Deep Wind Offshore

Floating Offshore Wind

Goals and strategies – challenges and opportunities

Andreas Skjevik Jacobsen
Deep Wind Offshore

CMI Colloquium
Gothenburg, 22 May 2024

This is Deep Wind Offshore

International developer
and owner of offshore wind farms

Early mover and experienced team in new markets

Maturing projects
and enabling strong partnerships

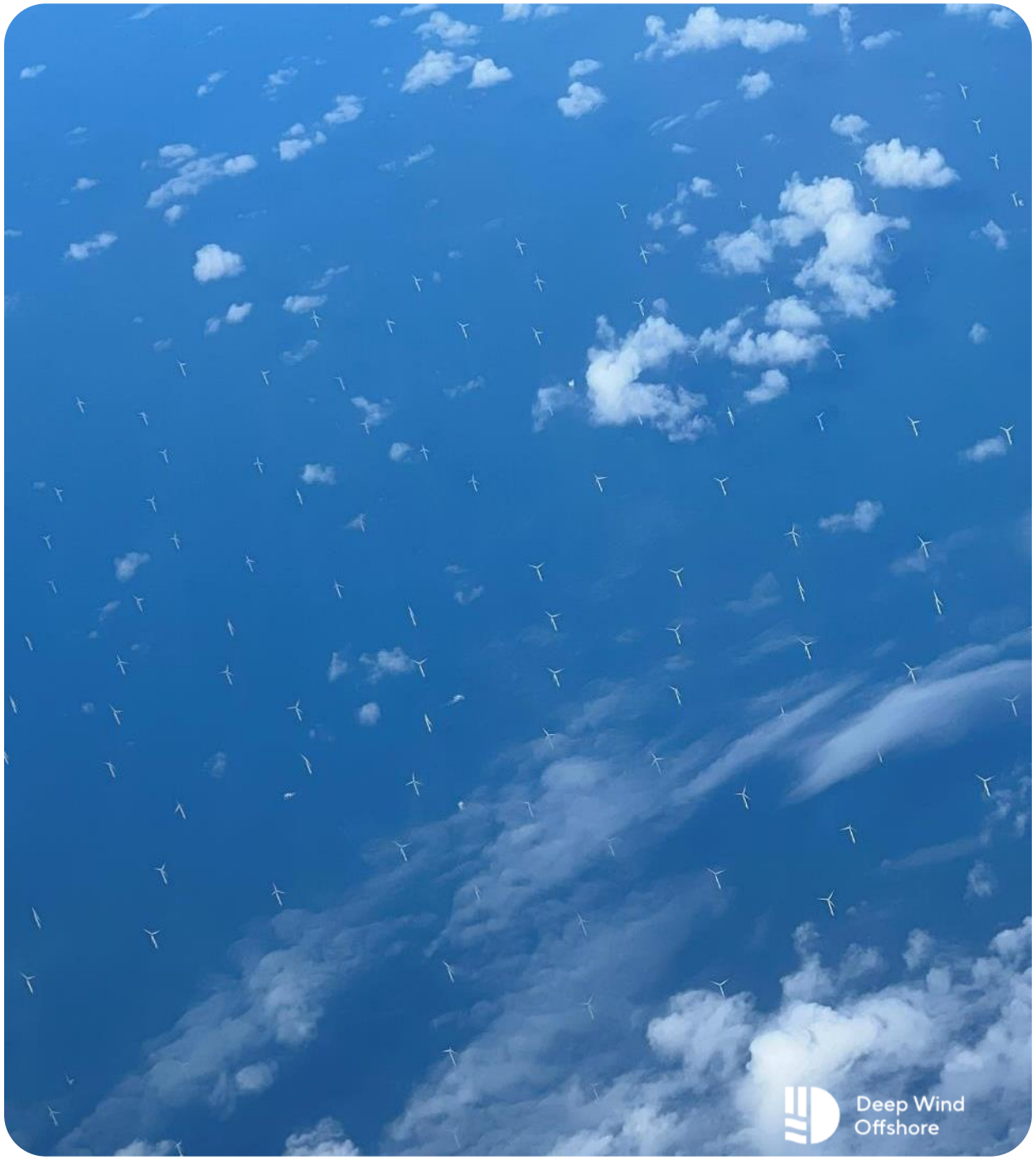
Deep Wind Offshore

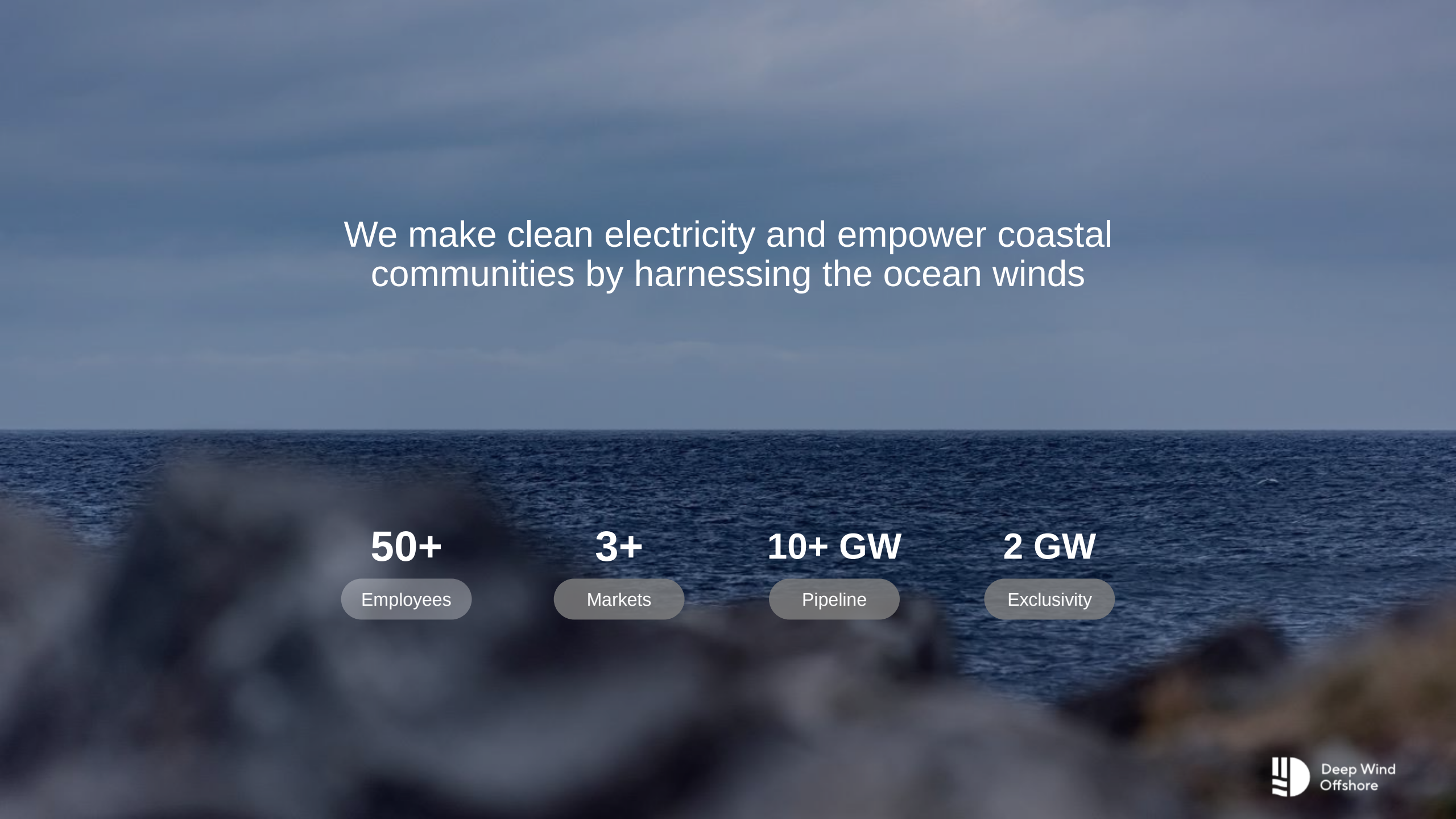
Company strategy

10 GW Pipeline

10 TWh Net Capacity

10 Years




We make clean electricity and empower coastal communities by harnessing the ocean winds
50+
Employees
3+
Markets
10+ GW
Pipeline
2 GW
Exclusivity
Deep Wind Offshore

Our owners

Knutsen Group

World leading offshore infrastructure partner

Extensive newbuilding program

Haugaland Kraft

Leading utility in the Southwest of Norway

Local grid operator with over 100 years' experience

Sunnhordland Kraftlag

Owner and operator of major hydropower projects across Norway

Doubled production over the last 20 years

Octopus Energy

One of Europe's largest renewable energy investors

Managing £6 billion of green energy projects across the globe

Deep Wind Offshore

Our team

More than 50 employees

Broad network of local experts

Extensive knowledge of the energy and offshore sectors

Experience within key technical disciplines and project development

Deep Wind Offshore

Markets

Norway

- Headquarter in Haugesund
- Combining unique local presence and global experience
- Developing the first offshore wind projects

Sweden

- Local offices
- Three projects under development
- Capacity of up to 8 GW

South Korea

- Local offices
- Four projects under development
- Capacity of up to 6 GW, including 2 GW under exclusive development

New Markets

- Opening new markets
- Project development
- Maturing projects

Deep Wind Offshore

Sustainability

Deep Wind Offshore is committed to sustainable development across all projects and works to minimise and mitigate environmental impacts wherever possible

Technology and innovation

Our project-specific approach enables us to choose the most appropriate technology for each initiative, encouraging local content and fostering innovation

Supply Chain Development

We are committed to supporting the development of a supply chain providing opportunities for new and existing companies

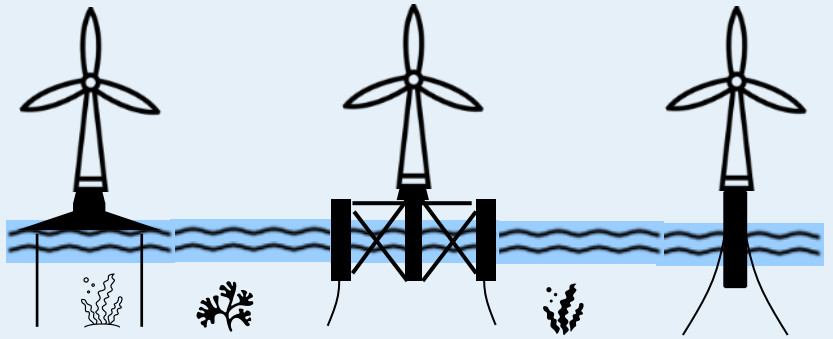
Competence development

Deep Wind Offshore drives competence development by actively engaging with local schools, students, universities, and suppliers to nurture expertise and knowledge

Floating offshore wind in brief

- Today, most offshore wind farms use fixed- foundation wind turbines in shallow water. However, floating wind is proven technology and ideally suited for deeper waters
- Bottom fixed technology is likely to remain relevant up to and potentially beyond 80m. Floating technology will harvest wind resources at deeper waters
- Floating wind turbines can harness stronger, more frequent wind speeds further offshore, leading to higher capacity factors and less visual impact
- LCOE of offshore wind is expected to continue the downwards trend following decreased capex figures upon overcoming recent pressure from rising interest rates and raw material costs. Floating wind costs are also expected to become more competitive as the industrialization and scale is realized during the 2030s
- The difference between floating and fixed-bottom offshore wind turbines will narrow, but fixed-bottom turbines is expected to remain as the more cost-competitive alternative

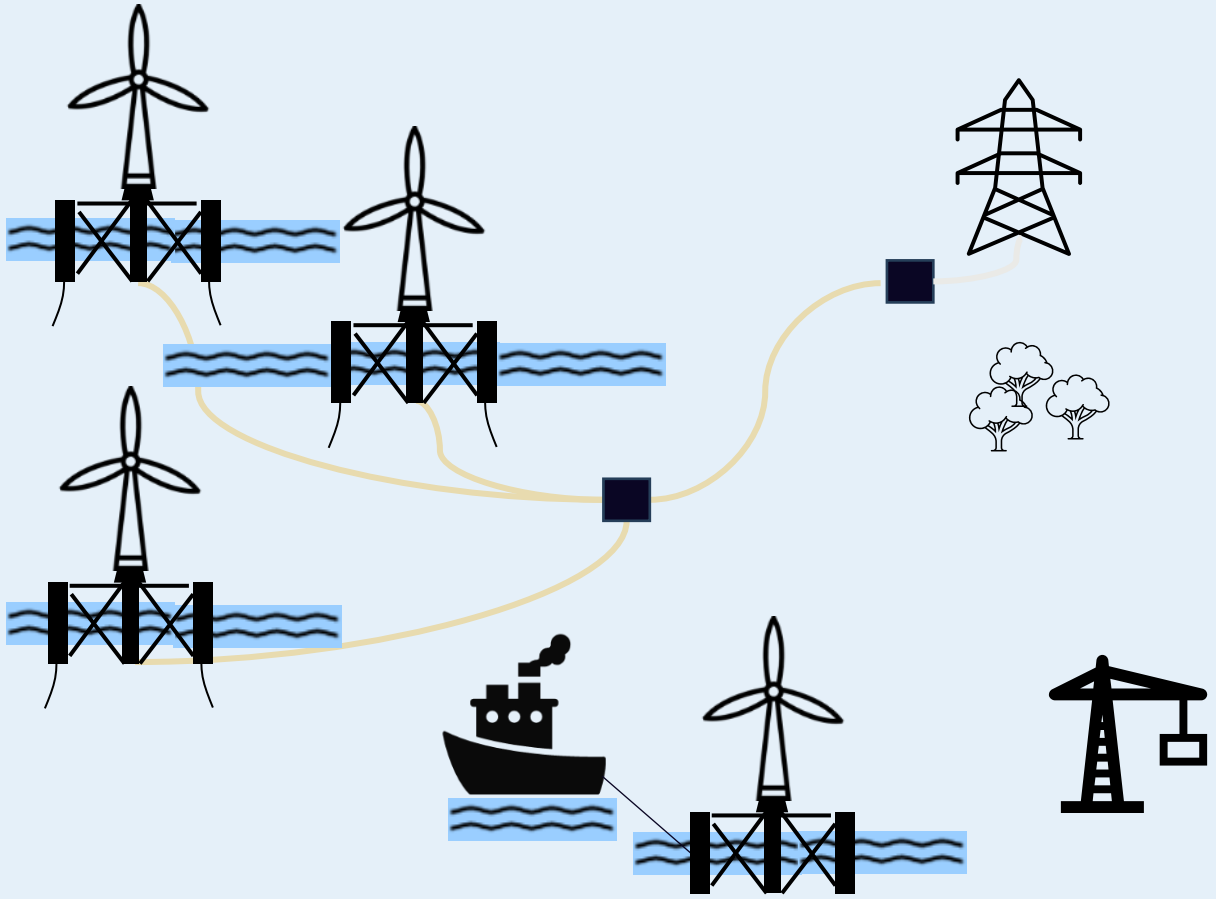
Key types of floating offshore wind farms



Tension Leg Platform	Semi-Submersible	Spar
Depths of >80m	Depths of >80m	Depths of >120m
A vertically moored floating structure normally used for the offshore production of oil or gas, suitable for water depths of more than 50m	Consists of multiple columns and pontoons, and are kept in place by a mooring system, also for depths of more than 50m	Were developed as an extreme deepwater alternative to conventional platforms, and are suitable for depths of over 120m

Deep Wind Offshore

Offshore floating wind farm - at a glance



- Floaters can be transported to the assembly site by a heavy transport vessel (HTV)
- Many floating structures can be assembled at port, and towed to their installation location, eliminating the need for crane vessels
- Floating wind turbines are held in position by a system of mooring lines
- The mooring lines ‘anchor’ the structure to the seabed, reducing surface movement and improving stability
- Array cables and export cables connected to each turbine – the turbines are either interconnected directly or through a substation

Deep Wind Offshore

Norway

- Reduce emissions by 55 % within 2030
- Increase from 140 TWh to 260 TWh by 2050
- Award 30 GW offshore wind by 2040
- Green industry initiative

Source: The Norwegian Water Resources and Energy Directorate

Deep Wind Offshore

South Korea

- Regional development offices
- Bottom fixed and floating projects
- Agreement with national utility East West Power
- Lidars installed
- Joint venture with bp
- Capacity of 6 GW+, including 2 GW site exclusivity

bp

Deep Wind Offshore

Sweden

- Three projects with a total capacity of 8 GW
- Local offices and team
- Bottom fixed and floating
- Good offshore wind recourses
- Consultation document delivered
- Ongoing EIA

Deep Wind Offshore

Sweden

Erik Segersäll

- 240-300 turbines
- Floating foundations
- Height: 370 meters
- AEP: 20-26 TWh

Deep Wind
Offshore

LLUSTRATIVE PURPOSES ONLY – NOT ACTUAL SIZE OR PLACEMENT

Financial and legal challenges – and opportunities

- **Government led processes for floating projects are going (too) slow**
- **Costs and (percieved) risk needs to come down**
    - Legal framework at national level may form a key part in decreasing financing cost
    - Clear framework for registration of ownership and security in key assets believed to be a key part:
        - WTG and balance of plant
        - The concession itself
    - Can a uniform approach across jurisdictions help speed up deployment of floating offshore wind, and thus the energy transition?

Deep Wind Offshore

deepwindoffshore

deepwindoffshore.com

Important information

ABOUT THIS PRESENTATION
This presentation has been prepared by Deep Wind Offshore AS (hereinafter only “DWO”) solely and exclusively for information and discussion purposes only and does not in itself constitute, and should not be construed as, a complete, accurate or correct presentation. This presentation must also be viewed in conjunction with the oral briefing provided by DWO. The contents of this presentation shall not be construed as financial, legal, business, investment, tax or other professional advice. The recipient of this presentation should consult with its own professional advisers for any such matter and advice.

CONFIDENTIALITY
This presentation is proprietary to DWO and may not be disclosed to any third party or used for any other purpose without the prior written consent of DWO.

NO THIRD-PARTY VERIFICATION
The information contained in the presentation, including (but not limited to) market information, has not been independently verified and no representation or warranty, express or implied, is made as to, and no reliance should be placed, on the fairness, accuracy, completeness or correctness of the information or opinions expressed herein. DWO, its subsidiaries, respective affiliates, directors, officers, employees, agents or any other person shall have no liability whatsoever (in negligence or otherwise) for any loss howsoever arising from any use of the presentation or its contents or otherwise arising in connection with the presentation. The information and opinions contained in this presentation do not purport to be comprehensive, are provided as at the date of the document and are subject to change.

NO REPRESENTATION OR WARRANTY
DWO, its subsidiaries, respective affiliates, directors, officers, employees, agents or any other person make any representation or warranty (express or implied) whatsoever as to the accuracy, completeness or sufficiency of any information contained herein, and nothing contained in this presentation is or can be relied upon as a promise or representation by DWO, its subsidiaries, respective affiliates, directors, officers, employees, agents or any other person.
None of DWO, its subsidiaries, respective affiliates, directors, officers, employees, agents or any other person shall have any liability whatsoever (in negligence or otherwise) arising directly or indirectly from the use of this presentation or its contents, including (but not limited to) any liability for errors, inaccuracies, omissions or misleading info in this presentation.

GOVERNING LAW
This presentation is subject to Norwegian law, and any dispute arising in respect of this presentation is subject to the exclusive jurisdiction of Norwegian courts.

Deep Wind Offshore