

Offshore Wind Auctions in Europe - Consequences and Conclusions

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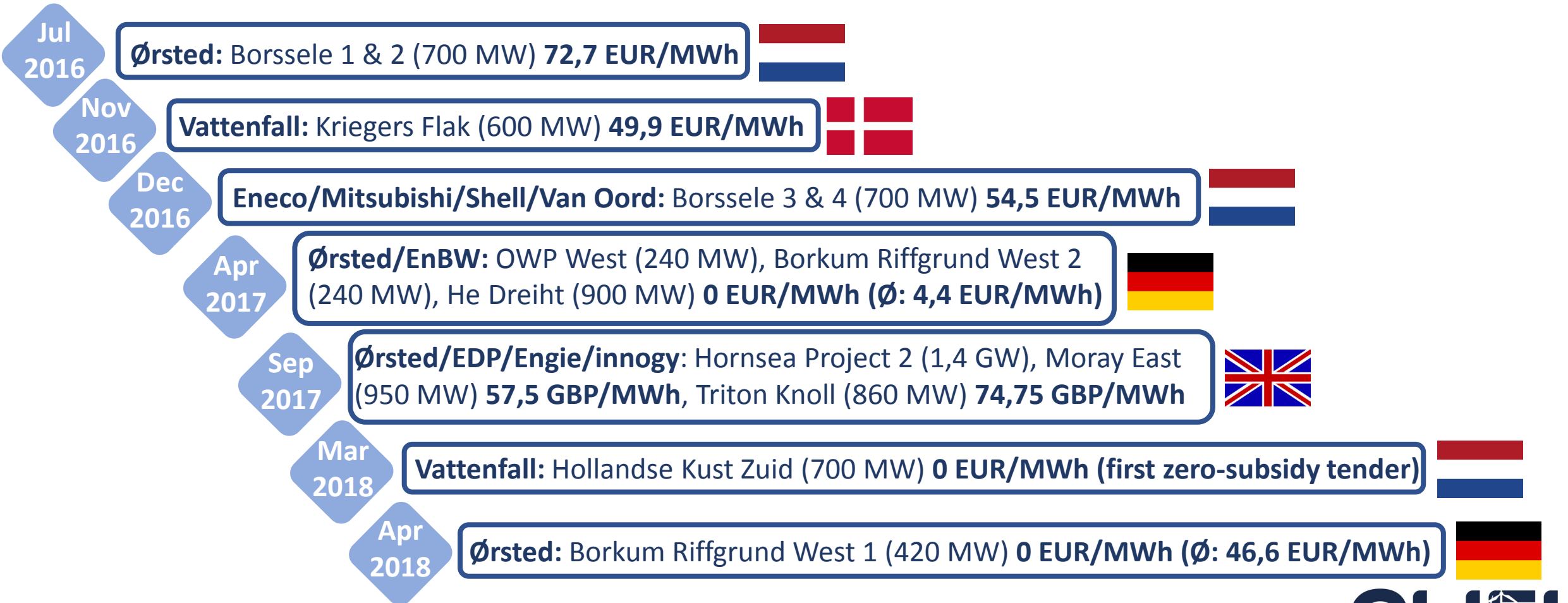
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Berlin, May 4th, 2018



CLIMATE FINANCE ADVISORY

Cost reduction path for offshore wind



Changing views on offshore wind - 2014

Renewable energy

Rueing the waves

The
Economist

Britain is a world leader at something rather dubious



- “rather **dubious**”
- “**staggeringly** expensive”
- Prof Dieter Helm, economist at Oxford University:
“among the **most expensive ways** of marginally reducing carbon emissions known to man”

Changing views on offshore wind - 2017

The
Economist

Hull of a wind behind it

Off the coast of England, wind power
takes off

Falling costs indicate that an adolescent industry is coming of age

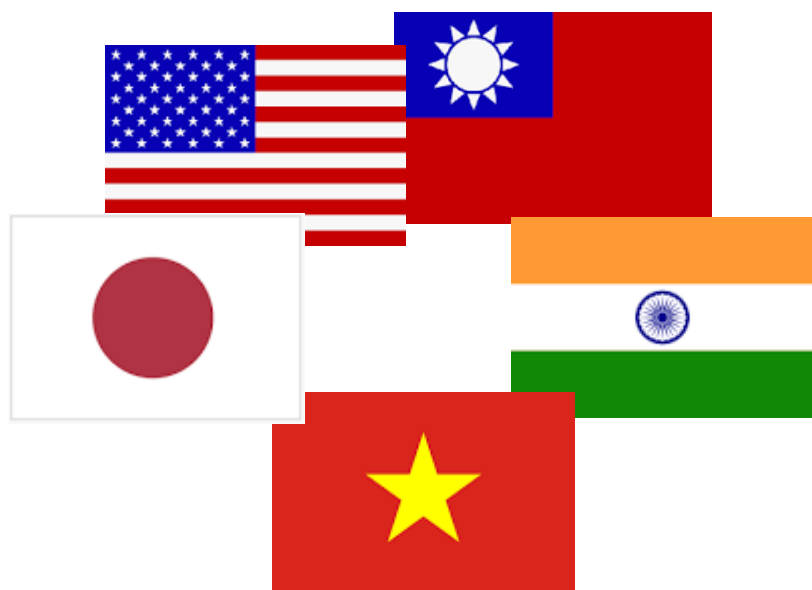


- “**stunning drop** in the cost of offshore wind”
- “**adolescent industry**”
- “**only a few years ago**, economists derided offshore wind as a **ludicrously expensive** way of cutting carbon emissions”

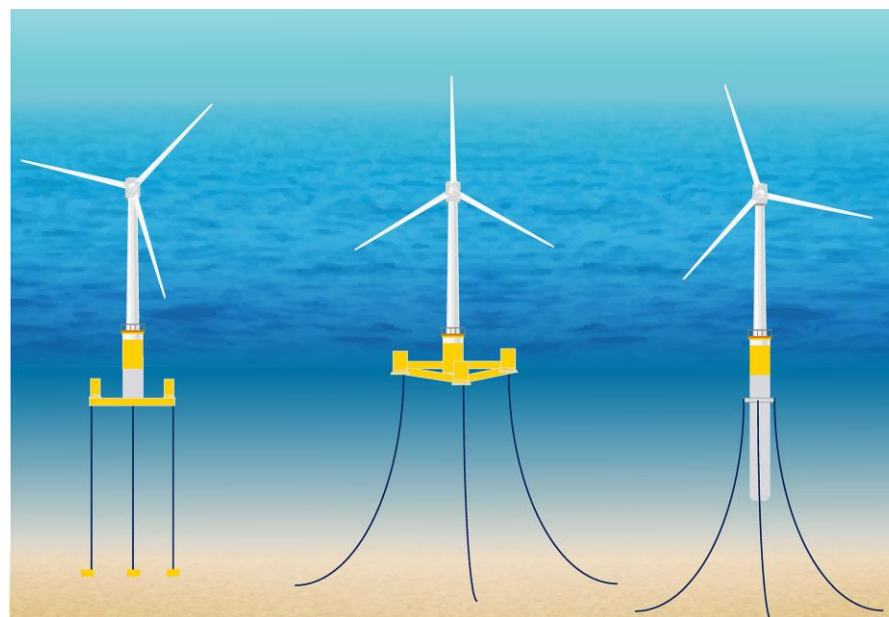
What does this mean for offshore wind?

Final breakthrough for offshore wind has fostered two global trends:

1. Global expansion



2. Floating offshore wind



Source: The Carbon Trust

Global expansion

Wind Power to Spare

The Enormous Energy Potential
of Atlantic Offshore Wind



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Floating offshore wind



Floating Offshore Wind Vision Statement

June 2017

Wind
EUROPE

KEY MESSAGES

1. FLOATING OFFSHORE WIND IS COMING OF AGE

Floating offshore wind is no longer confined to R&D. It has now reached a high 'technology readiness level.' It is also using the latest technology available in the rest of the offshore wind supply chain.

2. COSTS WILL FALL

Floating offshore wind has a very positive cost-reduction outlook. Prices will decrease as rapidly as they have in onshore and bottom-fixed offshore wind, and potentially at an even greater speed.

3. WE ARE A UNITED INDUSTRY

Europe has long been the global leader in offshore wind. Floating offshore wind will take advantage of cost reduction techniques developed in bottom-fixed offshore wind thanks to the significant area of overlap between these two marine renewable energy solutions.

4. FLOATING MEANS MORE OFFSHORE WIND

An increase in offshore wind installations is needed in order to meet renewable electricity generation targets set by the European Commission. Improving conditions for floating offshore wind will enhance the deployment of overall offshore wind capacity and subsequently support the EU in reaching the 2030 targets.

5. EUROPEAN LEADERSHIP NEEDS EARLY ACTION

If Europe is to keep its global technological leadership in offshore wind, it needs to move fast to deploy floating offshore wind and exploit its enormous potential.

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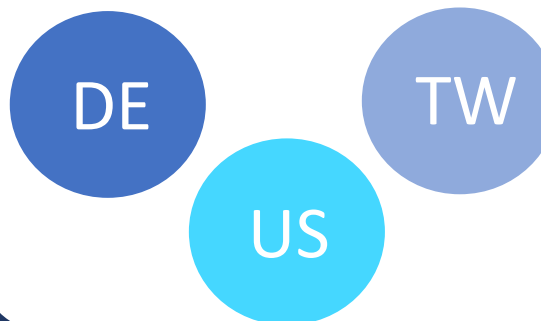
Future of offshore wind in post-subsidy world

How to address the electricity price risk?

Corporate PPAs



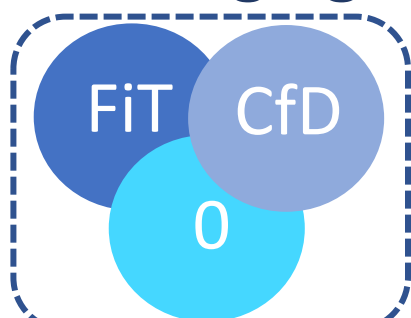
Diversification



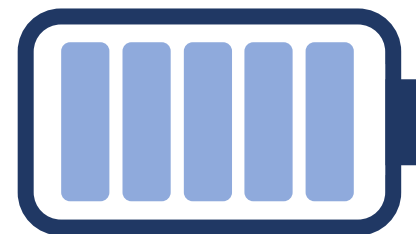
Hedging



Packaging

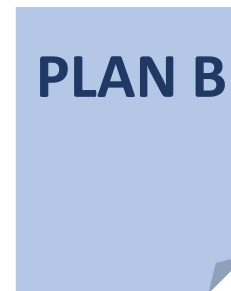
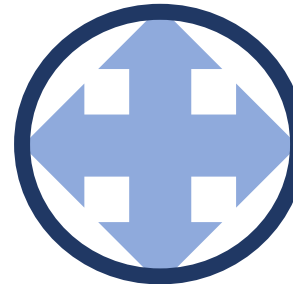


Storage



Conclusion

- The **killer cost argument** against offshore wind has **disappeared**
- Cost reductions pave the way for **global expansion** and **floating technology**
- Industry must **develop new approaches** to adapt to **post-subsidy world**



Thank you!

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