

Slip Joint Offshore Research project

Publieke samenvatting / Public summary

Background

Most offshore wind projects are installed in several steps: a monopile is driven into the seabed, a transition piece is put on top of this, followed by the tower, and nacelle and rotor blades. Each step takes time, is sensitive to weather conditions, and makes installation an important component in overall project costs. By reducing both the number of steps, the installation time and/or weather sensitivity of each step, significant cost savings could be achieved.

Objective

The Slip Joint is an alternative connection between an offshore wind turbine and its foundation. It works and looks like two paper cups upside down stacked on top of each other. The connection is based on friction, where the weight ensures a firm and stable connection. Installation is done by simply sliding the wind turbine over the monopile without the use of grout or bolts. This simple mechanism allows for cost reduction in material, equipment & personnel as well as allowing for a shorter installation time. It is the first time a slip-joint connection is deployed offshore.

The Slip Joint connection is a logical next step in the evolution of the monopile-turbine interface. Initially, the connection was created using concrete (grout) to fill in the gap between a transition piece and the monopile. The industry then moved to bolted connections.

Expected Results

In September 2018 a full wind turbine has been

Projectinformatie / Project information

Projectnummer / Project number

TEHE116334

Subsidiebedrag / Grant amount

€ 3.576.449,00

Algemene informatie / General information

Penvoerder / Secretariat

Delft Offshore Turbine B.V.

Publicaties en materialen / Publications and attachments

- 23.09.2021

Eindrapport TEHE116334

Links

- Project page (GROW)
- First offshore wind turbine using the Slip Joint connection successfully installed (Press release, 2018)

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successfully installed in the North Sea (Prinses Amalia offshore wind farm) and will stay offshore for a year to test and collect data regarding this innovative connection. The next step will be the commercialisation of this technology. The successful demonstration of slip joint technology is one of the first tangible achievements under the GROW program. DOT develops various new concepts that should contribute to a further cost reduction of offshore wind energy. Next to the slip joint technology, the monopile has been vibrated into the soil using a Vibro Lifting Tool, and the turbine itself is an example of a hydraulic turbine.

Video of decommissioning

Website

More information on the SJOR project can found [on the GROW website](#).

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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