



An ocean of opportunities

Offshore Wind in Norwegian Waters

Jan Fredrik Stadaas
Head of New Region Developments
Equinor

Bergen 2022.11.25

Three key points:

What have we learned so far ?

What is Equinor doing ?

What do we need to do together ?

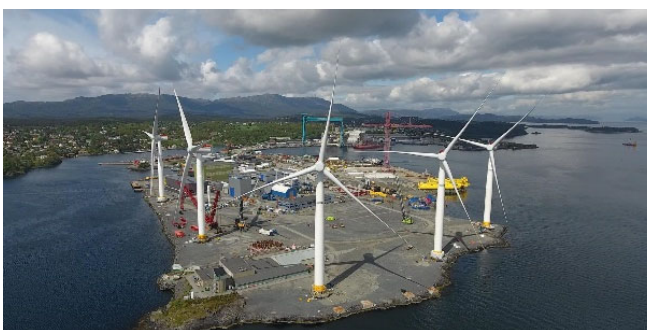


Huge & complex projects built to last for more than 3 decades



Planning is critical

- 3-5 years of preparations
- Critical to collect quality data
- Requires close cooperation
- Capital intensive



Complex execution

- Huge contracts and multiple interfaces
- Complex marine operations
- Technology risk is still key



Advanced logistics & operations

- HSE is fundamental for success
- Will need to operate for 30 years
- High availability is needed
- A 24-hour operation

Offshore wind is an industrial opportunity

- Increased demand for power from offshore wind in both Norway and Europe
- Norwegian industry is well positioned, further development required and possible
- Target of 30 GW by 2040 in Norway
- Offshore wind in Norway has highest priority for Equinor

Further developing the North Sea

An industrial plan for a European energy center

- Contribute to combat climate change
- Ensure value creation through the energy transition
- Build further on a solid foundation
- The opportunity is now!

 **3,9**
Million boe/d
Oil and gas production

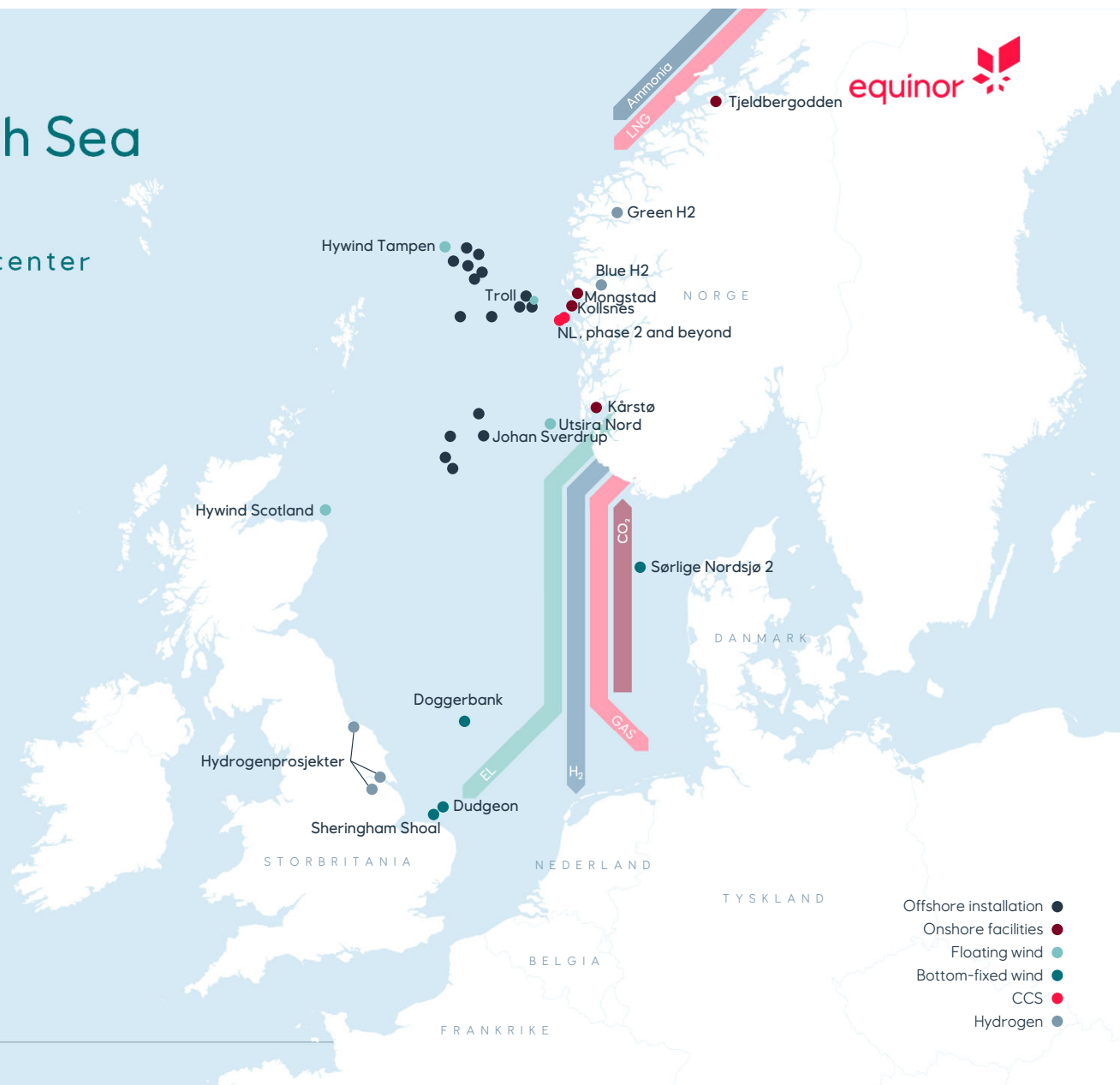
 **50-100**
kboe/d
Export of LNG

 **6,5**
GW
Bottom-fixed wind

 **3,5**
GW
Floating wind

 **40**
Million ton/year
CCS storage capacity

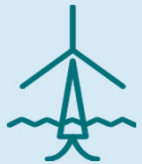
 **2**
GW
Hydrogen



Our short term ambitions

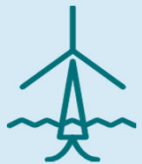


Hywind Tampen – floating



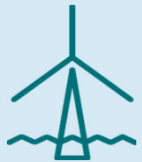
Trollvind – floating

- Electrify the region
- Bridge Tampen and Utsira Nord
- Start industrialization



Utsira Nord – floating

- Continue to develop Norwegian leadership in floating
- Increased scale and further cost reductions
- Strengthen power situation at the West Coast



Sørlige Nordsjø II – bottom fixed

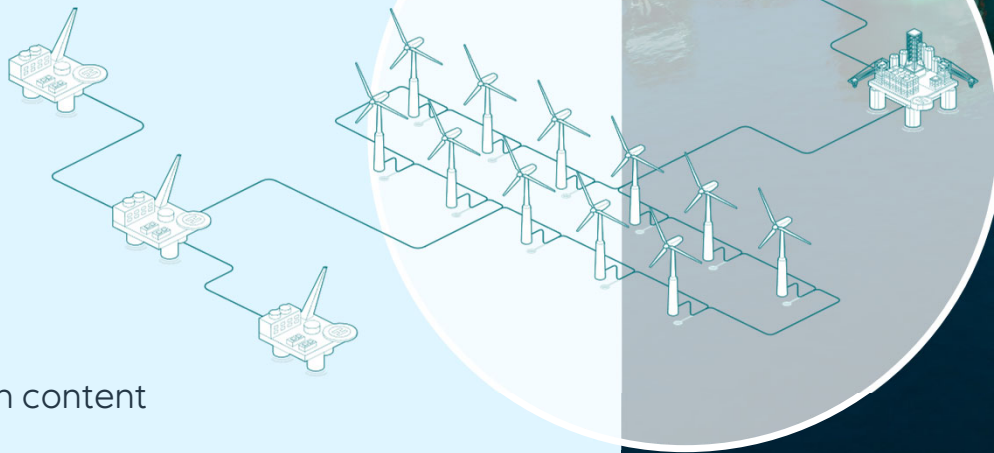
- Key contributor to the North Sea as an energy hub
- For developers with experience from large offshore wind HVDC projects
- 50-70 m water depth – technological and industrial development needed



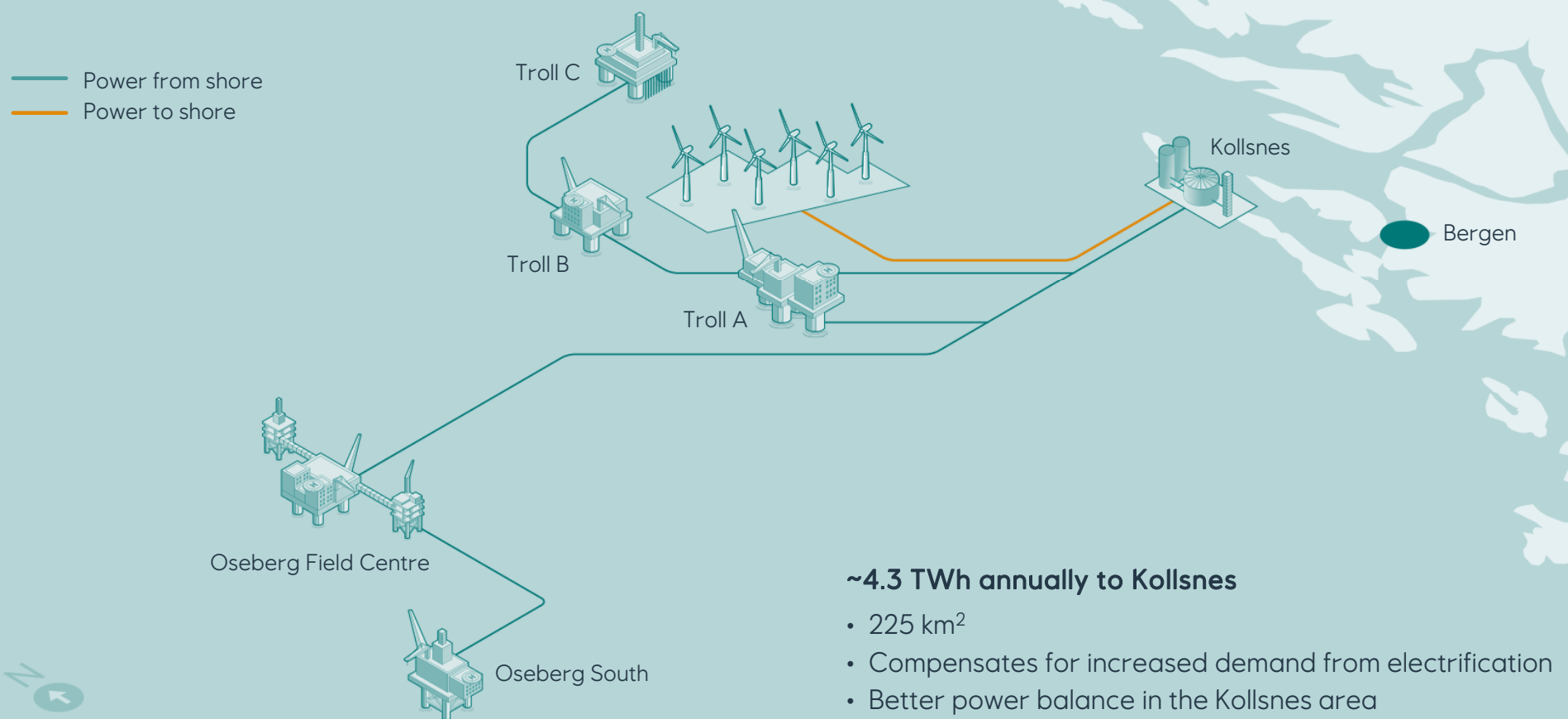
Hywind Tampen

a good example

- 11 wind turbines
(combined capacity of 88 MW)
- Concrete substructures
and shared anchors
- 200.000 tons/year
CO2 emission
reduction
- 30%-40% cost
reduction
from Hywind
Scotland
- 60% Norwegian content



TROLLVIND: ~1 GW floating offshore wind



~4.3 TWh annually to Kollsnes

- 225 km²
- Compensates for increased demand from electrification
- Better power balance in the Kollsnes area
- Facilitates new industrial development in Vestland county



What need to do next?

- ✓ An efficient high quality consenting process
- ✓ Allow for flexibility in detail planning
- ✓ Speed and predictability
- ✓ Pre-qualification to players than can deliver
- ✓ Develop industrial solutions – together
- ✓ Start building projects – projects build experience
- ✓ A long-term solution on what to do with the power



An ocean of opportunities

Jan Fredrik Stadaas
Head of New Region Developments
Equinor

Bergen 2022.11.25