

Skybox full - phase 1

Publieke samenvatting / Public summary

Aanleiding

Offshore wind energy is going to play a crucial role as a renewable energy source in reaching the objectives of the Paris Climate Agreement. The Dutch government has planned to further develop and expand the offshore wind farms with the aim to meet the energy targets and significantly increase its sustainable electricity capacity. Currently, wind energy is costly compared to non-renewable energy sources. Additionally, with offshore wind farms moving further away from shore, recent price increases of raw materials, and greater interest in energy independence, more innovative solutions are required to further reduce the levelized cost of wind energy to help accelerate the energy transition. The most commonly used offshore foundation is a monopile with a transition piece. The monopile functions as the main support, being installed in the seabed. The transition piece is mounted on top of the monopile to be able to connect the wind turbine tower to the monopile. Although being the most commonly used foundation type, the transition piece is large in dimension and weight which translates into high costs. A solution for this challenge is the transition piece-less design which reduced the ov

Doelstelling

The aim of this project is the design, manufacturing and onshore testing of the medium-scale Skybox Full. within a practical setting to prove the capacity and efficiency of the platform. Additionally, the connection between the monopile foundation and the Skybox platform will be thoroughly studied regarding its stability, long-term settlement

Projectinformatie / Project information

Projectnummer / Project number

HER+22-01-03187334

Subsidiebedrag / Grant amount

€ 924.366,00

Algemene informatie / General information

Penvoerder / Secretariat

Delft Offshore Turbine B.V.

Volg Topsector Energie op X / Follow Topsector Energie on X

@TSEnergie

behaviour and elastomer tiles overall performance. A detailed assessment of the testing onshore will pave its way for an offshore application of the Skybox concept during the second phase of this project.

Korte omschrijving

To reach the goals and learn relevant lessons, the following stages can be distinguished (i) Modelling of Skybox structural dynamics, (ii) Onshore test campaign, (iii) Logistical analysis, (iv) Engineering, procurement & construction, (v) Final onshore test campaign Skybox Full, (vi) Data analysis & reporting and (vii) Project management.

Resultaat

The results of this project are aiming for knowledge accumulation regarding the design, scalability and installability of the medium-scale Skybox Full.

During the onshore test campaign, the functionalities of the platform will be assessed and reported for future design optimization. The deliverables of this project include the complete medium-scale Skybox Full platform, reporting of the installation, performance and testing parameters as well as the detailed documentation of the major outcomes.

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

Voor meer informatie over de Topsector Energie, ga naar www.topsectorenergie.nl.

Voor meer informatie over de TSE / Energie-Innovatie regelingen die RVO aanbiedt, ga naar www.rvo.nl/tse.