

Ports – The capacity to grow with Offshore Wind

Keld Kristensen Head of Operations Logistics, NCE

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Four types of ports used in the Offshore Wind industry

Pre-Installation ports are used during construction across OEMs.

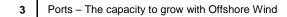




Four types of ports used in the Offshore Wind industry

Pre-Installation ports are used during construction across OEMs.

Ports for the OW industry **Commissioning, Operation and Maintenance ports** Foundation manufacturing and marshalling ljmuiden **Smoulders Hobroken** Ijmuiden **Buss Eemshaven GEG Nigg Scotland**



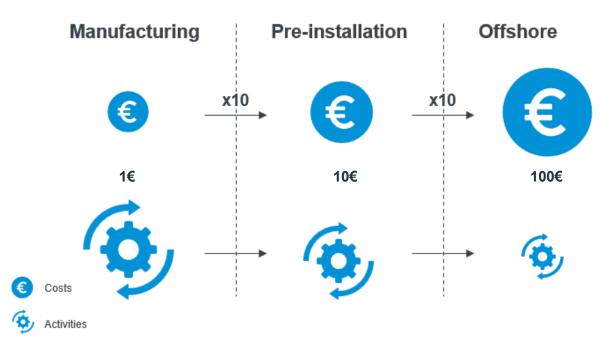


Reducing installation cost - building offshore projects onshore

We are building offshore projects onshore

Moving more processes back to the value chain

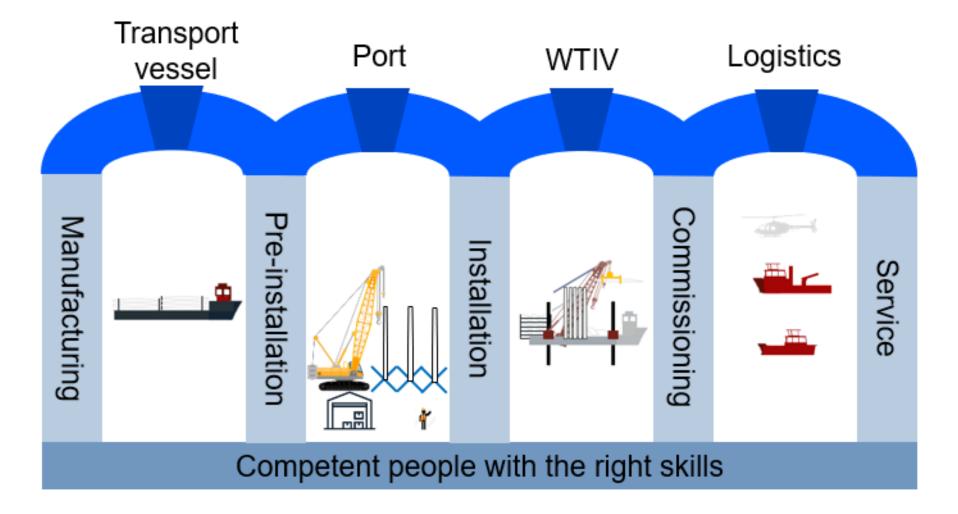
Proven pre-installation **concept** and improvement of **safety** and **quality**





Keystone elements of project delivery

Bridging the different phases



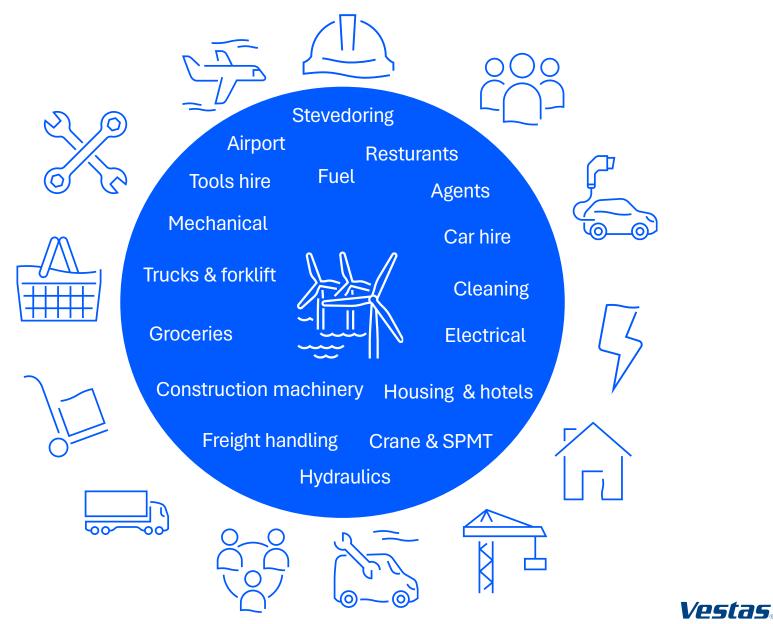
Vestas



What services do we need?

Follow the money...

- Local items often only locked 6-12 months in advance.
- Annual jobs per GW during installation:*
 - Primary jobs ~170
 - Secondary jobs ~210
 - Tertiary jobs ~185

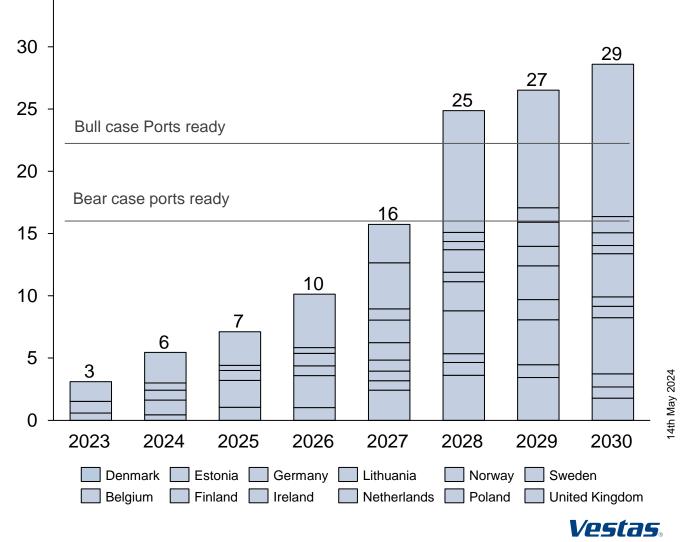


Port need per country

The graph assumed present methods

- No synergies between projects
- Ports for Foundations not Included in demand

Port years needed

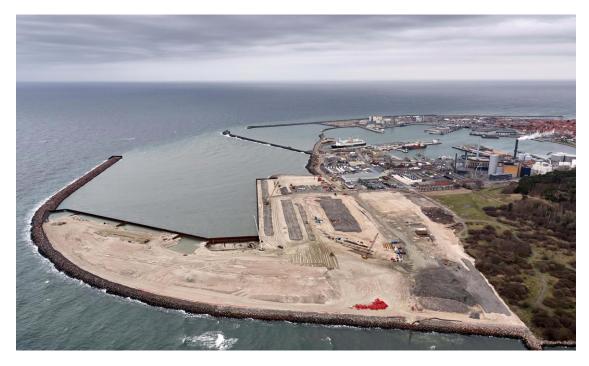


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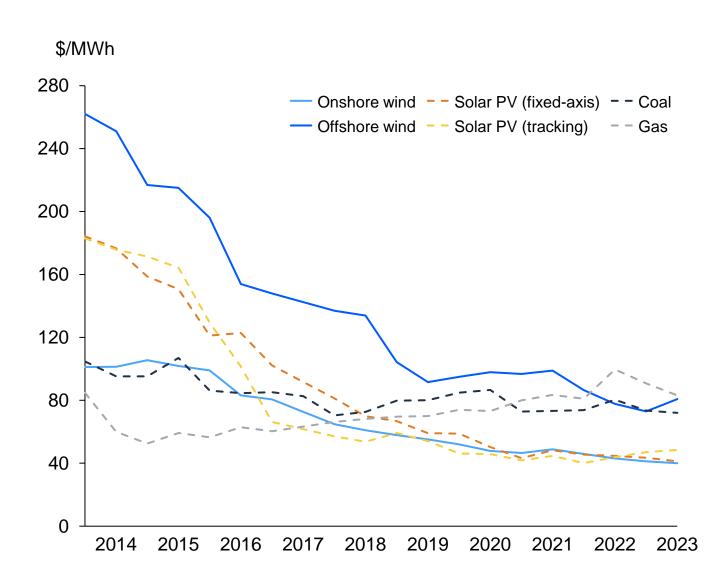
Main Port challenges

So securing capacity remains the main objective in the future

| Challenges | Main Port challenges |
|------------|---|
| 1 | Low or no certainty on pipeline |
| 2 | Limited appetite for private owned ports |
| 3 | High focus on goods over quay – not job creation |
| 4 | High investments required compared to other port activities |
| 5 | A need for Strategic partnerships |



Rønne Havn



Source: BNEF, H2 2023 LCOE Update

The good news is, it's now cheaper to save the planet than to ruin it

John Doerr, Kleiner Perkins

Classification: Confidential



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