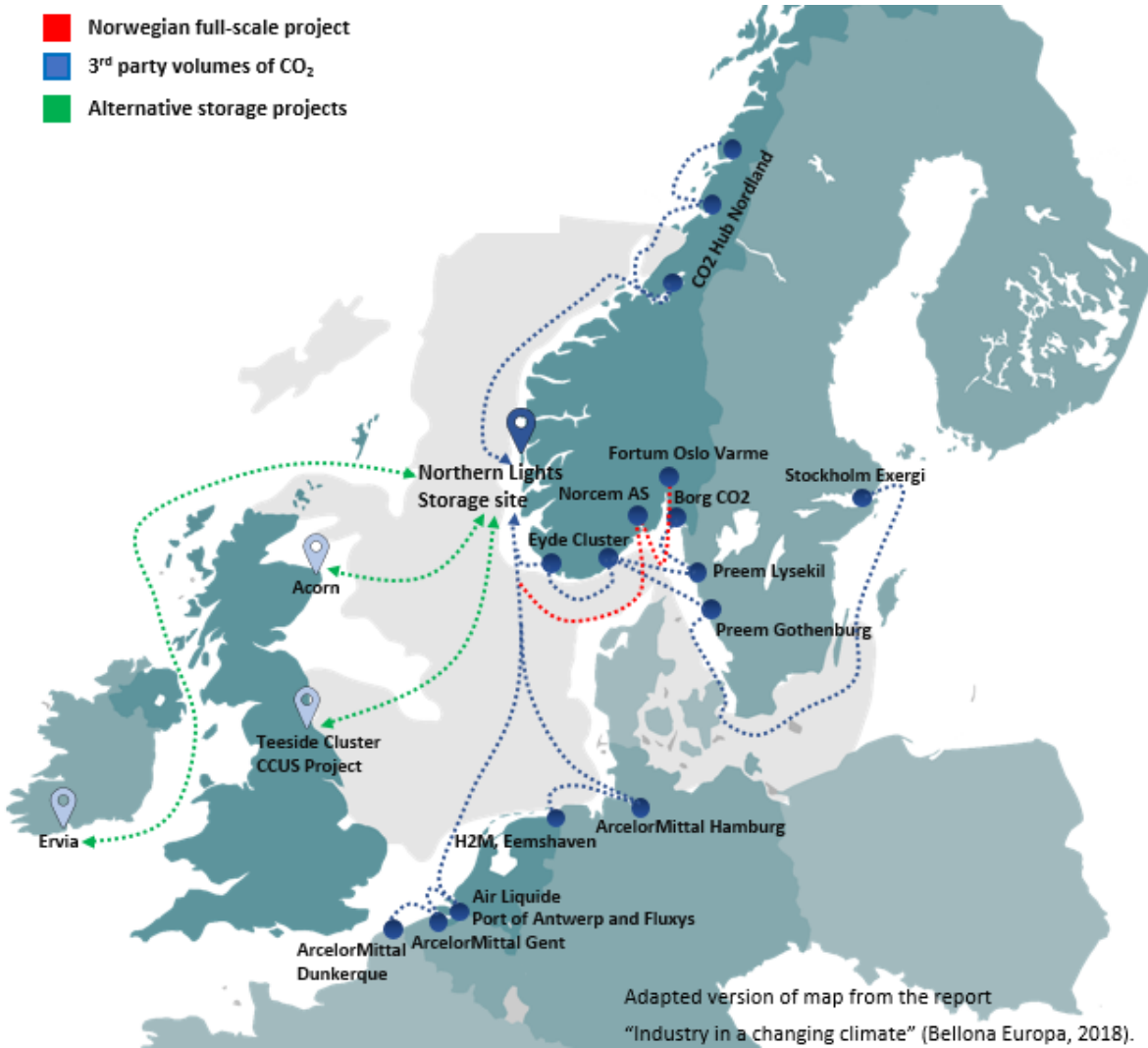
- High investment and operating costs combined with low income potential and technical risk make it challenging for commercial actors to invest in CCS.
- Norway implemented a financial incentive for CCS already in 1991 – through a carbon tax
- The current market situation does not provide sufficient incentives to implement and develop CCS.
- Necessary for countries to contribute to the development of CCS to achieve faster dissemination and deployment.

Longship

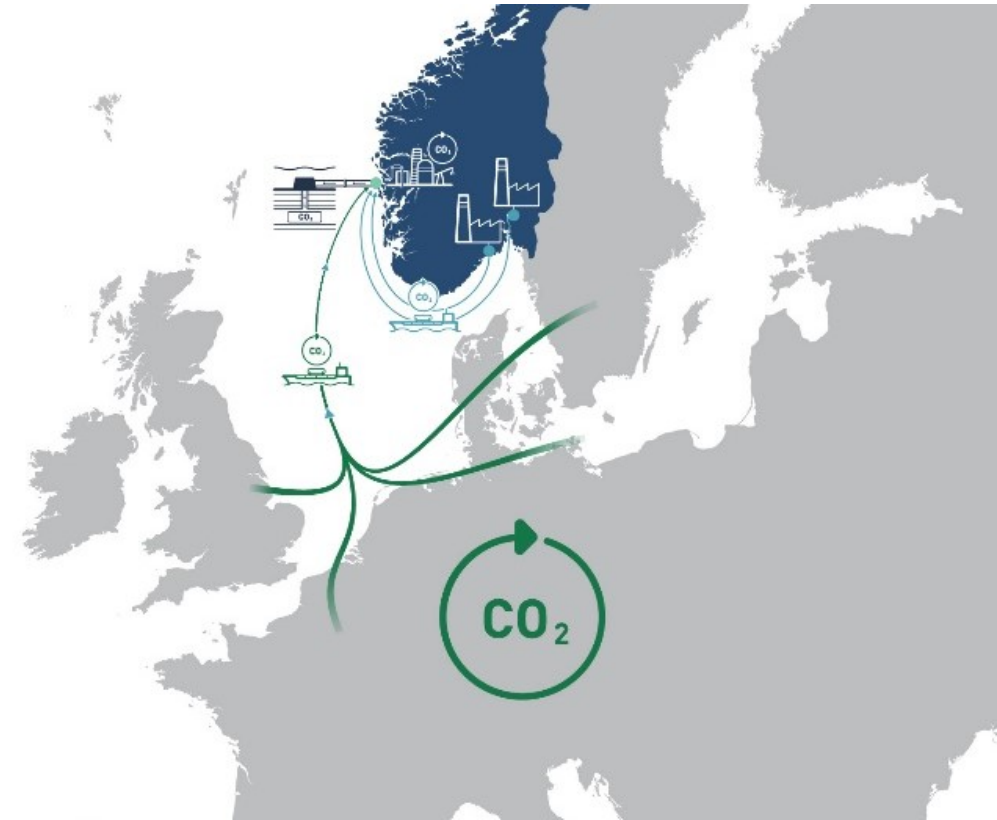


Longship

-  Norwegian full-scale project
-  3rd party volumes of CO₂
-  Alternative storage projects

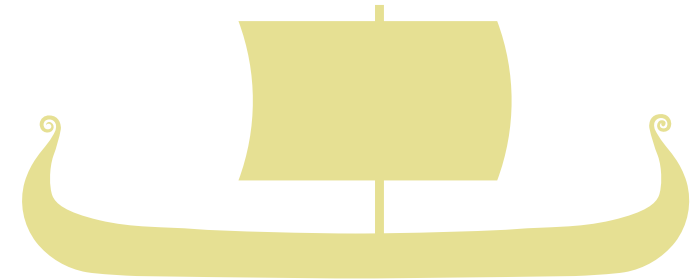


Adapted version of map from the report
"Industry in a changing climate" (Bellona Europa, 2018).



Longship - *costs* (Capex and 10 years of operation)

	Grand Total	Industry and other sources	State Aid
Bn. euros	2.5	0.8	1.7



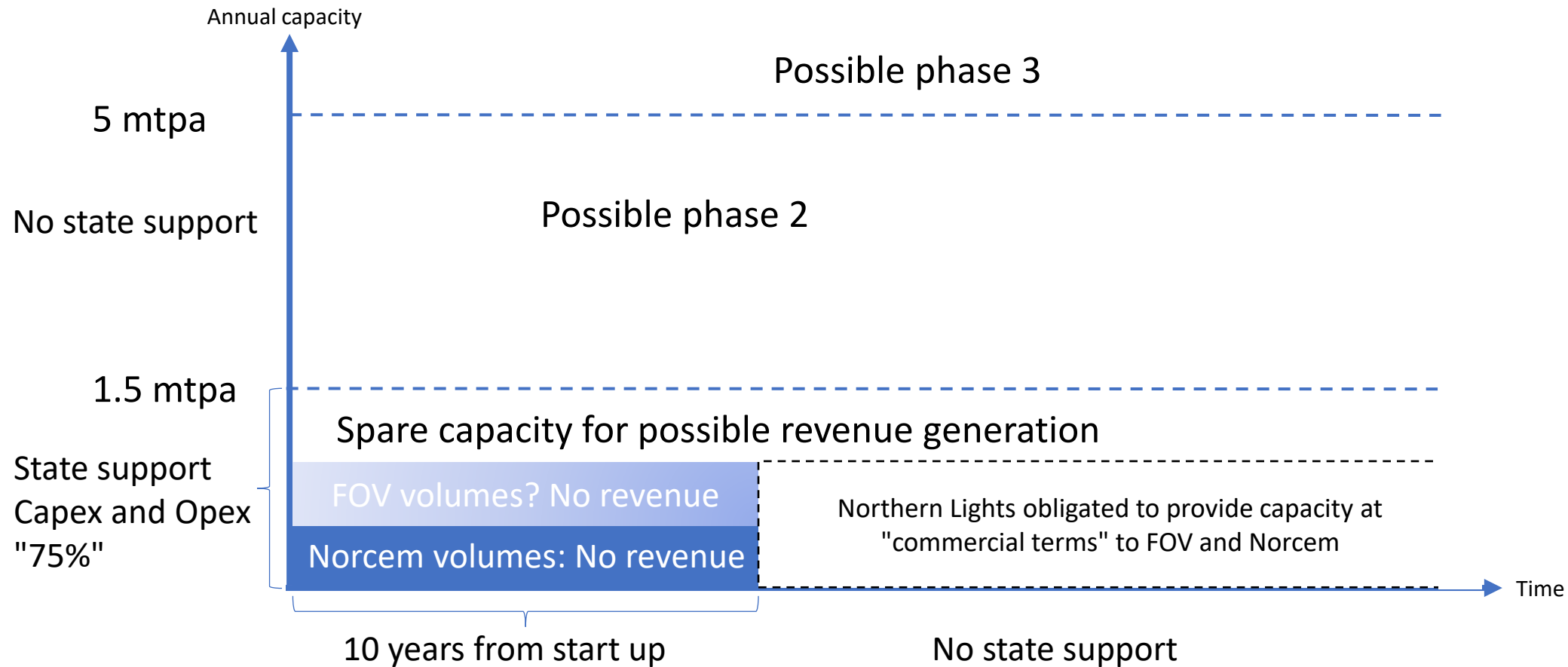
Longship - *General funding model*

- State Aid Agreements regulate state funding and risk allocation
- Costs and risks are shared between the companies and the state as they occur
 - The state covers around 2/3 of the costs for development and first 10 years of operation
- The state's actual costs depend on the actual costs of the project
 - If project costs increase → state's costs increase
- Agreed maximum limit/cap
- Companies keep savings/revenues
- Gain share mechanism if return on investment reaches a certain level

Longship - *General risk allocation principles*

- The state has separate state aid agreements with the capture project and the transport and storage project → state assumes interface risk
- Companies cover share of actual costs when they accrue → incentives to keep costs down
- Delay in project completion will increase costs and delay revenues or savings → companies have incentives to complete project on time

Longship - *Funding model Northern Lights*



Northern Lights will only generate positive returns if they are able to sell capacity to new customers => Powerful incentive

Longship - *Rationale for business model*

- First of a kind project
- To develop a full value chain with different players the state takes the role as intermediary in the first phase
- The model will only apply for the Longship project. General funding mechanisms will apply for future projects (e.g. Enova)
- Strong and aligned incentives

Conclusions

- The funding model has contributed to offensive commercial commitments by Northern Lights
- The funding model has been important ensure the start of constructions
- Accelerated the planning of projects in Europe
- A Norwegian storage provides incentives to provide funding for CO₂-capture projects

Longship - *Status of the project*

- Estimated costs for Norcem have increased
- Fortum Oslo Varme did not receive support from the EU Innovation Fund for the first round of applications
 - The project is now awaiting clarification on financing
- Four of the seven projects that received funding from the Innovation Fund have a CCS component
- Construction activities at Norcem and Northern Lights going according to plan

NGCCUS, *List of participants*

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[Networking group on CCUS | Nordic cooperation \(norden.org\)](#)

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Thank you for your attention!

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