Fisk og havvind 2024

June 12th 2024, Stavanger

Jorne Bluekens, Project Manager Ventyr SNII

Ventyr is a complementary alliance composed out of **Parkwind** and **Ingka Investments**, with **NorSea Group** as strategic supplier, ready to jump start Norway's offshore wind industry.

https://ventyrenergy.com/

Reference projects

2010
Belwind
165 MW
47 KM from shore
Between 18 -31mts depth
55 turbines / 3MW
Powers 170,000 households

2014
Northwind
216 MW
37 KM from shore
Between 16 -29mts depth
72 Turbines/ 3MW
Powers 220,000 households

2017
Nobelwind
165 MW
47 KM from shore
Between 25 -38mts depth
50 Turbines / 3,3MW
Powers 170,000 households

2017
Oriel Windfarm
Acquisition Oriel
North Irish sea
+/- 330 MW
15 KM from shore
Between 15 -30mts depth
Under development

2020
Northwester 2
219 MW
47 KM from shore
Approximately 35mts depth
23 Turbines / 9.5MW
Powers 220,000 households

2023
Arcadis Ost 1
257 MW
Baltic Sea
Up to 45mts depth
27 Turbines / 9.5 MW
Powers 290,000 households

2023
Formosa 2
376 MW
Between 4 – 10 km from shore
47 Turbines / 8 MW
Powers 380,000 households

Leveraging our joint experience

Know-how across the full project value chain

1 DEVELOPMENT

More than 10 years of experience In project development.

2 FINANCING

Lasting relationships with financial institutions.

3 CONSTRUCTION

Supplier relationships & supply chain knowledge.

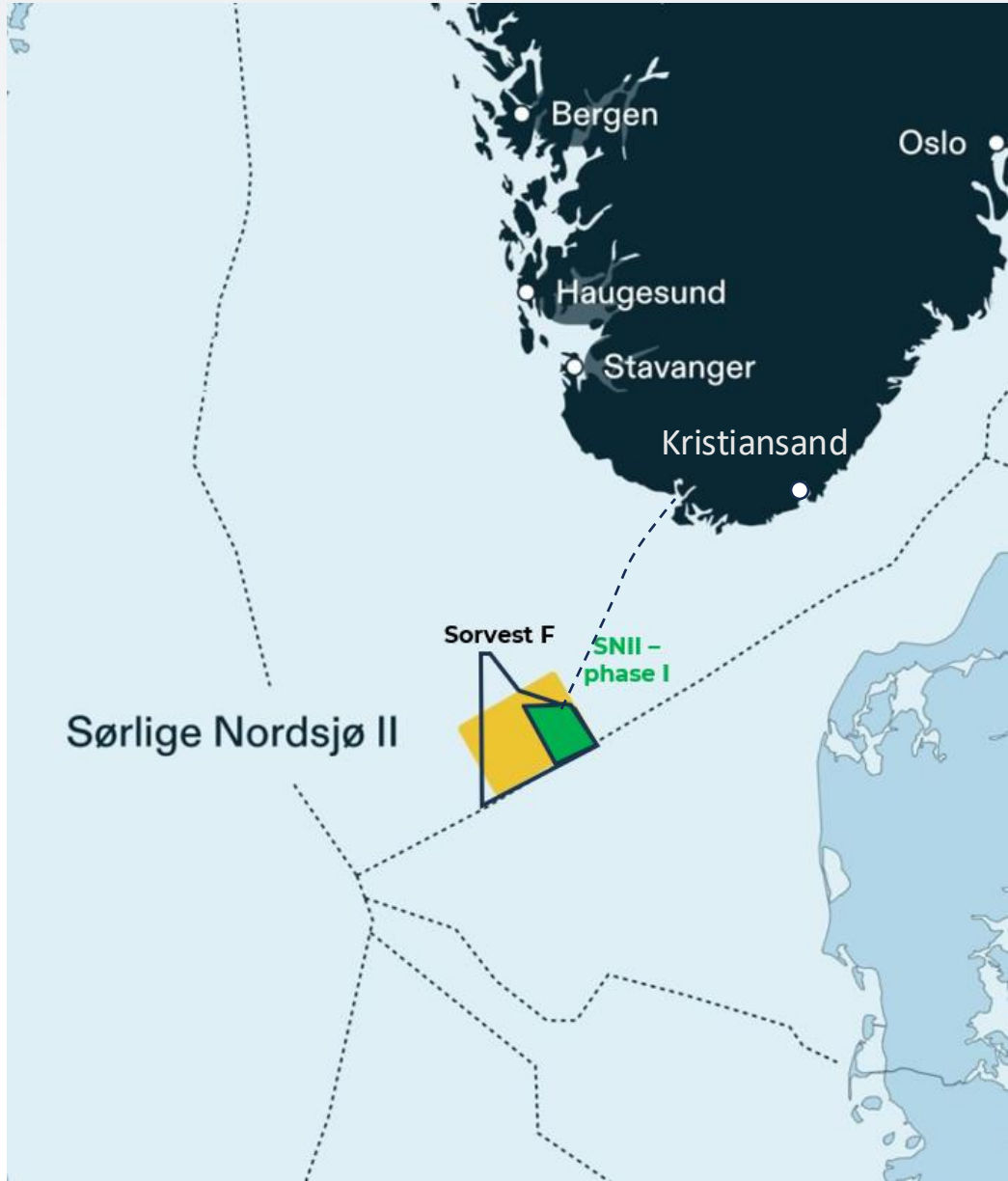
4 O&M

More than 10 years of Operations & Maintenance expertise.

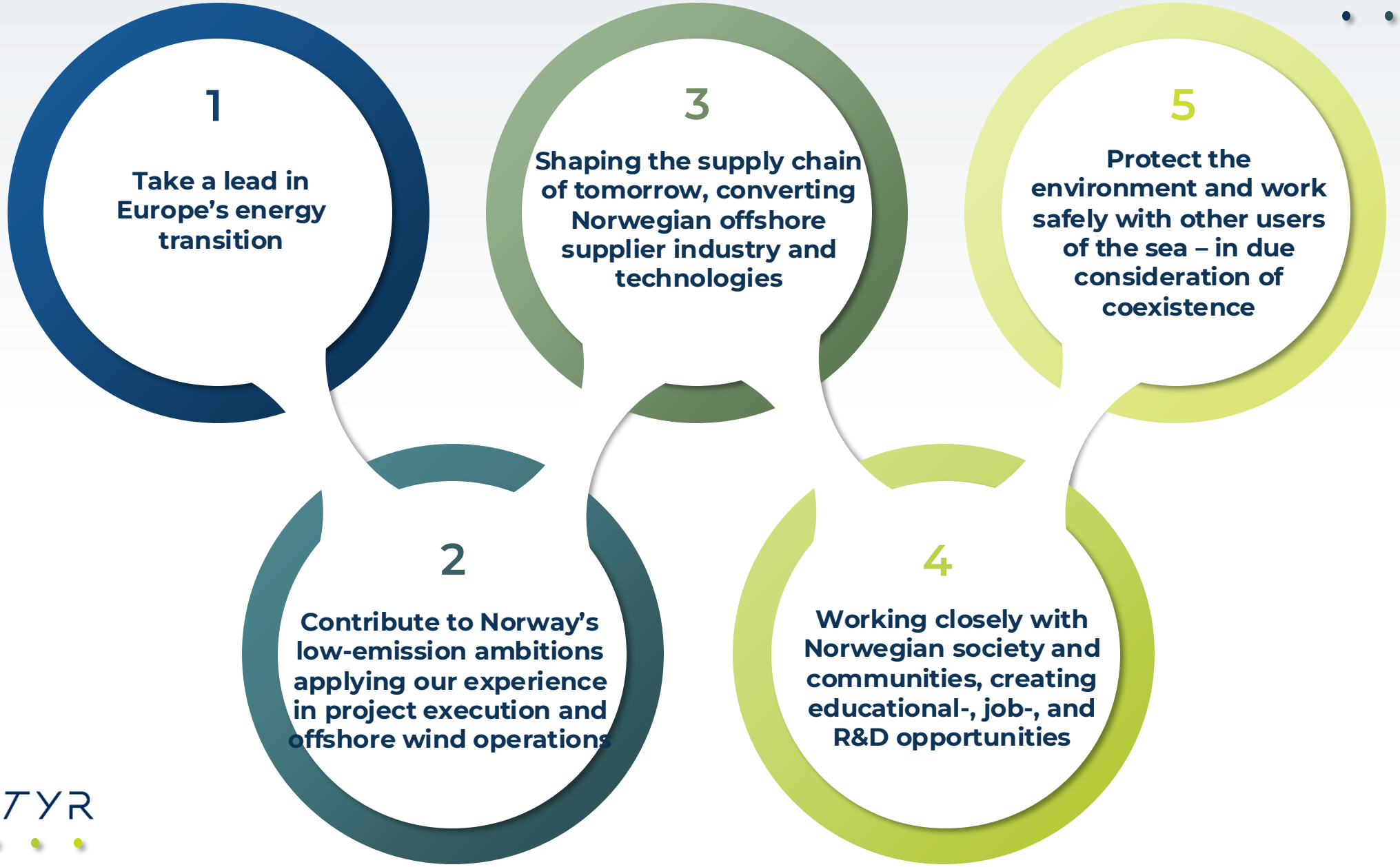
5 DECOMMISSIONING

Details of Sørlige Nordsjø II windfarm

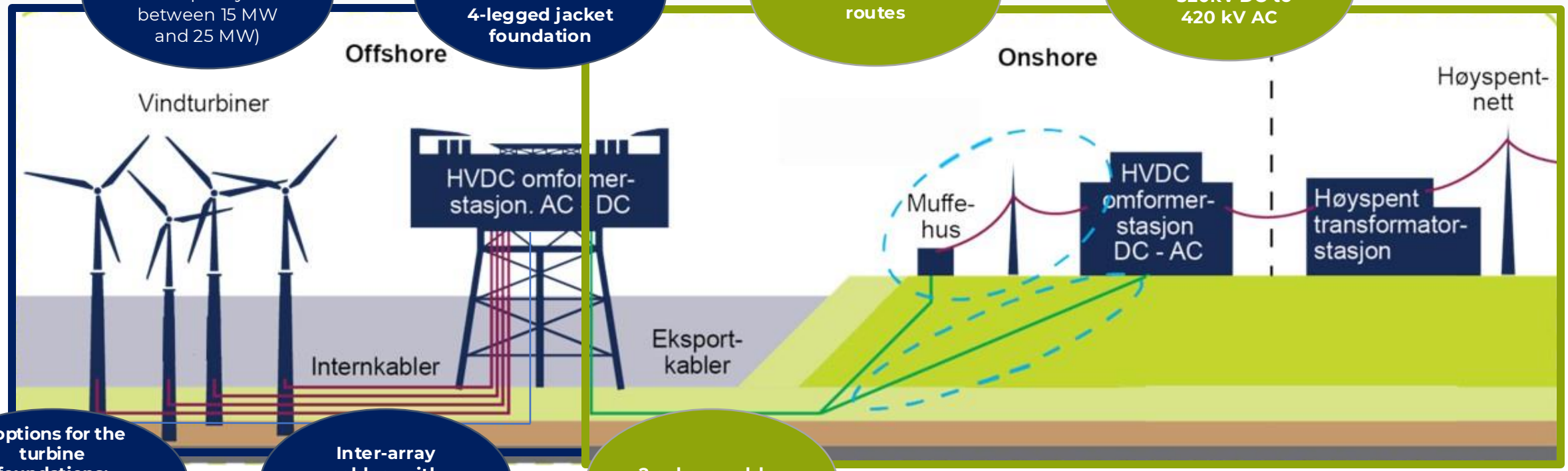
SN II – Phase I	
Capacity	1,500 MW
Size (km²)	520 km²
Distance to shore	200 km (within Norwegian EEZ)
Waterdepth	Average of 60m water depth across the site
Connection to land	Windfarm to be connected to an onshore High Voltage substation
Lifetime	>25 years in operation
Power generation	Over 500.000 Norwegian households will be energized

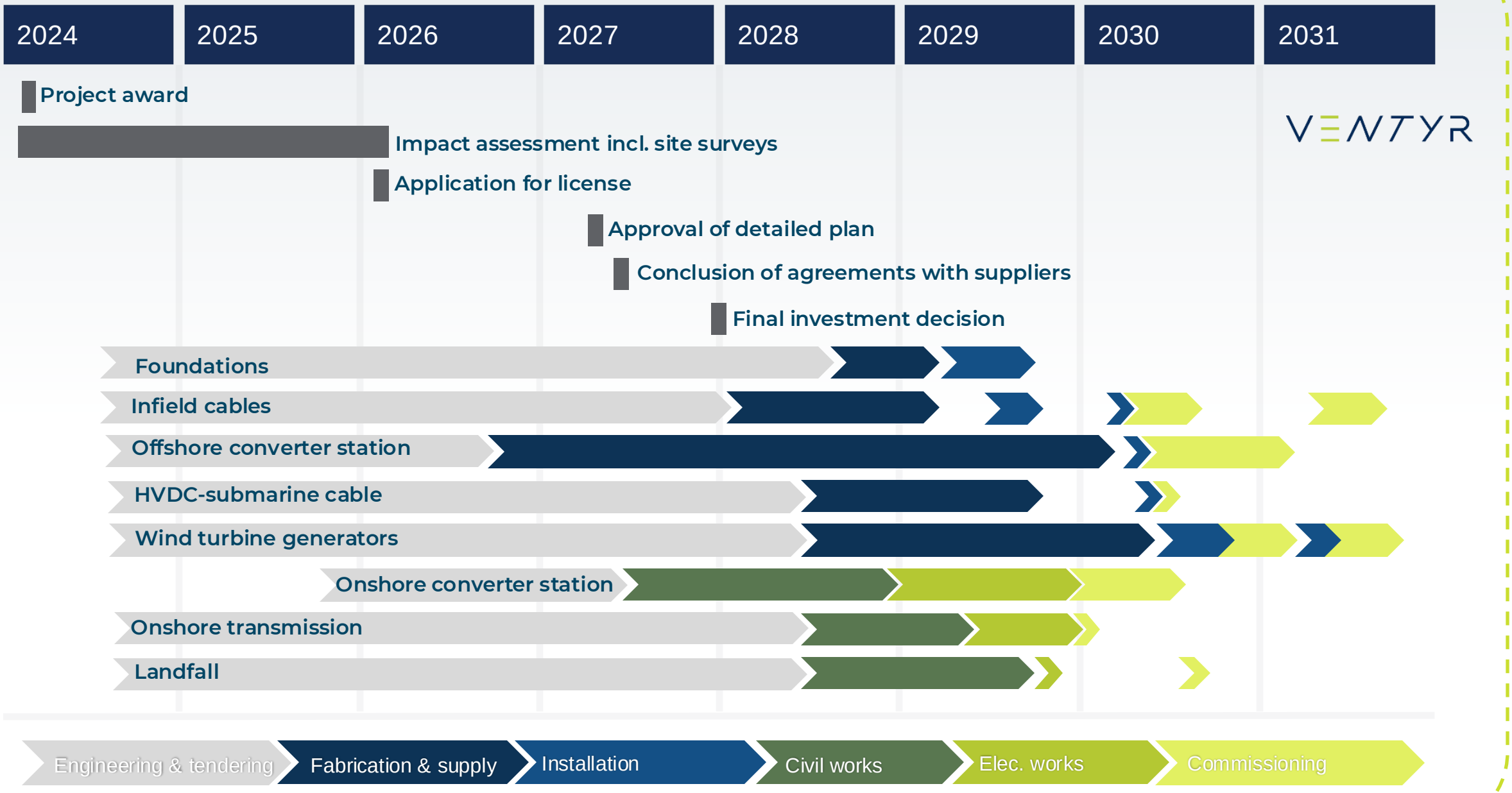


Develop Norwegian offshore wind based on strong principles



Our project concept for Sørlige Nordsjø II from offshore to onshore




2024
2025
2026
2027
2028
2029
2030
2031
Project award
Impact assessment incl. site surveys
Application for license
Approval of detailed plan
Conclusion of agreements with suppliers
Final investment decision
VENTYR
Foundations
Infield cables
Offshore converter station
HVDC-submarine cable
Wind turbine generators
Onshore converter station
Onshore transmission
Landfall
Engineering & tendering
Fabrication & supply
Installation
Civil works
Elec. works
Commissioning

Consenting: Proposal for investigation programme

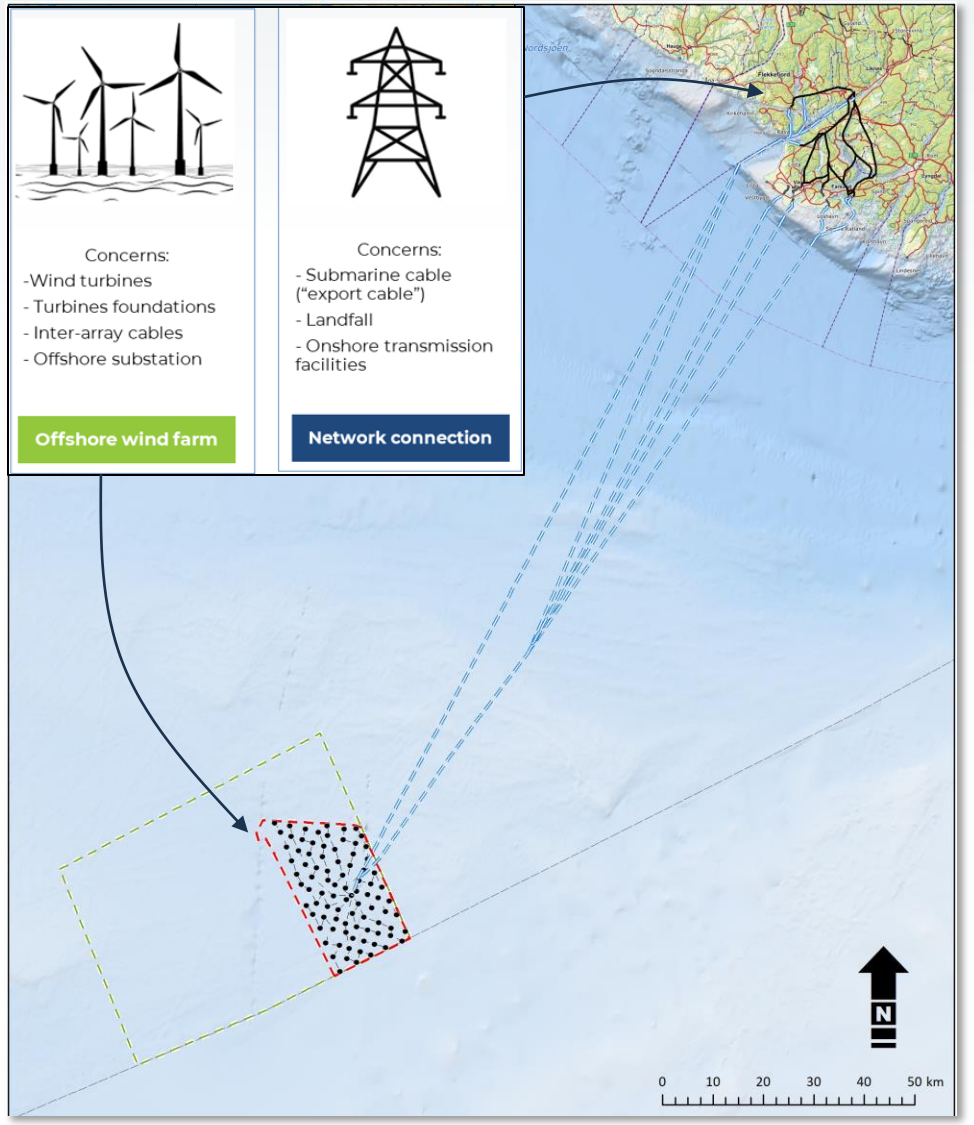
As part of Ventyr licensing track, a notification with impact assessment programme has been submitted to NVE within 6 weeks after award and has been published on NVE.no website end May 2024.

The notification consists of two distinct documents, one for the offshore wind farm, and one for the onshore network connection.

Questions can be sent to KU.Ventyr@parkwind.eu

Public hearing: 14 & 15 August 2024

Input for the consultation can be shared with NVE until Sept. 4th.



NVE

NVE submits proposal for study programme for Sørlige Nordsjø II for consultation

Published 31.05.2024

The Norwegian Water Resources and Energy Directorate (NVE) has received notification from the company Ventyr about an offshore wind farm in the offshore wind area Sørlige Nordsjø II. The plant will be connected to the power grid on land, and will affect four municipalities in Agder county.

Content of investigation programme

Aviation
Contact with the Defense Estate Agency & Avinor AS

Bats
Bat detector

Seabirds & migratory birds
NINA survey & AI bird camera

Fishing industry
Info collection + contact with Fisheries authorities & Associations

Defense interest
Collection information + contact with Defense Estate Agency

Petroleum industry
Contacts with relevant stakeholders

Marine traffic
Collection information

Seabed condition & water environment
Hydrophones + desktop studies

Cultural heritage & cultural environment
Geophysical & marine archaeological surveys

Marine mammals
Hydrophones + desktop studies

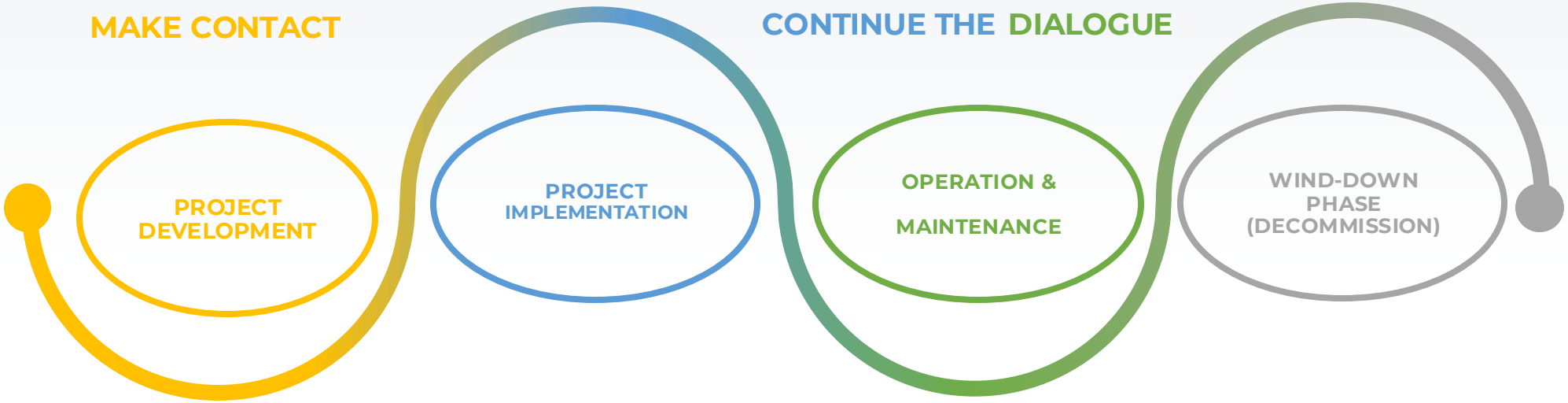
Marine habitats & benthic species
Seabed surveys with ROVs

Fish & shellfish
ROV survey videos
Underwater noise monitoring
Contact with Institute of Marine Research

Along the coast and export cable route

- Contact for general project information and about the cable route and planned cable laying work
- For aquaculture: explore opportunities for coexistence

- Before and during cable laying.

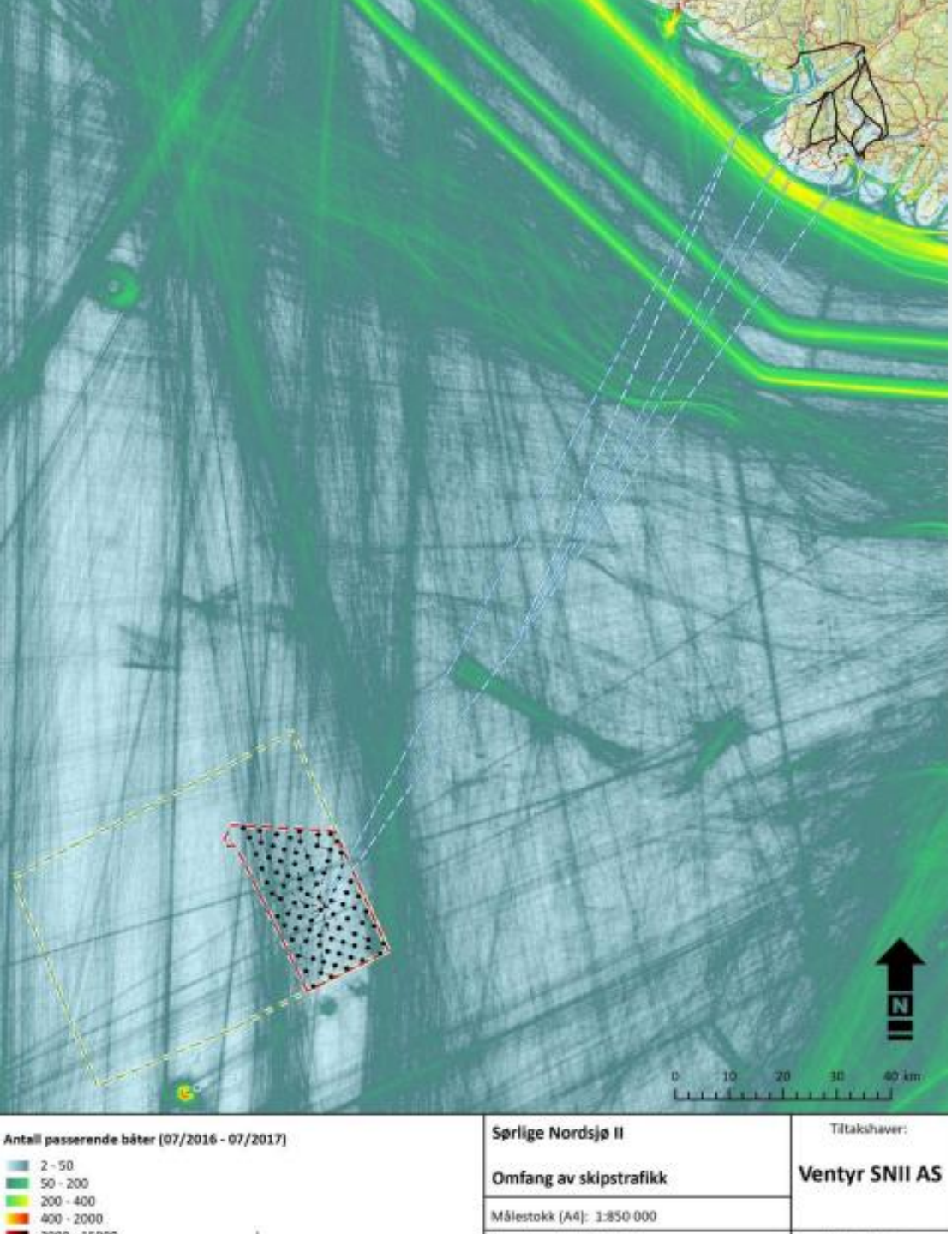


In deep sea

- Investigate opportunities for limited fishing near the turbine area
- For cable laying: agree on the optimal period to limit temporary impact on the fishing industry

Especially with regards:

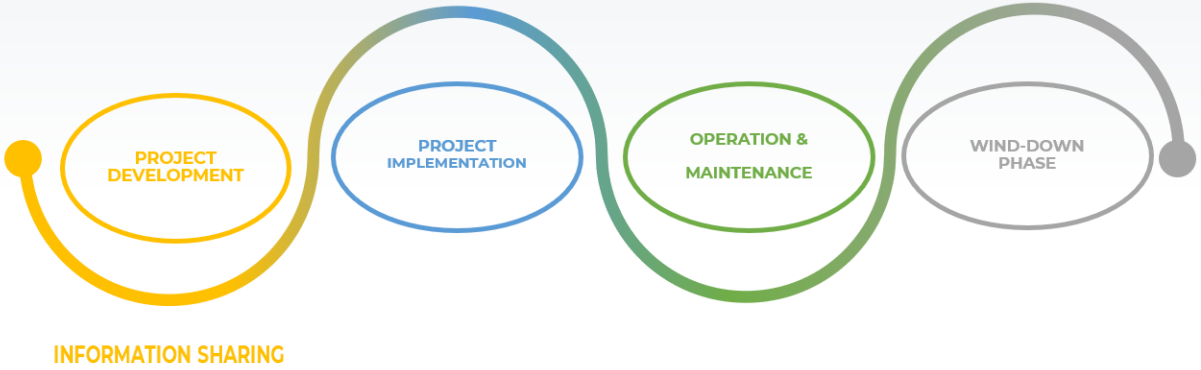
- Development solution for the wind turbine area with the aim of disrupting the fishing industry as little as possible
- Cable laying method and choosing the best time of year
- Securing the cable against collision with fishing vessels
- Reducing the period from cable laying to burial as much as possible



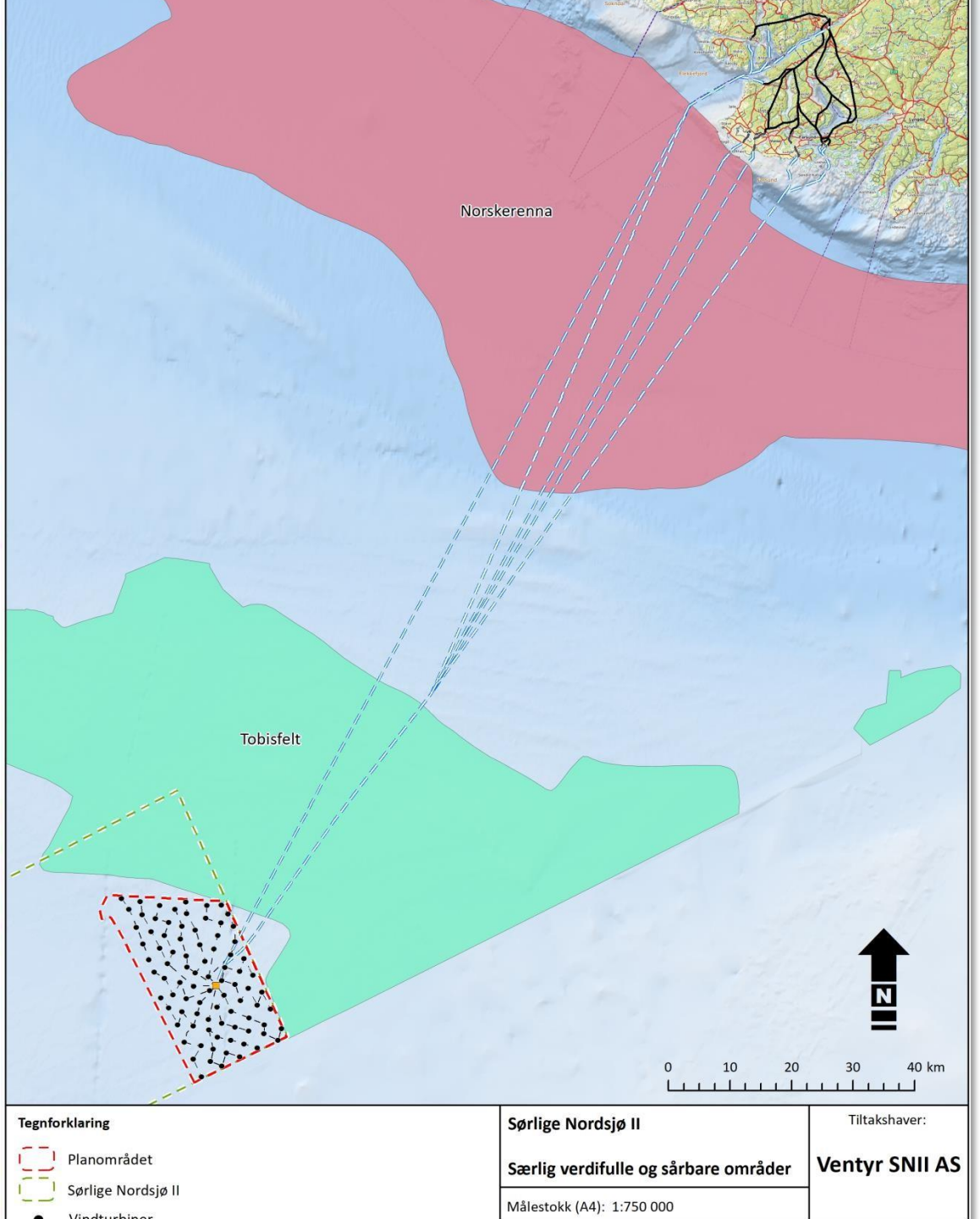
Marine traffic

- An analysis of ship traffic in the area generally shows minimal activity in the SNII area.
- Average ship traffic/month/square meter = 0.133 hours (Norwegian average in the North Sea = 0.853

Info from Coastal Data Center Information & AIS Data + Navigation risk analysis



- Provide early information to the Norwegian Coastal Administration about the project and present plans for the wind turbine area with the offshore substation, in order to have the area protected from other vessel pipes the installation starts.



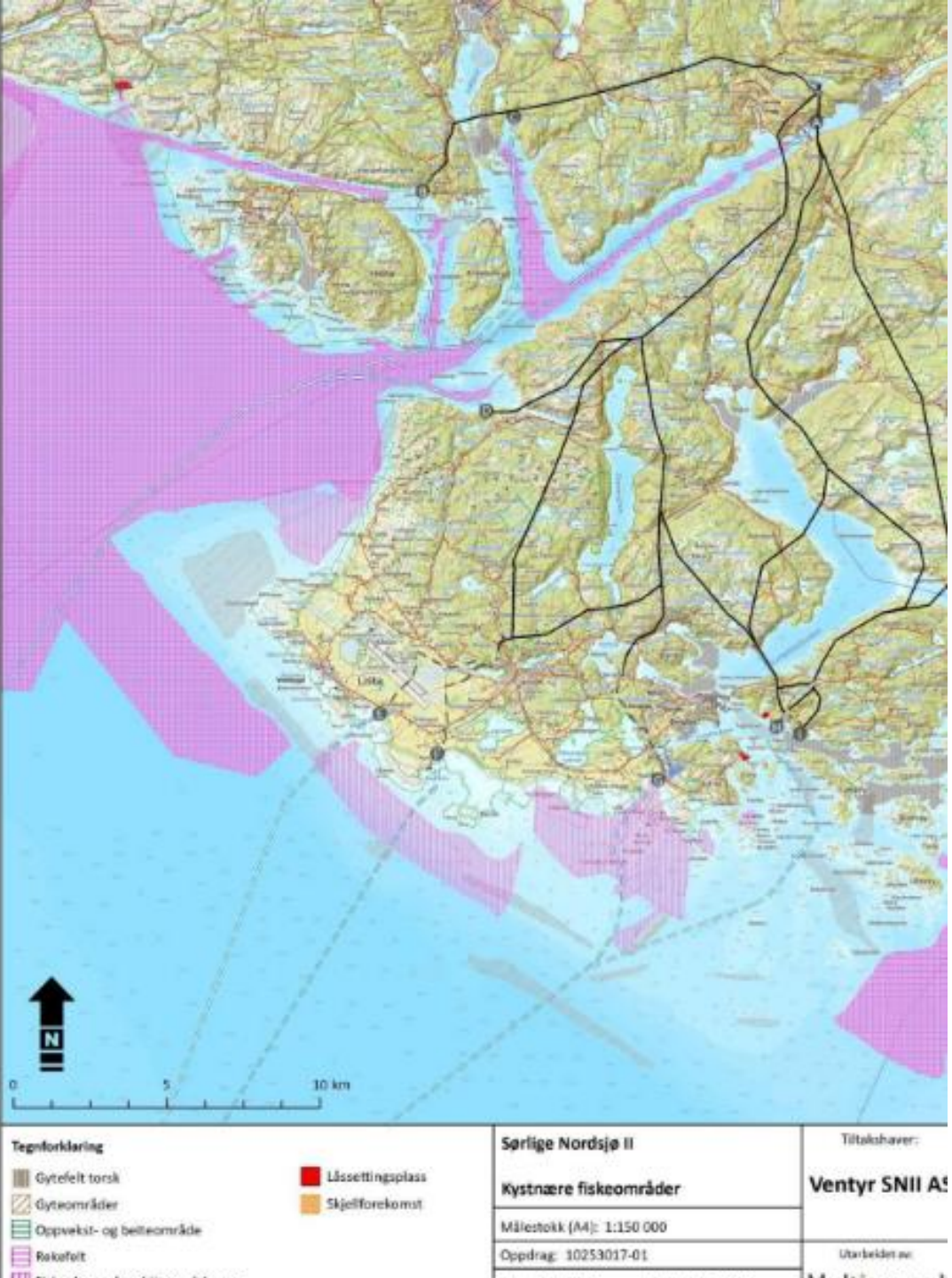
Fishing industry (deep sea)

- Almost exclusively large vessels are active in this part of the North Sea

- On the basis of consultation responses in connection with the opening of SNII for offshore wind power, the planning area for the development has been adjusted so that some areas have been excluded for the sake of important fish stocks and fishing interests. Presumed impact is therefore limited on fish stocks and for the fish industry.

- Factors to consider:
  - Whether fishing will be allowed near/within the offshore wind farm
  - Distance between the wind turbines
  - Internal cable network is made trawlable or not
  - Assessment must seek to minimize short-term negative impact in the area.

Compilation of AIS data
Contact with Fisheries authorities & Associations & other interest groups



Fishing industry & aquaculture (along the coast and pipeline route):

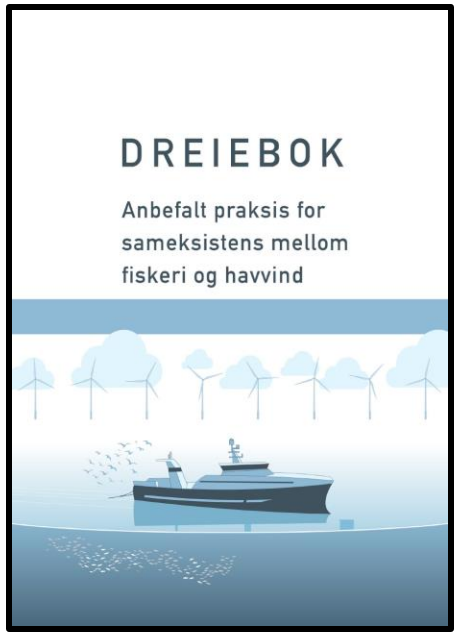
- Heterogeneous level of fishing.
- Several aquaculture sites are currently registered in the area of influence.
- Possible effect for fishing when establishing a submarine cable → seek to minimize short-term negative impact.
- The cable may also limit the possibility of anchoring and certain types of fishing with bottom gear, depending on how the cable is protected on the seabed.

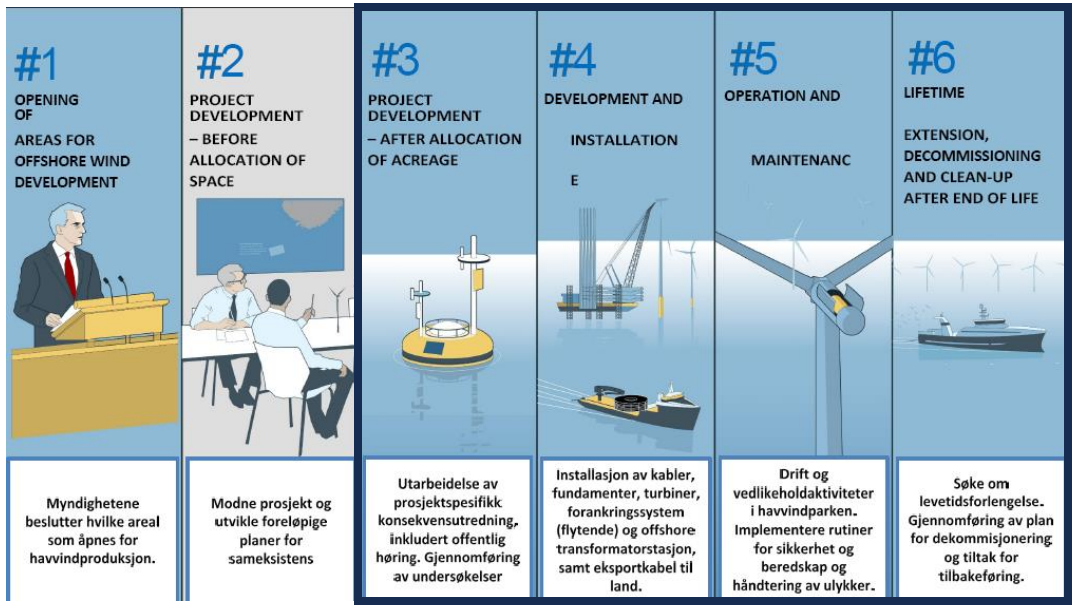
- **Mapping of fishing activity including land use and the type of gear used**
- **Assessment of the impact of the submarine cables on fisheries & fishing industry**
- **Contact with the fisheries authorities & local fishermen**

Coexistence principles

Ventyr's plan meets the primary objectives of facilitating good co-use and coexistence by:

1. Consider the full life cycle to include all possible stakeholders
2. Engage with all identified stakeholders to at least ensure understanding and a common way forward
3. Leaves the plan open for possible iterative improvement
4. Support and comply with the principles from the playbook ('Dreiebok'), agreed in the working group for coexistence, published in April 2023.





VENTYR

Expanding Norway's offshore wind horizons