equinor

Industrialising floating wind

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Delivering on our strategy

Optimised
oil & gas portfolio

- Martin Linge and Troll Phase 3 on stream
- Bacalhau Phase 1 around 50% complete towards start-up in 2024

>40 bn USD

Free cash flow oil & gas 2022-26

Based on 65 USD/bbl, see appendix for key assumptions

High value growth
in renewables

- Early mover in South Korea
- Dogger Bank A&B around 30% complete
- Hywind Tampen more than 70% complete

4-8%

Real base project returns

Equivalent to 6-10% nominal returns. Excluding effects from farm downs and project financing

New market opportunities
in low carbon solutions

- Industry shaper with the UK East Coast Cluster
- Northern Lights around 30% complete and customers granted EU funding

15-30 Mtonnes/annum

CO_2 transport and storage capacity by 2035

Equinor share

Oil and gas - Carbon efficient production

Renewables - **12-16** GW capacity in 2030

LCS - **3-5** major hydrogen clusters by 2035

Net zero by 2050

Delivering on a value-driven strategy

Solid platform

- Proven ability to create value from offshore wind assets
- Strong balance sheet and financial flexibility
- Competitive partnerships across markets

Leverage competitive advantages

- Execution capability offshore
- Industry leader in floating offshore wind
- Return uplift from portfolio management, trading and project finance

Focused growth approach

- Continue to deepen and access selective markets early at scale and low cost
  - Create value in **4-5 regional offshore wind clusters**
  - **Build competitive onshore positions** in select transition markets

12-16 GW

Installed capacity 2030

Equinor share

4-8%

Real base project return

Equivalent to 6-10% nominal returns. Excluding effects from farmdowns and project financing

12-16%

Nominal equity return

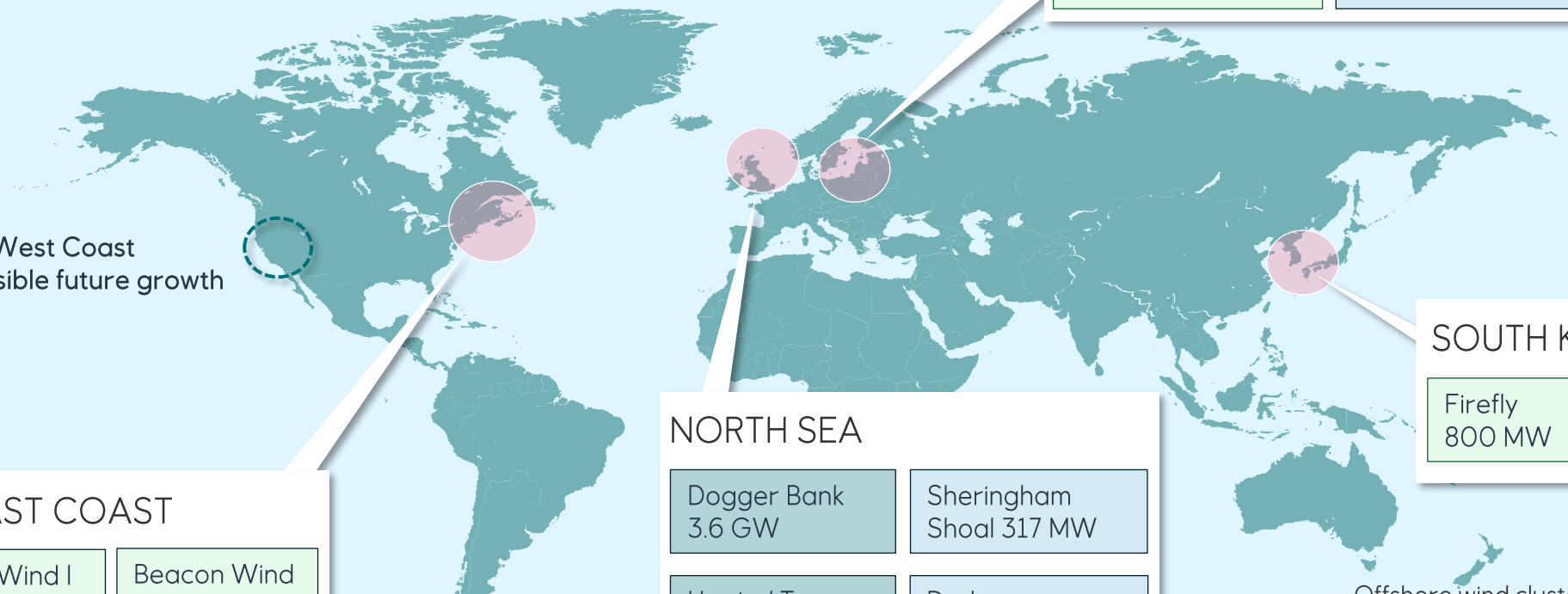
US and UK development projects with secured offtake contracts

~23 BILLION USD

Gross capex renewables 2021-26

Open

An energy major in offshore wind



BALTIC SEA

- Poland (Baltyk I,II,III) ~2.5 GW
- Arkona, Germany 385 MW

US EAST COAST

- Empire Wind I 816 MW
- Beacon Wind I 1230 MW
- Empire Wind II 1260 MW
- Beacon Wind remaining ~1200 MW

NORTH SEA

- Dogger Bank 3.6 GW
- Sheringham Shoal 317 MW
- Hywind Tampen 88 MW
- Dudgeon 402 MW
- UK Extensions 720 MW
- Hywind Scotland 30 MW

SOUTH KOREA

- Firefly 800 MW
- Donghae 1 200 MW

Offshore wind clusters based on existing assets

- Pipeline
- In construction
- Producing

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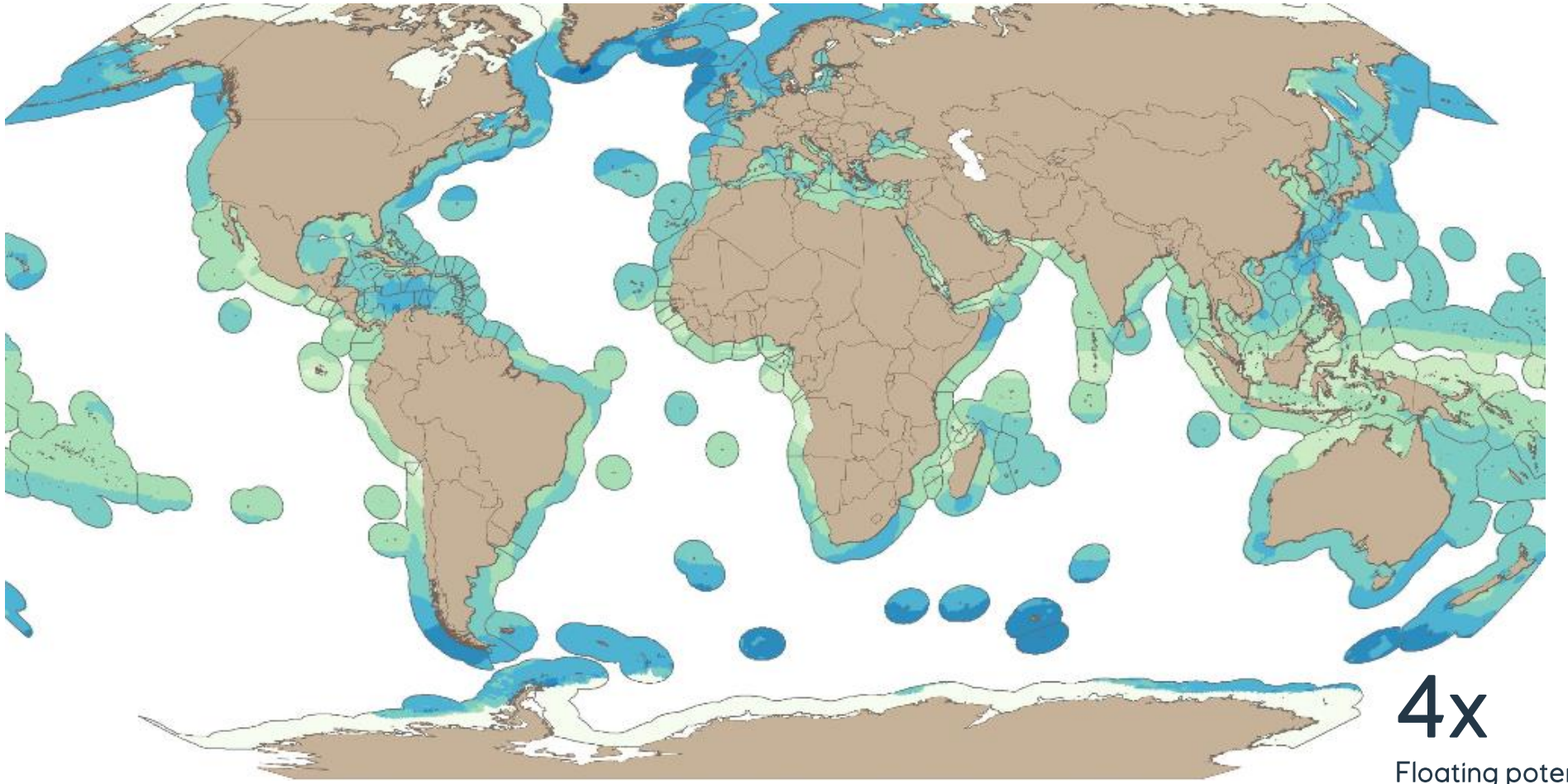
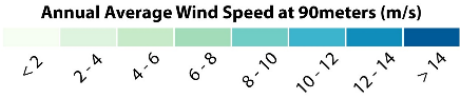
Floating offshore wind AMBITION

TO REMAIN A LEADING DEVELOPER AND OPERATOR OF FLOATING OFFSHORE WIND

Why offshore wind? And why floating offshore wind?





4x

Floating potential compared to bottom-fixed

~80% of offshore wind resources accessible only by floating

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The leading developer of floating offshore wind

Five decades of **offshore experience** operating bottom-fixed and floating platforms: jackets, GBS, semisubmersible, TLP, spar, FPSO

Twenty years of floating wind experience: **de-risking technologies, project execution and operations**: Hywind Demo, Hywind Scotland, Hywind Tampen

Established a **broad toolbox of concepts and technical solutions**, including floaters, mooring systems, dynamic cables and export systems.

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FLOATING WIND

Design principles and transferable experience

Design principles Spar/SemiSub

Turbine controller

Mooring & anchoring system

Electrical System Infrastructure

Execution models

Supply chain

Operations & maintenance

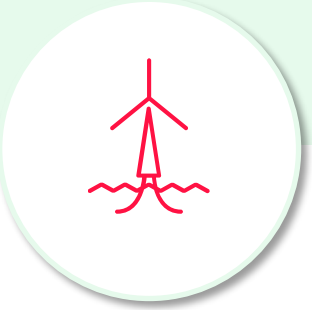
Technology development is in our DNA

A sample of our pipeline.

Access to data	Test sites	Early implementation	Collaboration

Five decades of creating solutions, together.

A first mover in **FLOATING WIND**



Co-developing solutions, de-risking technology.

R&D **COLLABORATIONS**

Together with leading research institutes

Technology **INNOVATOR**

With our suppliers in oil and gas and renewables

We believe that developing value through technology development, together, is a criteria for success.

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Hywind Demo

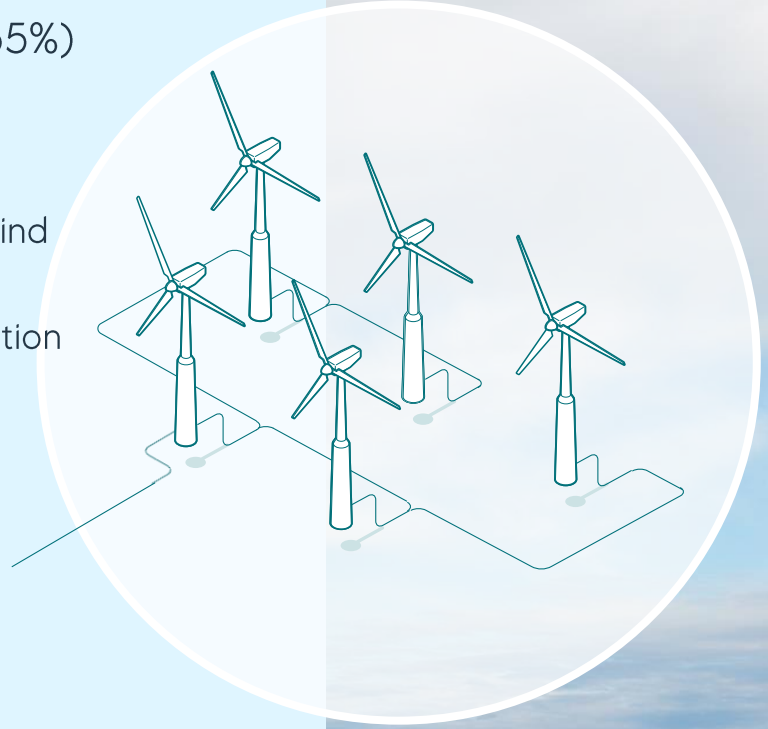
- 2.3MW Siemens WTG
- Located 10km off Norwegian coast at 200m water depth
- In operation since September 2009
- Capacity factor (overall) exceeding 40%
- Maximum wind speed of ca.44m/s and maximum wave height of ca.19m
- Performance beyond expectations
- Proved the technology.

Øyvind Hagen/Statoil

Hywind Scotland

The world's first **floating** wind farm

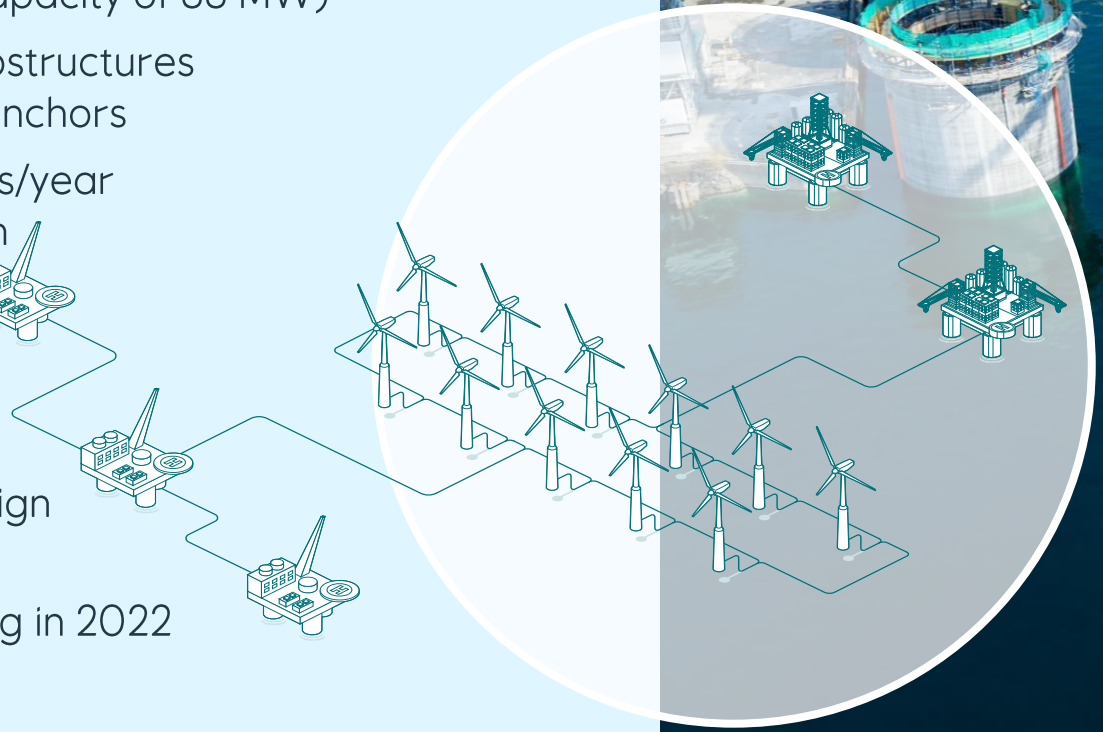
- Operational since 2017
- Installed capacity 30MW
- Powering ~20,000 UK homes
- World class capacity factor (~55%)
- A test bench for:
  - O&M strategies
  - further development of floating wind turbine controller
  - design and simulation tools validation
  - sharing operational data
  - co-existence solutions



Hywind Tampen

The world's first **floating** offshore wind farm to supply renewable power to offshore oil and gas installations.

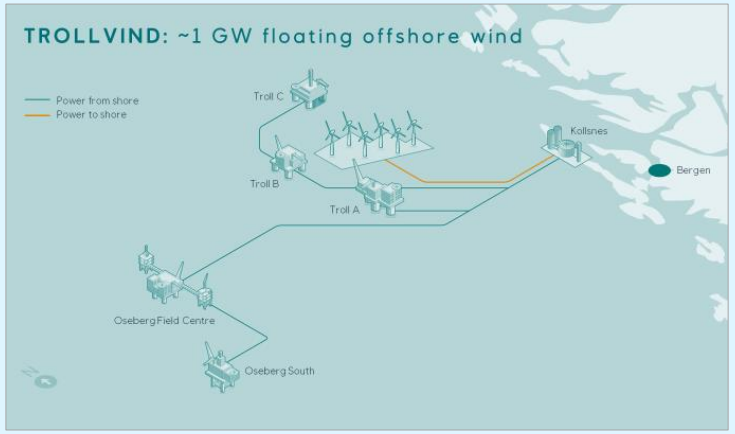
- 11 wind turbines (combined capacity of 88 MW)
- Concrete substructures and shared anchors
- 200.000 tons/year CO2 emission reduction
- 40% cost reduction from Hywind Scotland design
- Planned commissioning in 2022



Floating offshore wind at scale

2022: Hywind Tampen (88MW)

2027: Trollvind (~1 GW)



2030: Utsira Nord (1,5 GW)

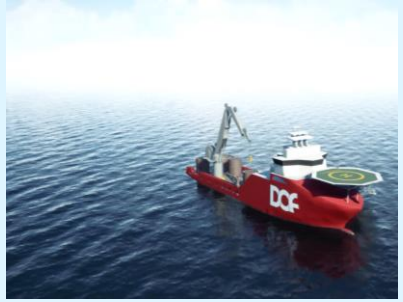
Hywind Tampen ~60% Norwegian content

Aker Solutions

Concrete substructures & mooring system

Assembly Site Management

Mooring System Installation



Tow Out and Hook-up

Seaway7

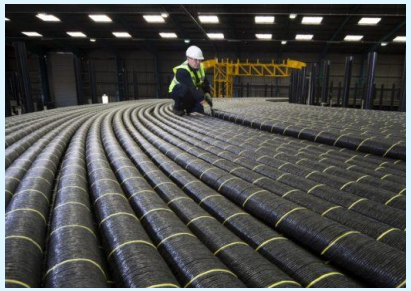
Cable Installation

Siemens Gamesa

Turbine & towers

JDR

Cable manufacturing



Wood Group

Topside modifications

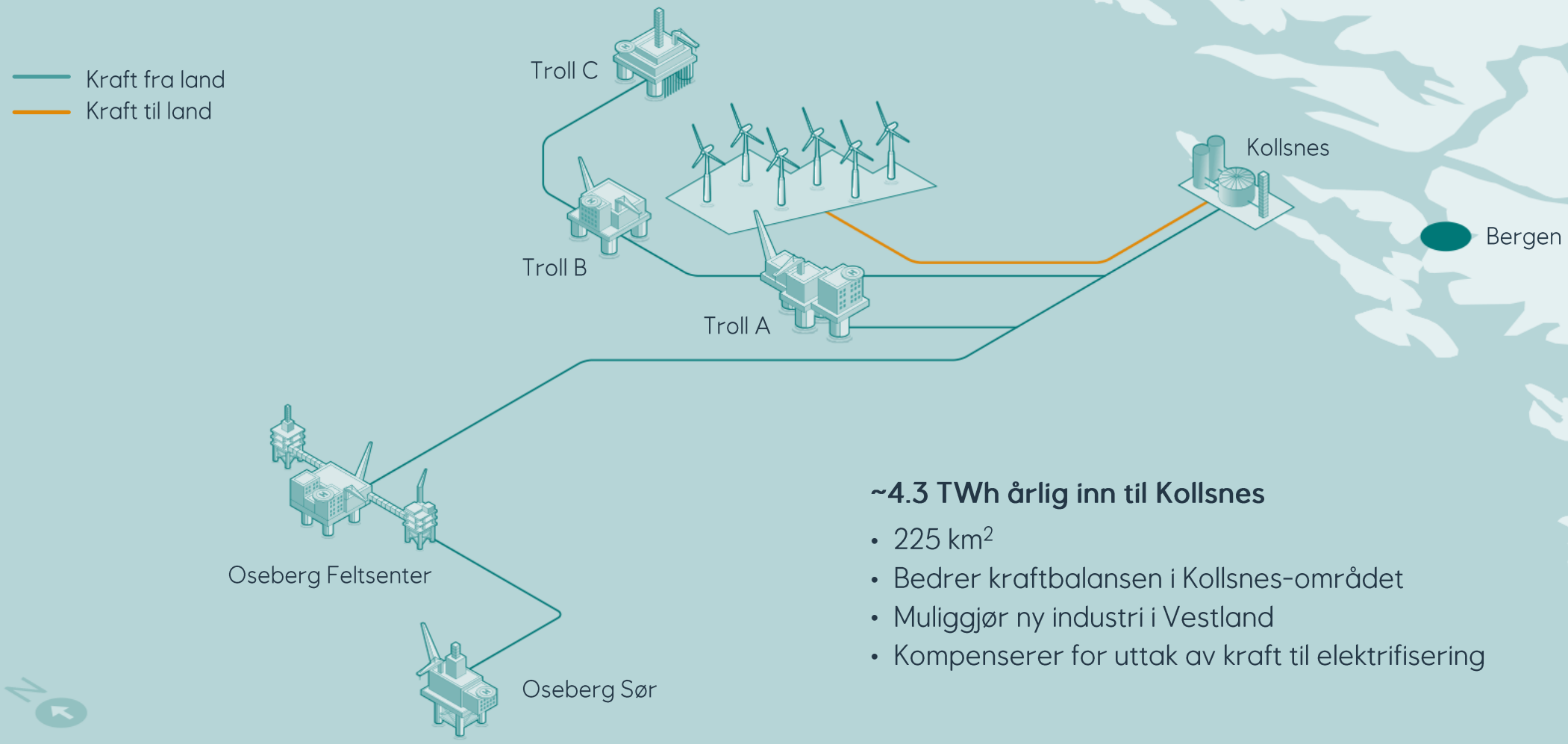
Wergeland base

Assembly site

Mammoet

Assembly crane

TROLLVIND: ~1 GW flytende havvind



~4.3 TWh årlig inn til Kollsnes

- 225 km^2
- Bedrer kraftbalansen i Kollsnes-området
- Muliggjør ny industri i Vestland
- Kompenserer for uttak av kraft til elektrifisering

Industrialisation of offshore wind in Norway

Increasing need for power from offshore wind

Norwegian suppliers are well positioned

10 (bottom-fixed and floating) GW within 2035

Floating - Utsira Nord

Partnership with Vårgrønn

- Further develop Norwegian leadership within floating offshore wind – strengthen the industries' competitiveness.
- Full-scale and considerable cost reduction from Hywind Tampen
- Contribute to allieviate grid challenges on Vestlandet

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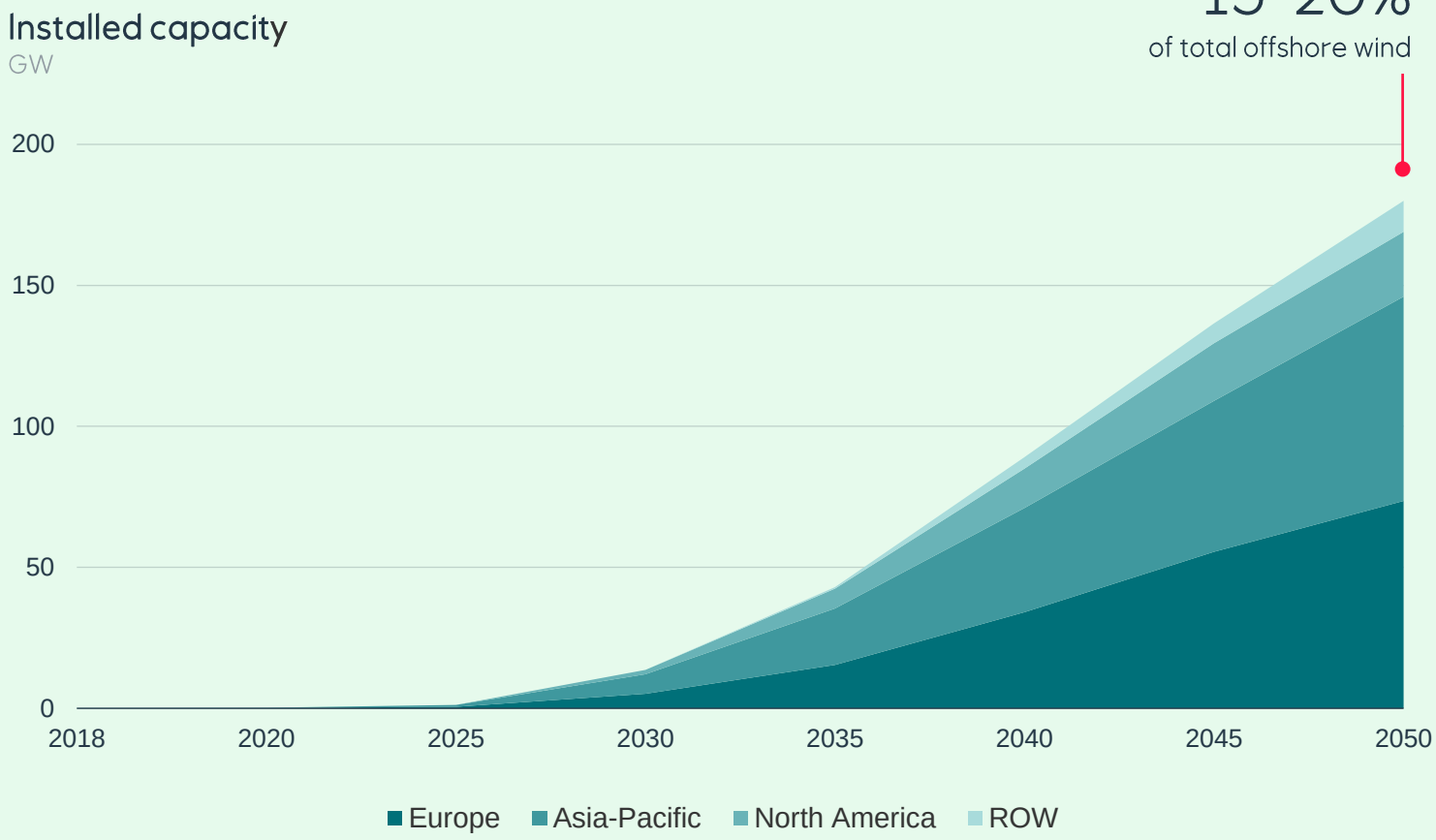
Floating wind global outlook

180 GW by 2050, with significant growth from 2030



Markets with floating ambitions

EUROPE:
UK, Norway, France, Ireland, Spain, Portugal, Italy, Greece, Turkey

ASIA-PACIFIC:
Japan, South Korea, China, Taiwan, Vietnam, Indonesia, Philippines, India

NORTH AMERICA:
USA: California, Oregon, Maine, Gulf of Mexico

REST OF WORLD:
Brazil, South Africa, Morocco, Saudi Arabia

Industrialising floating wind

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