Delivering a safe and profitable renewable business

Kristian Holm
Head of Wind Turbine Technology

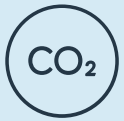
Shaping the future of energy

- Strategic principles

Cash generation capacity at all times

Capex flexibility

Capture value from cycles

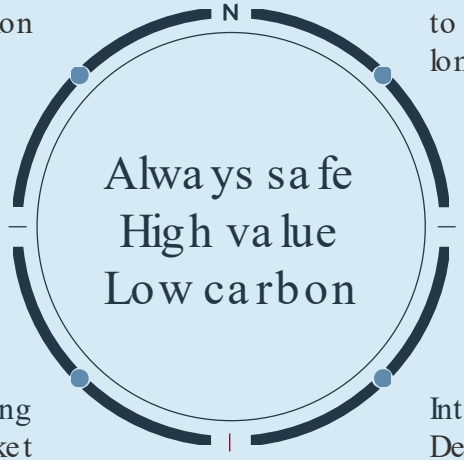


Low-carbon advantage

A future-fit portfolio

New energy solutions
Create a material new industrial position

Norwegian continental shelf
Build on our unique position to maximise and develop long-term value



Midstream and marketing
Secure premium market access and grow value creation through cycles

International oil & gas
Deepen core areas and develop growth options

Enablers

Safe and secure operations

Technology and innovation

Empowered people

Stakeholder engagement

Corporate presentation available here: LINK

Equinor's renewables strategy

1

Global offshore wind major

Accelerate offshore wind business to close gap(s) and achieve scale in 4-5 clusters

2

Market-driven power producer

Focus on 3-5 attractive markets with a selective approach fitting each market, capitalizing on ability to take merchant risk

Diversify offshore wind business to de-risk and pursue additional growth

Why renewables and low carbon?

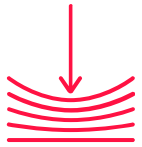
Capturing new opportunities in the energy transition

Business drivers

Transition

Growth

Capabilities

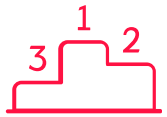


Resilience

Challenges

Scale

Returns



Competition

Culture

Key drivers for value creation

Global offshore wind major

Clusters and scale

Partnering

O&M excellence

Market-driven power producer

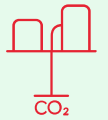
Financing, farm-downs

Technology diversity

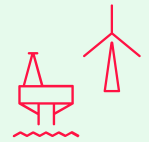
Trading , balancing

Low carbon solutions provider

Deep market Insight



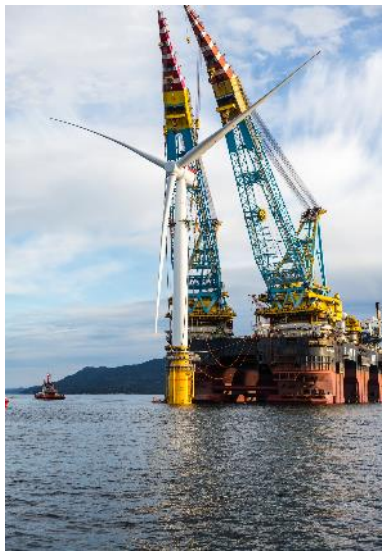
Upstream value



New value chains

Leveraging five decades of oil and gas experience

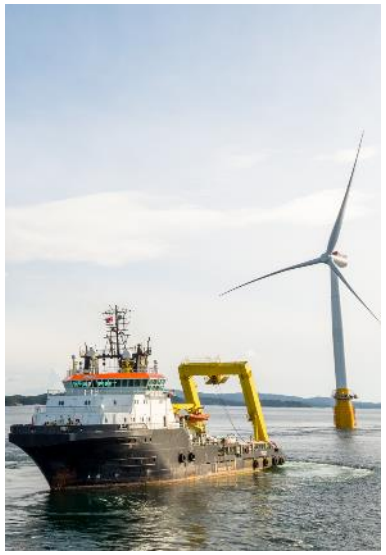
Safety is our first priority



Large complex projects and supplier relations

Financial strength & risk management

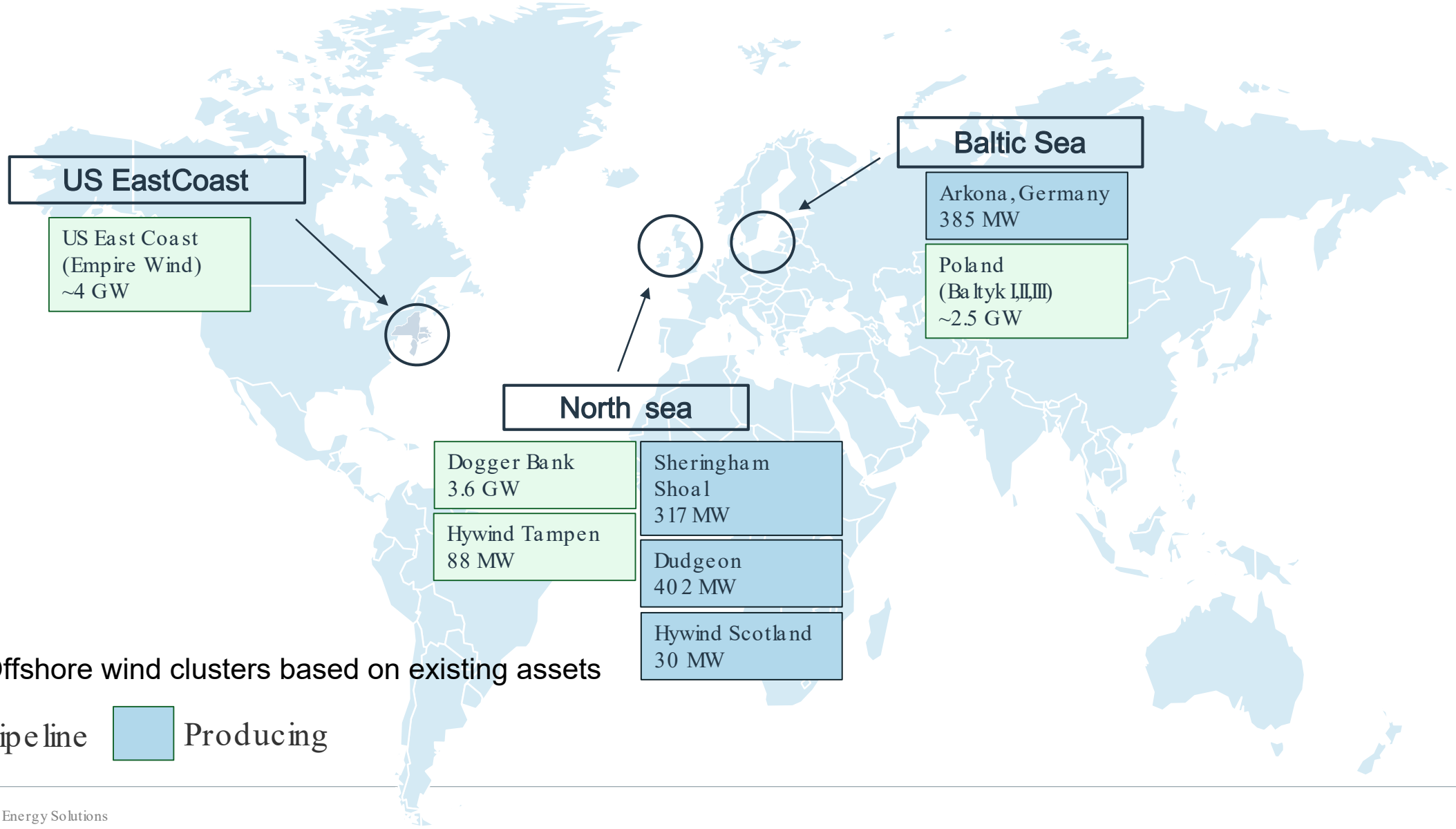
Leverage local presence & corporate capabilities



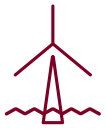
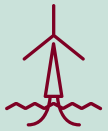
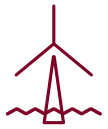
Marine operations & maintenance

Technology & innovation

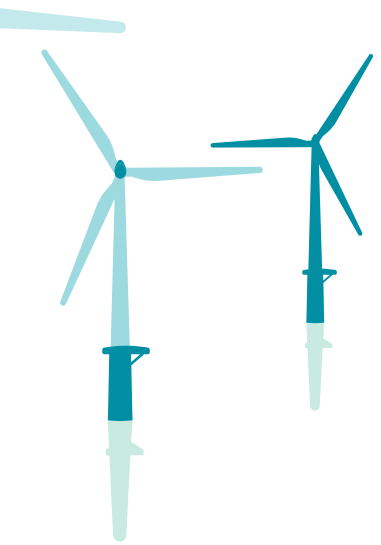
Cluster and scale

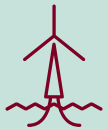
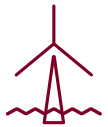
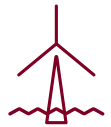
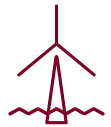
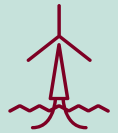


Wind projects in operation and construction

PROJECT	Sheringham Shoal	Dudgeon Windfarm	Hywind Scotland	Arkona	Cañadón León
TECHNOLOGY					
STATUS	In operation	In operation	In operation	In operation	Under construction
LEAD COMPANY	Equinor	Equinor	Equinor	RWE	YPF Luz
OWNER SHARE	40%	35%	75%	25%	50%
INSTALLED CAPACITY	317 MW	402 MW	30 MW	385 MW	120 MW
PRODUCTION START	2012	2017	2017	2019	2020
COUNTRY	UK	UK	UK	Germany	Argentina

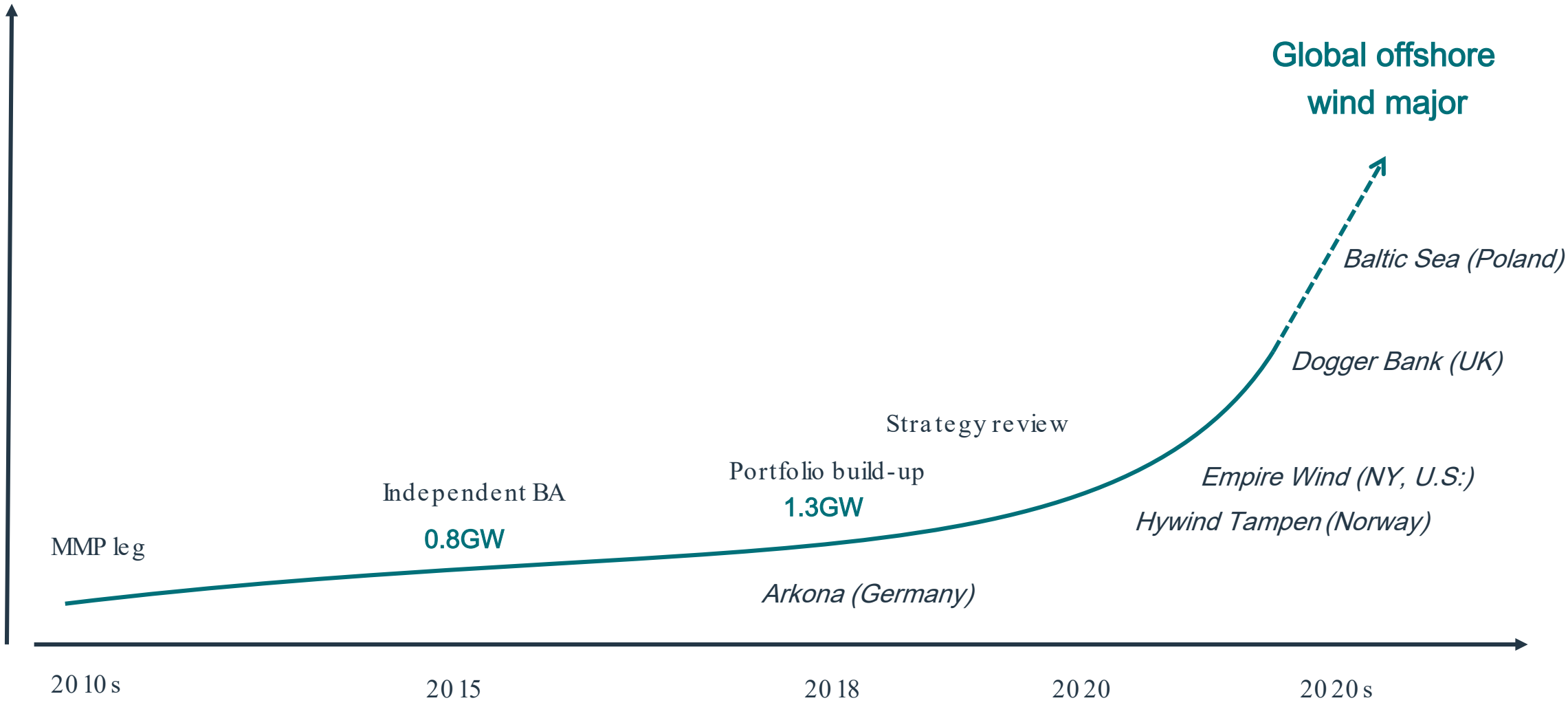
Offshore wind project pipeline



PROJECT	Hywind Tampen	Dogger Bank	Empire Wind	Poland	US East coast (NY + MA)	UK Extensions	South Korea
TECHNOLOGY							
STATUS	FID 2H 2019	Planning	Planning	Planning	Planning	Planning	Planning
LEAD COMPANY	Equinor	Equinor / SSE	Equinor	Equinor/ Polenergia	Equinor	Equinor	KNOC
OWNER SHARE	40%	50%	100%	50%	100%	%	%
POTENTIAL INSTALLED CAPACITY	88 MW	3600 MW	816 MW	~2500 MW	~3500 MW	~720 MW	~200 MW
PRODUCTION START	2022	2023	2024				
COUNTRY	Norway	UK	USA	Poland	USA	UK	South Korea

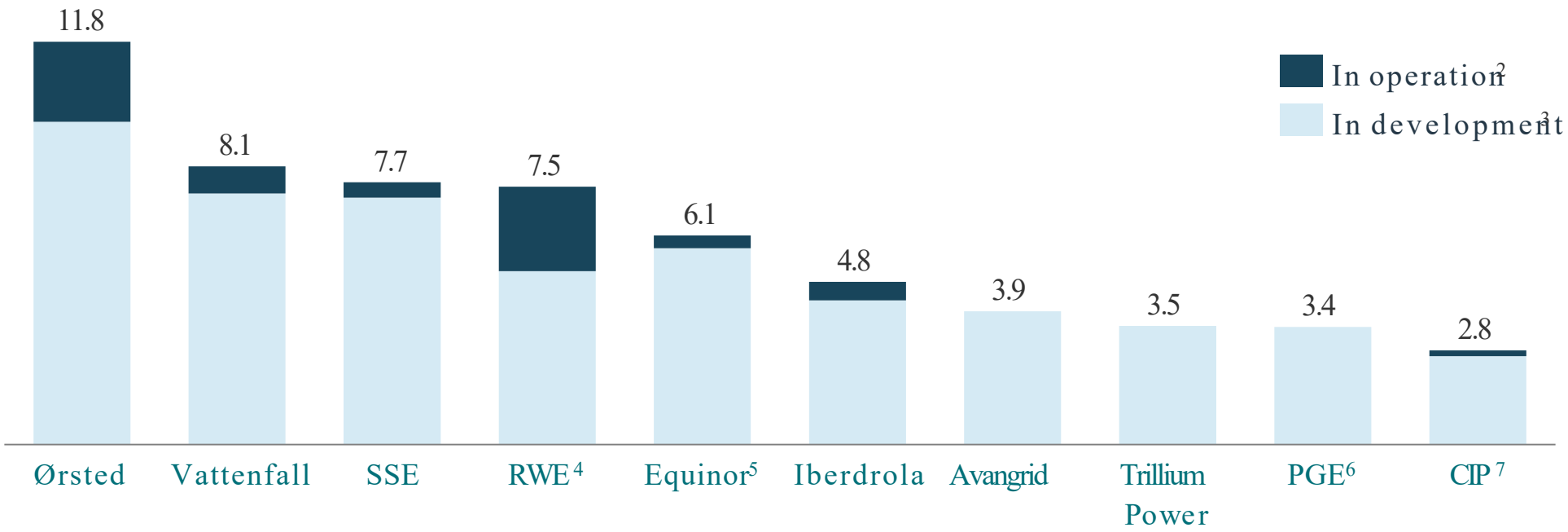
The wind journey

Becoming an offshore wind major



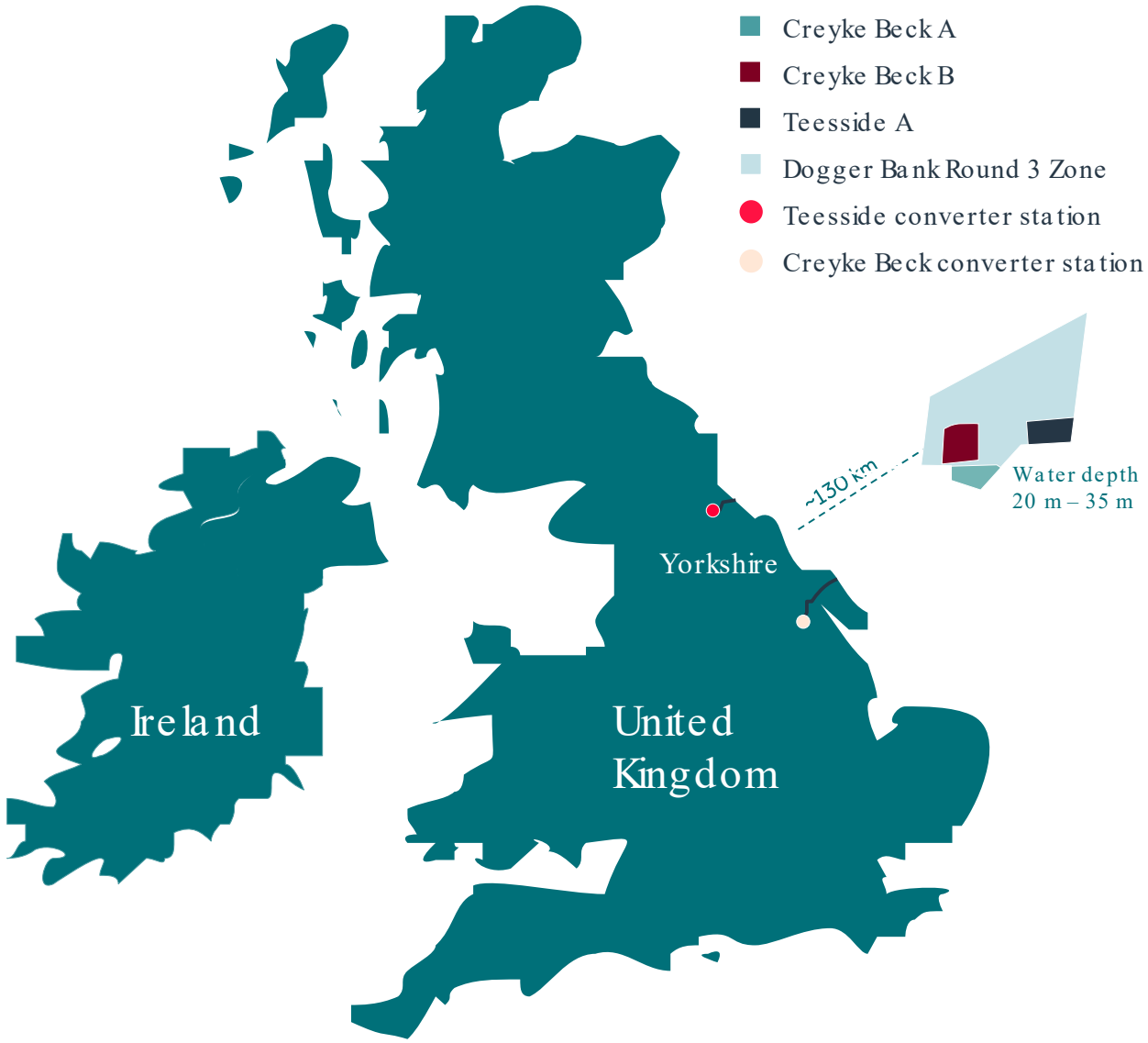
Equinor currently top 5 player in North Sea, Baltics and North America clusters

Participation[1] in North Sea, Baltics and North America offshore wind capacity (GW)



1. Ownership shares considered 2. 'In operational' also includes experience acquired from decommissioned parks 3. Includes projects under construction 4. Includes portfolio of Innogy and E.ON
5. Equinor including Massachusetts (800 MW) and Boardwalk (1000 MW) 6. Polska Grupa Energetyczna 7. Copenhagen Infrastructure Partners
Source: 4COffshore, BCG analysis, 2019

The Dogger Bank Wind farms



3 projects (1.2 GW)– developed in phases

3.6 GW
Combined capacity

12 MW
Wind Turbines
(WTGs)

Expected to cover 5% of UK's electricity generation

50/50 joint venture between Equinor and SSE Renewables*

First power generation 2023

*Lead operator in construction phase and Equinor in the operations phase

Empire Wind – offshore wind farm off the coast of New York

60-80 wind turbines

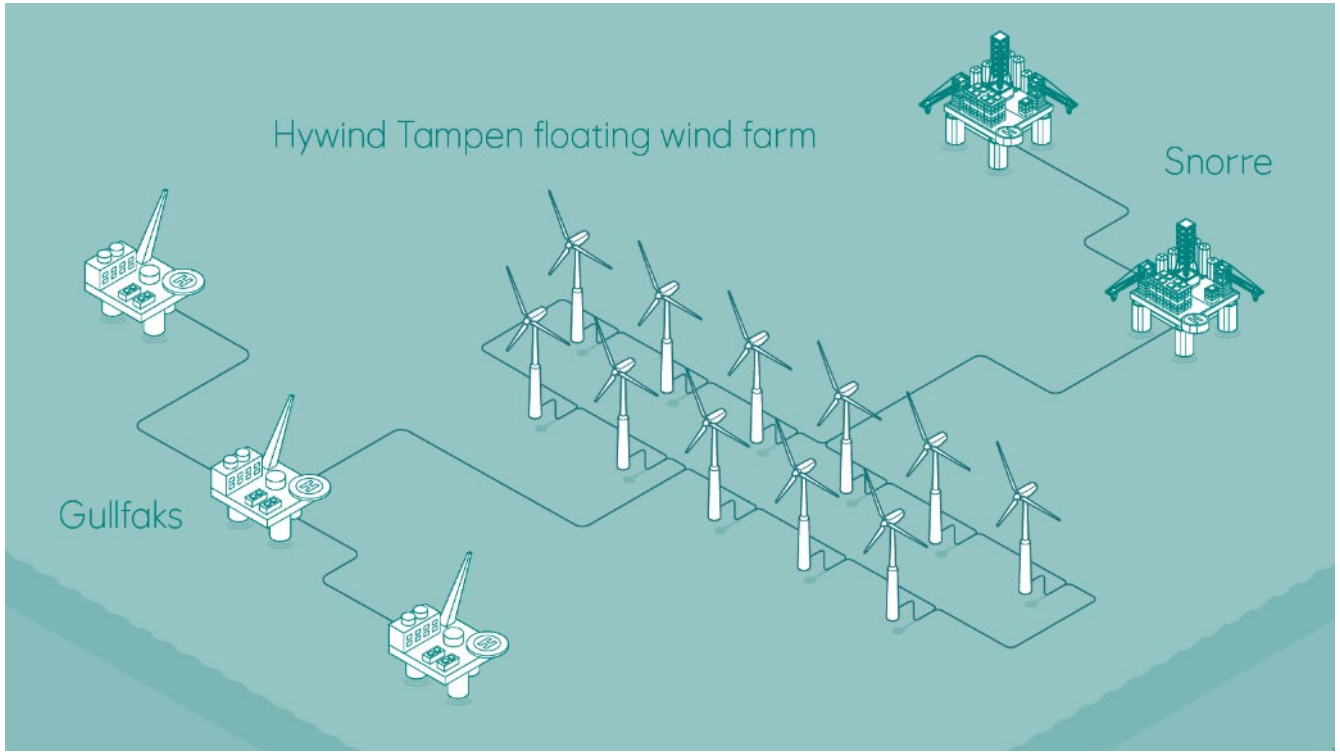
816MW
Combined capacity

+10 MW wind turbines (WTGs)

First power generation late 2024

Expected to power ~500 000 US homes

Hywind Tampen – offshore wind farm in the North Sea



11wind turbines between Snorre and Gullfaks

88MW
Combined capacity

The first ever oil and gas platforms powered by a floating offshore wind farm

Considerable CO2 emission reductions - +200,000 tonnes per year

The North Sea: A world-class energy province

CCS value chain

- Continue to develop Northern Lights
- Private-public partnerships needed for CCS value chain
- Increasing interest among European industries needing deep carbonization

Norwegian offshore wind resources

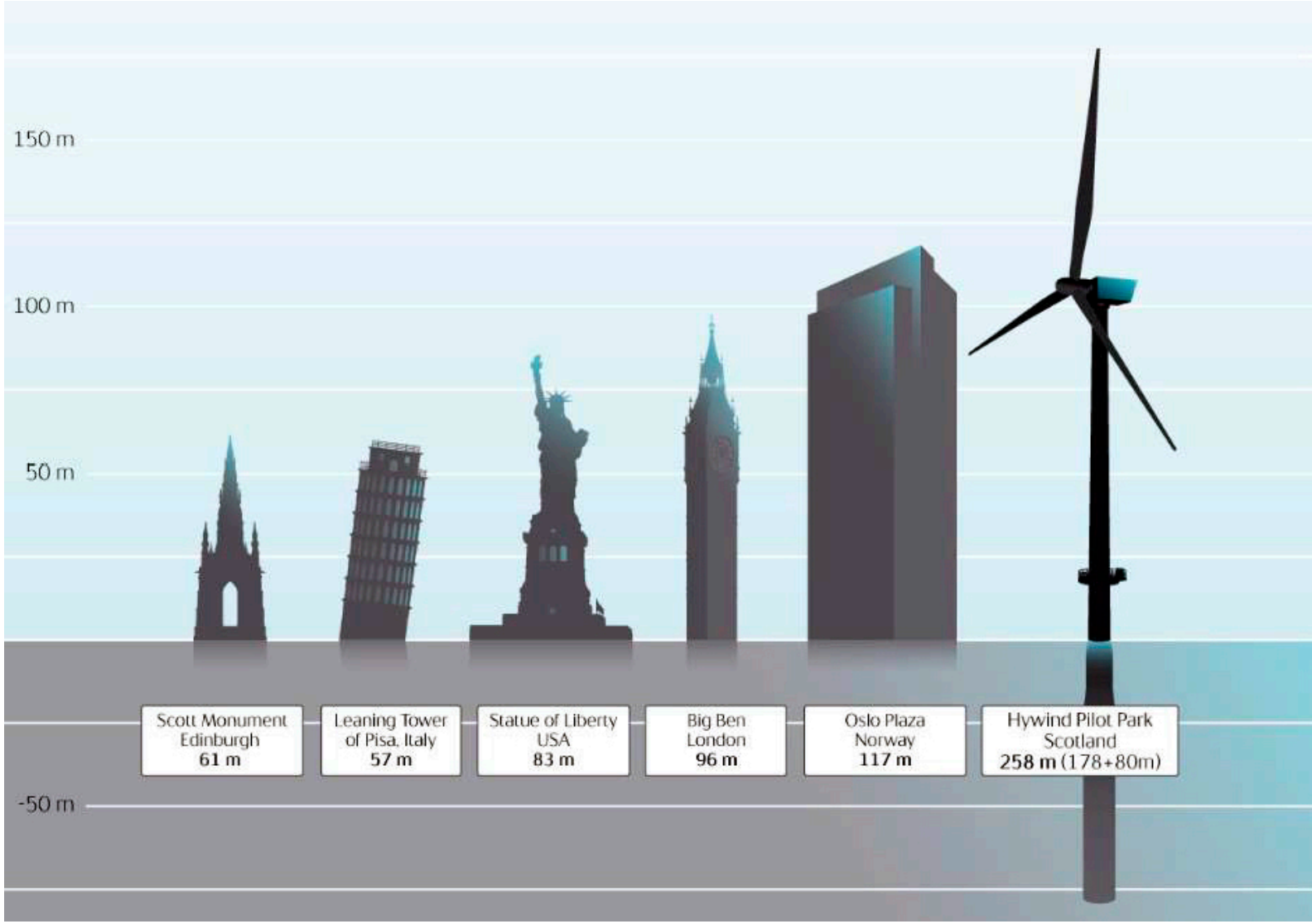
- Industry must work on cost – scale and industrialization are key
- Policy signals have a key role to play:
  - Ambitions?
  - Leasing model?
  - Commercial framework?

North Sea power hub

- Abundant wind resources – cluster thinking possible
- Link supply and demand in Europe; integrated energy systems
- Develop long term cooperation agreements across boundaries

Size matters

- Turbine sizes increasing:
  - **Dudgeon** (2017): 6MW
  - **Dogger Bank** (2023): 12MW
  - **«Haliade-X»:** 260 m high with a diameter of 220 m
  - Blades the length of a football field!
- Bigger turbines improve competitiveness
  - Higher production
  - Lower costs

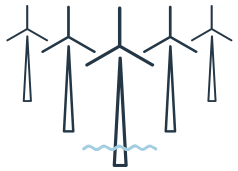


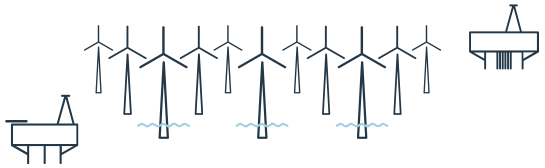
Way forward for floating wind

Technology development

Cost reduction

Industrialization





X 50

Hywind demo
2009
2.3 MW

Hywind Scotland
2017
30 MW

Hywind Tampen
2021-22
88 MW

Floating wind, commercial
2025-26
300-500 MW

Cost reduction
60-70 %

Cost reduction
40-50 %

Scotland, Spain, Greece, France

USA, East-Asia, Europa
12-15 GW developed by 2030

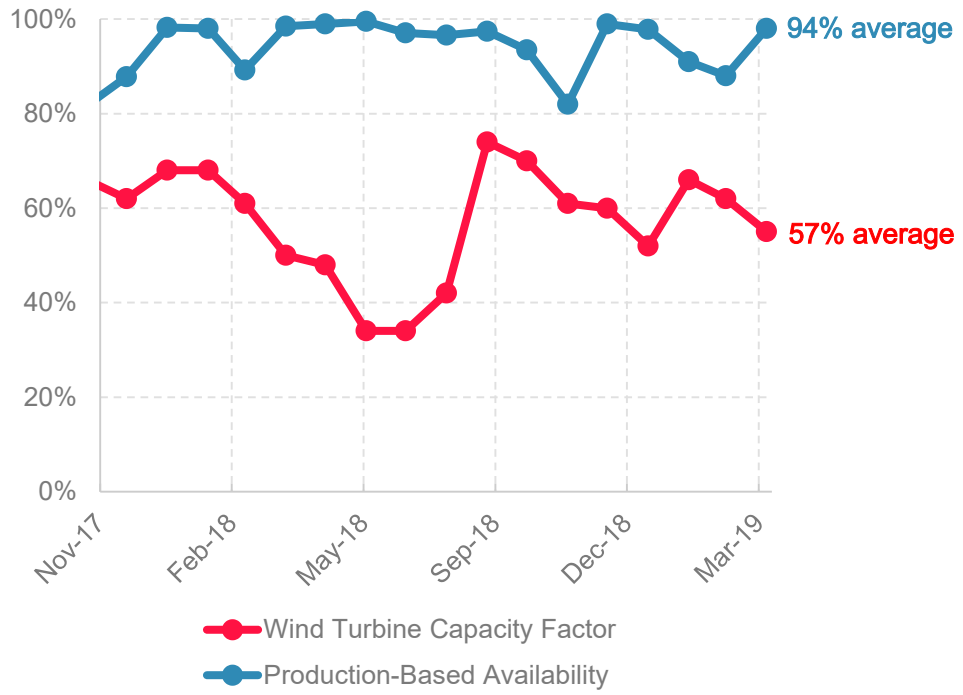
LCOE 40-60 €/MWh by 2030

Hywind Scotland – invaluable experience and high performance

Objectives

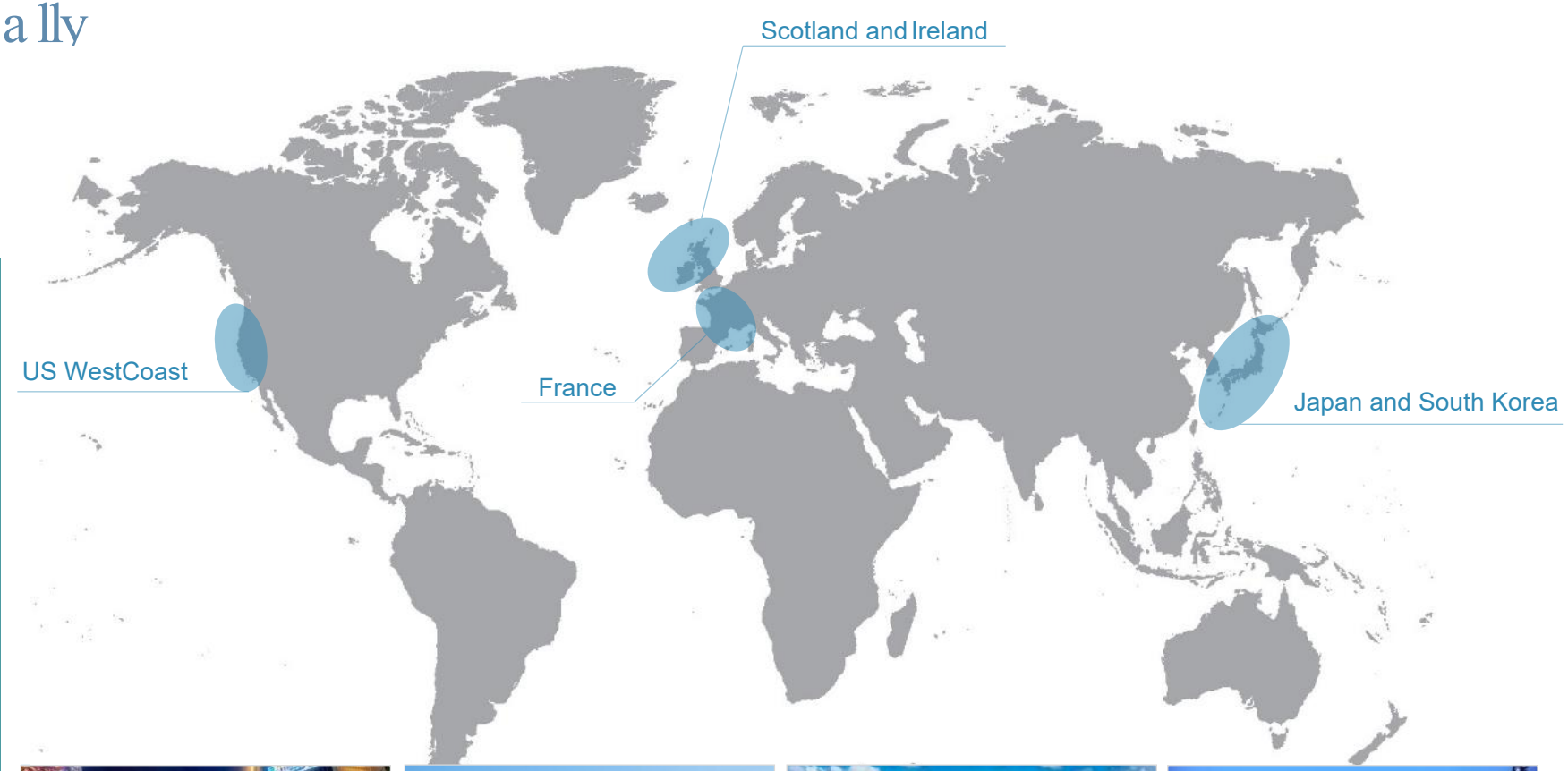
- Demonstrate cost-efficient and low risk solutions for commercial scale floating wind
- Test, verify and further develop the Hywind motion controller for a larger turbine
- Verify up-scaled design
- Verify reliability and availability of optimized multi-turbine concept

Performance



The next big thing globally

- Vast potential: 12-15 GW market by 2030
- Innovative applications
- Choice of substructure and design will vary depending on local conditions
- Equinor is a technology agnostic developer
- Targeting the «big four» regions




Utility scale


Big cities


Islands


Oil and gas

Solar - Building capabilities and capturing opportunities through partnership

Apodi project

Brazil

162 MW*

Guanizul 2A project

Argentina

117 MW*

Exploring opportunities

Latin America and other regions with Equinor presence

Combining solutions

Bundling technologies

* Installed capacity, 100% basis.


Shaping the future of energy
Thank you for your attention