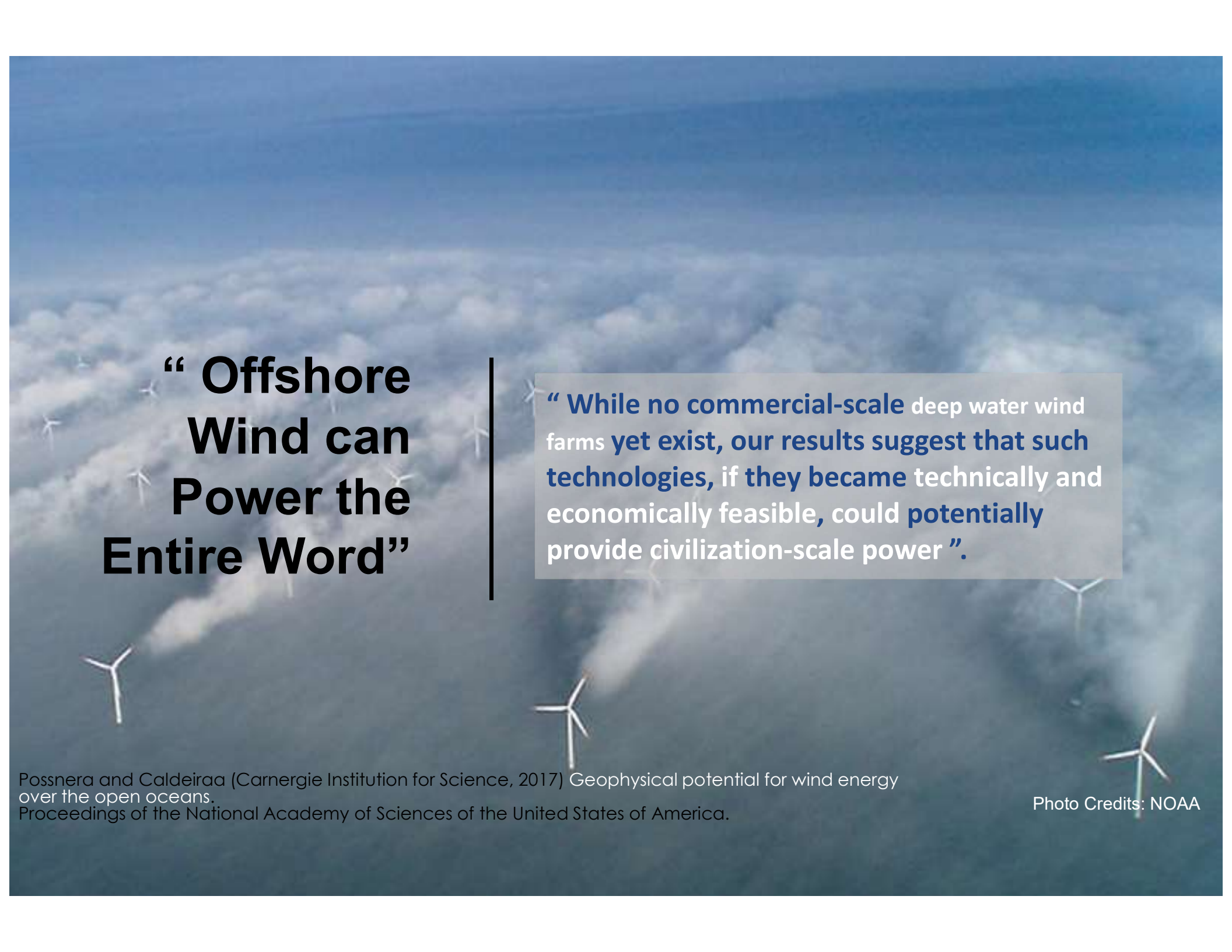




The WindFloat A new Paradigm in Offshore Wind

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 ”.

Possner and Caldeira (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...

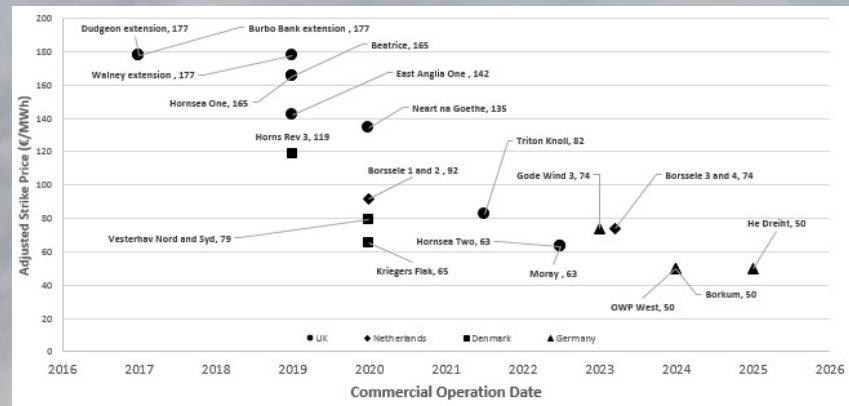



Photo Credits: NOAA



Offshore Wind Today...

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

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

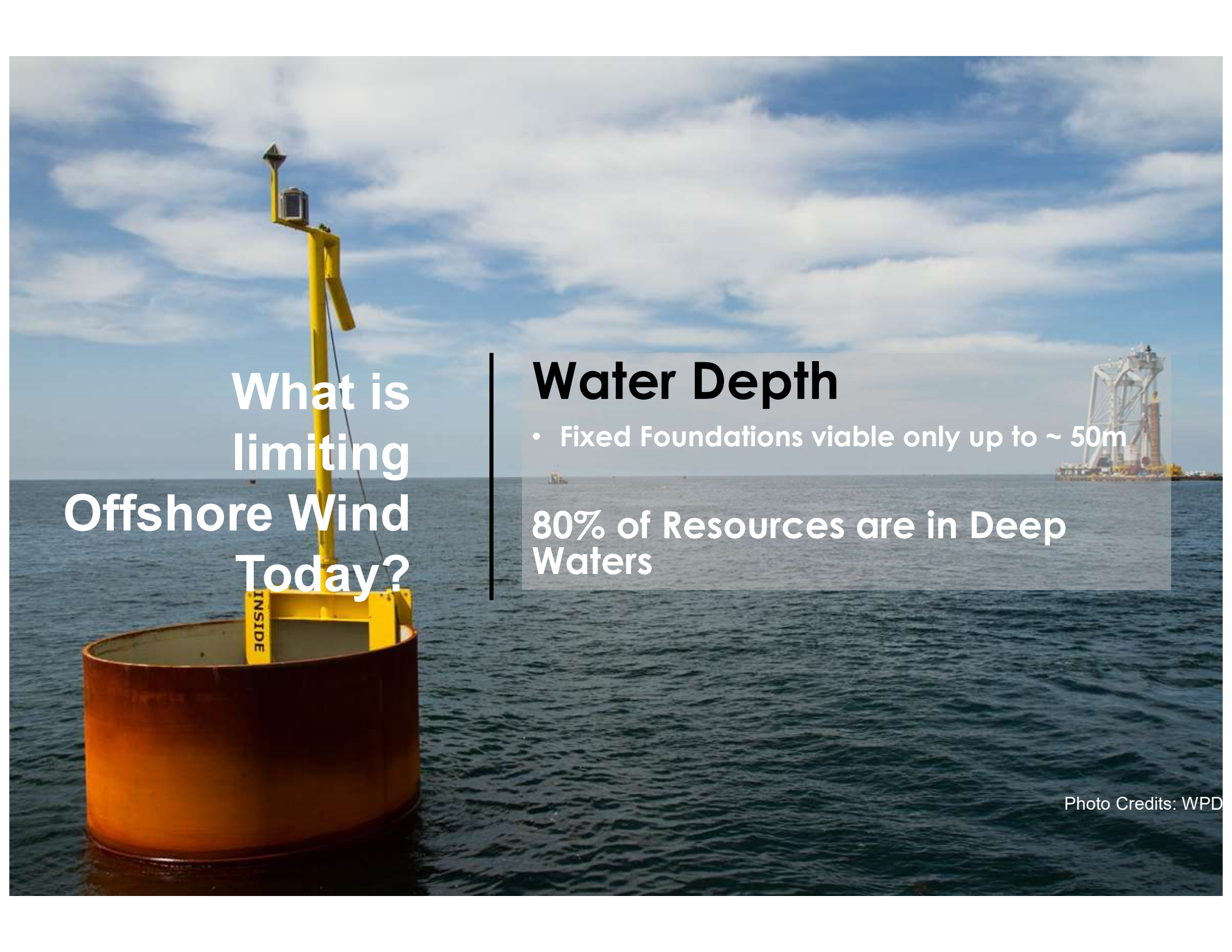
A large offshore wind turbine is being installed on a steel jacket structure in the ocean. A red and white crane is positioned on a barge, lifting a component of the turbine. The sky is clear blue, and the water is dark blue. In the background, other offshore structures and vessels are visible.

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

A photograph of an offshore wind turbine in deep water. The foreground shows a large, rusted metal cylinder with a yellow structure on top. The background features a vast blue sea under a blue sky with scattered white clouds. In the distance, another offshore wind turbine is visible.

What is
limiting
Offshore Wind
Today?

Water Depth

- Fixed Foundations viable only up to ~ 50m

80% of Resources are in Deep Waters



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



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

An aerial view of a large offshore oil and gas platform in the middle of the ocean. The platform has a complex steel structure with various levels, pipes, and a tall derrick. The water is a deep blue, and the sky is clear. A semi-transparent grey box is overlaid on the right side of the image, containing text. The word 'CAPEX' is written in large white letters on the left side of the platform.

CAPEX

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 a floating offshore wind turbine. The turbine has three white blades and a white tower. It is mounted on a yellow floating platform with three legs. The platform is labeled 'WF1 Float'. The turbine is situated in the middle of a large body of water under a cloudy sky. In the background, there are low mountains or hills on the horizon.

Thank you

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