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CATAPULT - FLOATING OFFSHORE WIND ANCHOR REVIEW

Image

The Offshore Renewable Energy Catapult's Floating Offshore Wind Centre of Excellence, in collaboration with ARUP, conducted a study of FOW anchoring technologies and a seabed review for the UKCS.

The key discussion points from the project are as follows:

- ***Collation of Anchoring Technologies:*** *The study collated a wide range of anchoring methods, from traditional to novel solutions, evaluating each for its capabilities and limitations.*
- ***Scaling Requirements:*** *As Floating Offshore Wind (FOW) expands, demand for the manufacturing and deployment of anchoring technologies will increase, whilst some environmental and consenting implications will need close attention.*
- ***Innovative Solutions:*** *The study profiled various innovative anchoring solutions aimed at enhancing the viability and cost-effectiveness of FOW. Many of these solutions can lead themselves to a broader range of mooring configurations and have the potential to reduce dependency on specialised vessels, while maximising local supply chains and manufacturing opportunities.*
- ***Seabed Properties Analysis:*** *An analysis of UKCS seabed properties highlighted a high degree of spatial variability in soil and rock type across UK seabeds. This informed an anchor selection and sizing process that identified preferable anchor types for key FOW development areas in the North Sea and Celtic Sea.*
- ***Shared Anchor Systems:*** *The study assessed shared anchor systems which have the potential to significantly reduce CAPEX. The effectiveness of shared anchors is dependent on factors such as seabed type, turbine spacing and site layout. Water depth has the greatest influence on the feasibility of shared anchors, as mooring footprints must be appreciably extended to connect to a shared anchor point in shallow waters, negating any cost savings from a reduced number of anchors.*

The study emphasises the importance of anchoring technology in determining the viability of floating wind projects. It points out the substantial opportunities for the supply chain offered by scaling up, while also identifying considerable potential for innovation in design and installation processes.

It has also highlighted the importance of site investigation and the acquisition of quality seabed data, a challenging process given the vast seabed areas of some commercial farms.

REPORTS

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