

DOT6000-Floating installation Offshore Xxl wind turbines

Publieke samenvatting / Public summary

Aanleiding

In the development of a wind park the installation of the wind turbines is a costly and time-consuming phase accounting for around 5% of the capital expenditures. At the moment offshore Wind Turbine Generators (WTGs) are installed piece-by-piece using Jack-up vessels but installation of future offshore wind turbines is becoming ever more challenging due to the increase in size of the WTGs as well as the water depth of the foreseen wind parks. An opportunity is appearing for floating Heavy Lift Vessels (HLVs) traditionally used in the oil and gas industry. Compared to jack-ups, these vessels have larger lifting capacities, can be used in deeper waters and don't have the need for jacking up and down thus saving valuable time. The technical challenge lies in the relatively large(r) motions of a floating vessel with respect to the geostatic offshore support structure. Overcoming these challenges is a question of technology development on the installation methods and a re-evaluation of the used interfaces in a wind turbine. Showing the industry that it can be done and developing the tools to introduce HLVs into the wind turbine installation market will broaden the industry's options

Doelstelling

The goal of this project is to prove the cost effectiveness of HLVs for the installation of offshore wind turbines compared to current methods.

Korte omschrijving

Projectinformatie / Project information

Projectnummer / Project number
TEHE119004

Subsidiebedrag / Grant amount
€ 5.824.413,00

Algemene informatie / General information

Penvoerder / Secretariat
Delft Offshore Turbine B.V.

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The main activity of this project is an offshore campaign where several installation methods for a wind turbine will be tested using an HLV. DOT will be responsible for project management and supplying the wind turbine and making it ready for offshore installation. Heerema will be responsible for the HLV and all the offshore operations. The TU Delft will participate by creating installation software and validating it with measurements during the offshore campaign.

Resultaat

Combined this project will lead to a sound understanding and proof of concept of the potential of installing the next generation WTG by use of HLV and be able to predict the technical feasibility and installation time required for wind farms at different locations in combination with different types of wind turbines.

De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.

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