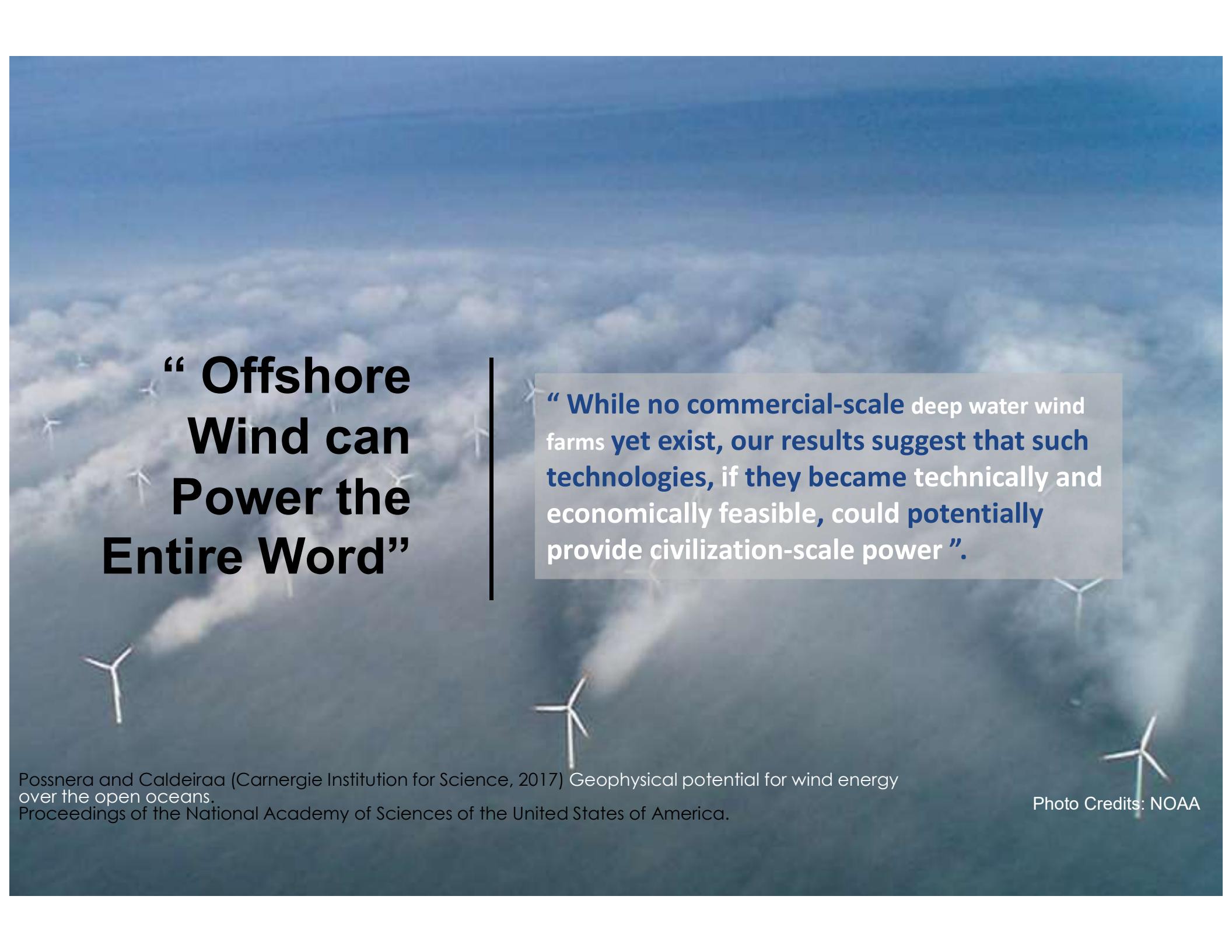




The WindFLoat A new Paradigm in Offshore Wind

Bruxelles, April 17th 2018





“ Offshore Wind can Power the Entire World”

“ While no commercial-scale deep water wind farms yet exist, our results suggest that such technologies, if they became technically and economically feasible, could potentially provide civilization-scale power ”.

Possnera and Caldeiraa (Carnegie Institution for Science, 2017) Geophysical potential for wind energy over the open oceans.

Proceedings of the National Academy of Sciences of the United States of America.

Photo Credits: NOAA

Offshore Wind Today...

Matured faster than anyone
Anticipated...

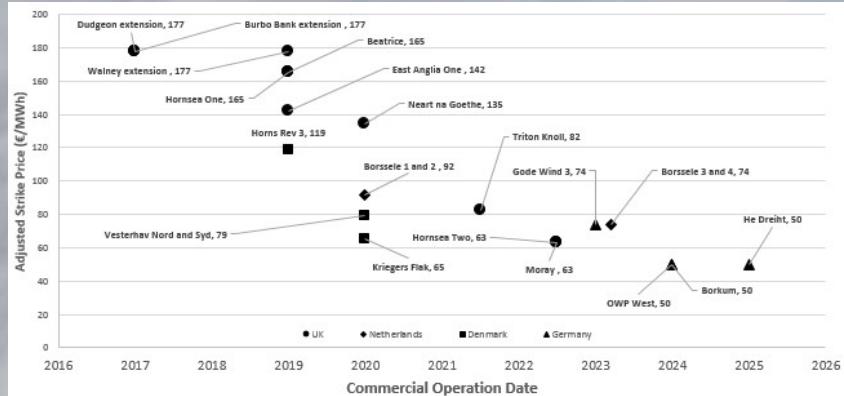


Photo Credits: NOAA



Offshore Wind Today...

**Bigger Projects,
Larger Turbines,
Further from Shore...**

**... While Minimizing Risks and
Costs**

Photo Credits: NOA



What is limiting Offshore Wind Today?

Offshore Operations

- Hard to find and costly to operate Vessels
- Limited Weather Windows
- Larger Turbines will NOT help

Photo Credits: DeepWater Wind



**What is
limiting
Offshore Wind
Today?**

Water Depth

- Fixed Foundations viable only up to ~ 50m

80% of Resources are in Deep
Waters

Photo Credits: WPD

The WindFloat by PPI



The Solution

- No Seabed Restriction
- No Limit of Water Depth
- Turbine Agnostic

Photo Credits: Principle Power

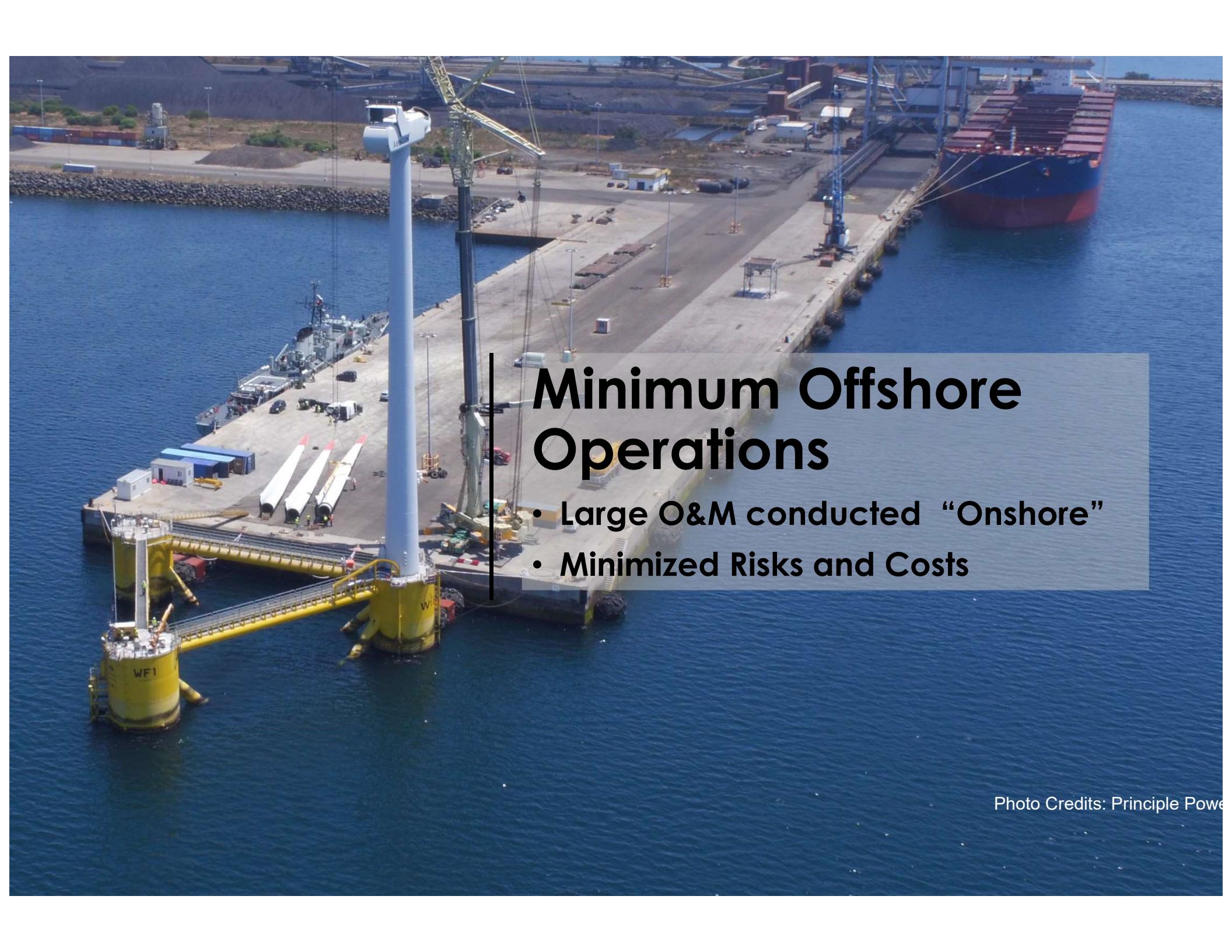
The WindFloat by PPI



No specific equipment

- Assembled and Pre Commissioned onshore
- Foundation acts as Installation Vessel

Photo Credits: Principle Power

An aerial photograph of a port facility. In the foreground, a large white wind turbine tower stands vertically on a yellow support structure in the water. A yellow walkway extends from the tower towards a yellow cylindrical platform labeled "WF1". In the background, a large blue and red cargo ship is docked at a long concrete pier. The pier is equipped with several industrial cranes and various shipping containers. Further back, there are more industrial buildings and what appears to be a quarry or storage area with piles of material.

Minimum Offshore Operations

- Large O&M conducted “Onshore”
- Minimized Risks and Costs

Photo Credits: Principle Power

The WindFloat by PPI

A Proven Technology

- Demonstrated Availability and Survivability
- Performs as a Fixed Foundation



The WindFloat by PPI

A Bankable Technology

- 2 Pilot Projects (Incl. Non-Recourse Financed)
- Commercials Projects under Development



CAPEX

**Same as for Fixed:
Largest Wind Turbines → Lower cost / MW**

Floating Foundations benefit even more from Turbines Growth

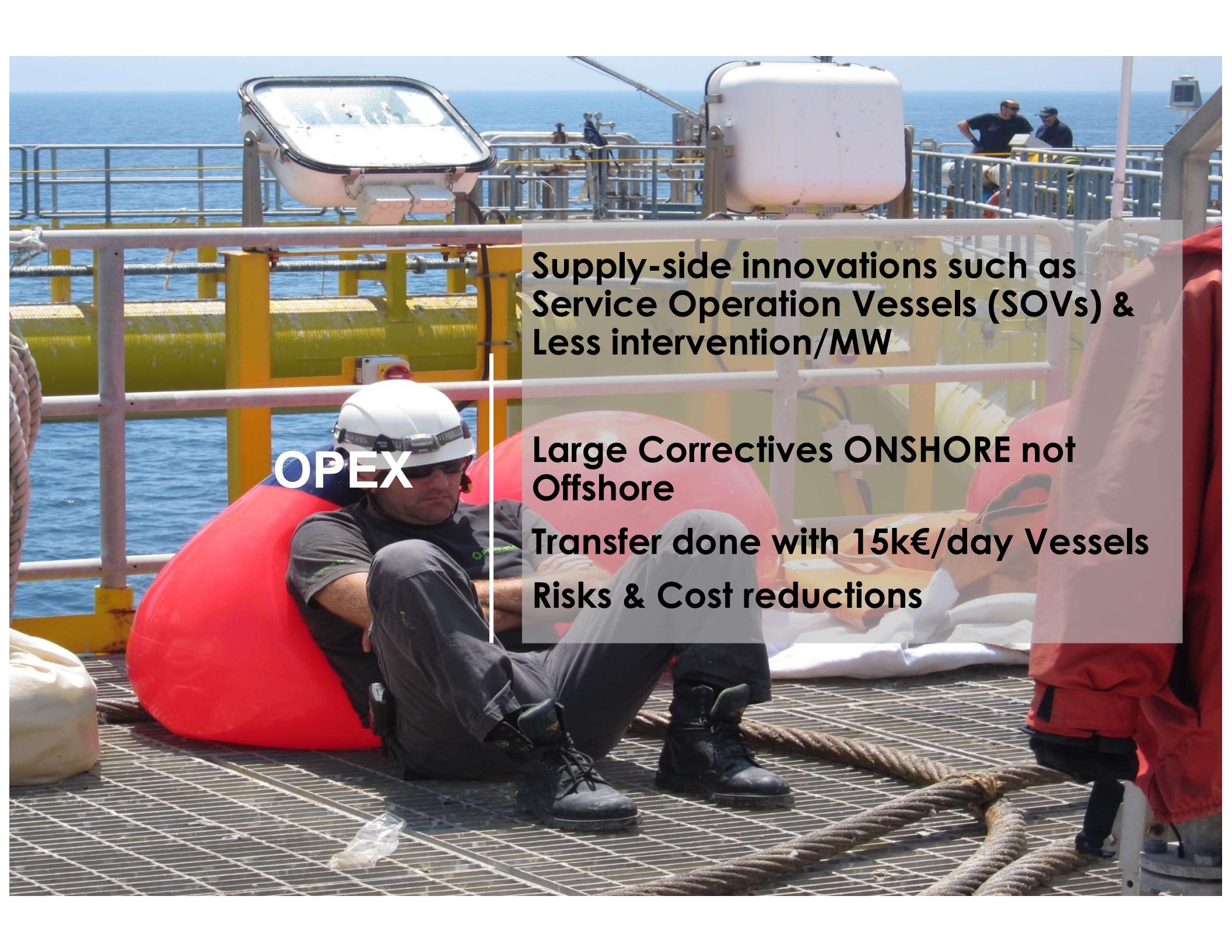
No Transport, Assembly & Installation Issue



Substations

**Cost competitive floating solutions
No need for Float-over or Heavy Lift**

Photo Credits: SMU

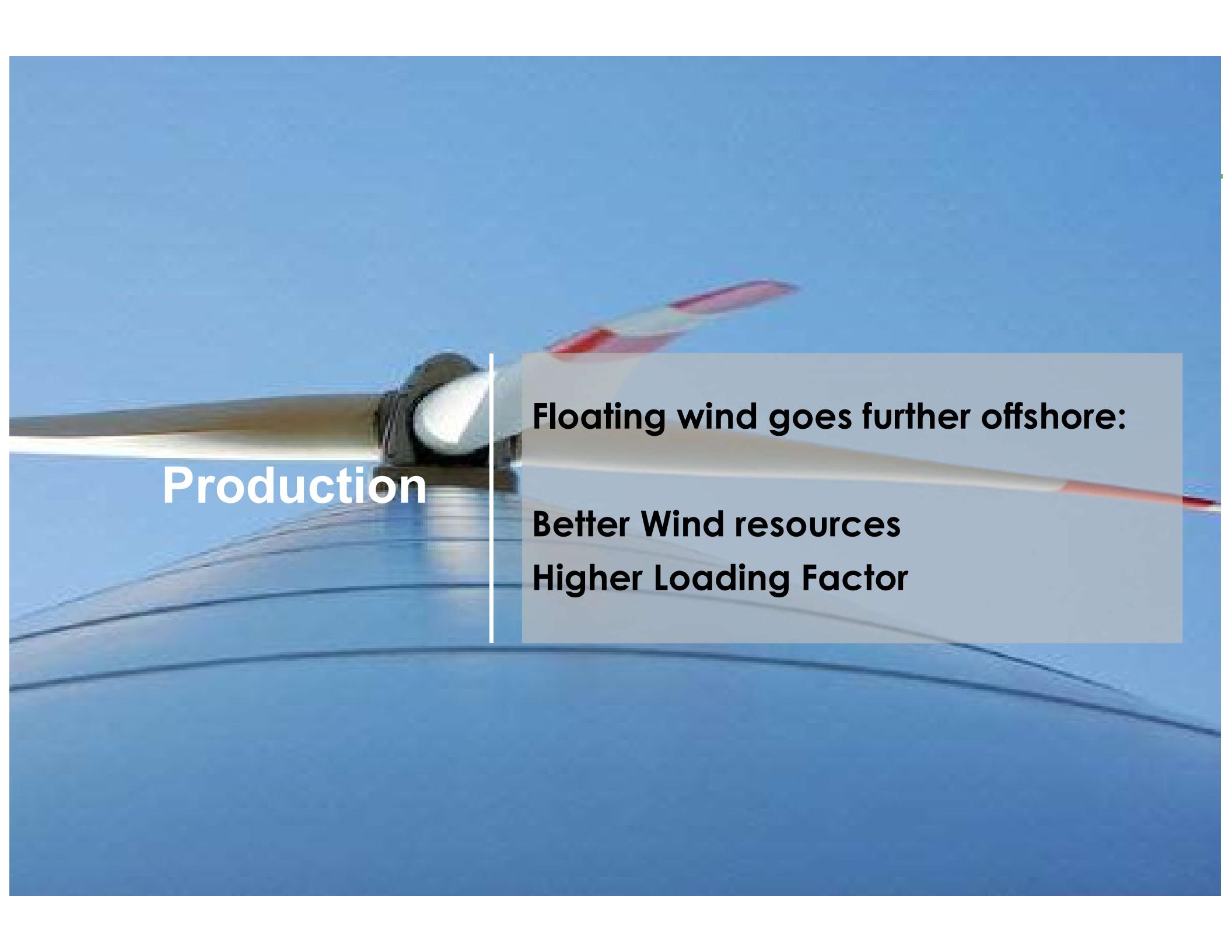


OPEX

**Supply-side innovations such as
Service Operation Vessels (SOVs) &
Less intervention/MW**

**Large Correctives ONSHORE not
Offshore**

**Transfer done with 15k€/day Vessels
Risks & Cost reductions**



Production

Floating wind goes further offshore:

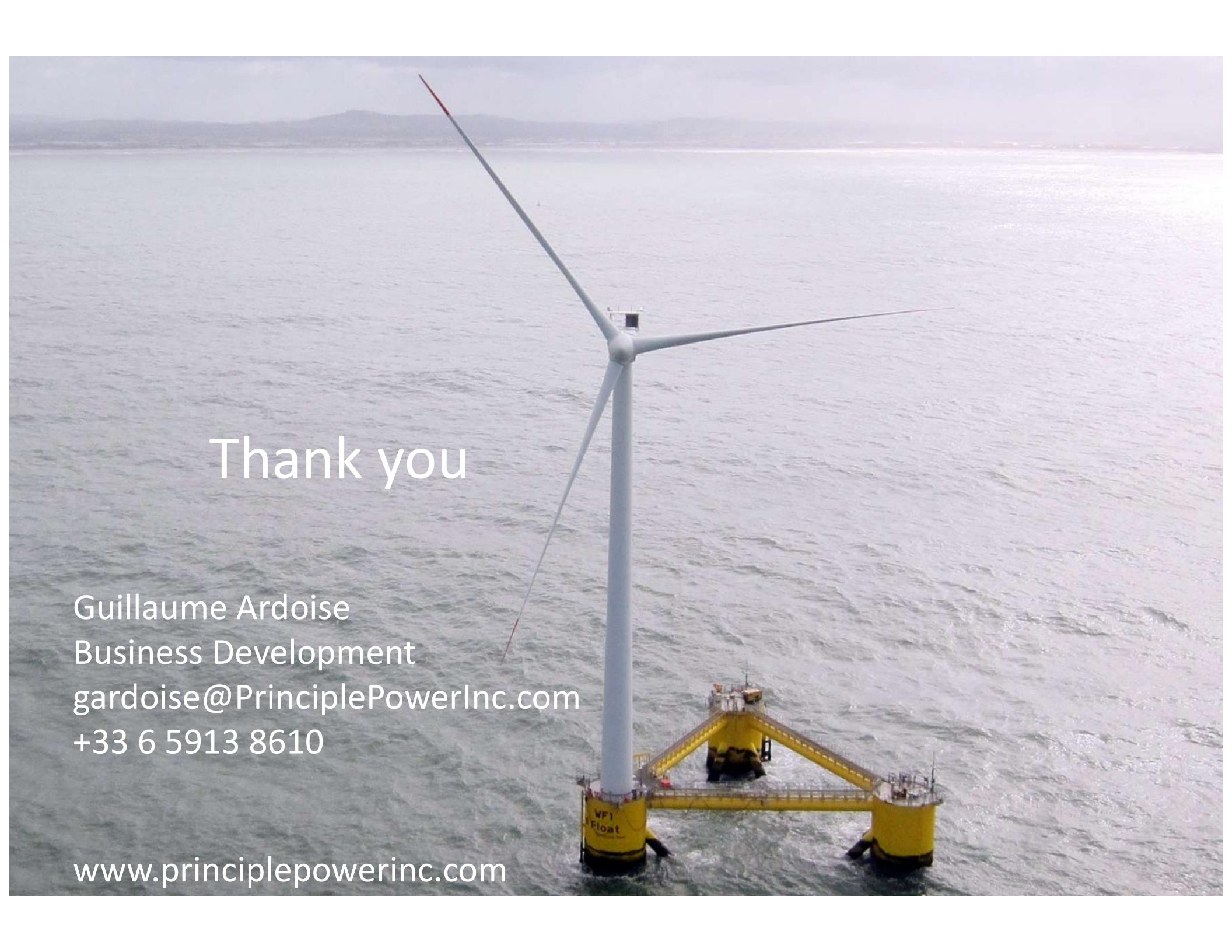
**Better Wind resources
Higher Loading Factor**



Cost of Financing

Floaters can be built in existing industrial facilities and using the existing supply chain

Lower risk exposure in deeper offshore conditions and lower need for contingencies

An aerial photograph of an offshore wind turbine foundation in a body of water. The foundation is yellow and black, with a central vertical column and a horizontal circular platform. A yellow walkway extends from the platform to a small boat. The water is slightly choppy. In the background, distant land is visible under a clear sky.

Thank you

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