Nature incLusive water replenishment desIgn For offshorE wind

Publieke samenvatting / Public summary

Aanleiding

The expansion of offshore wind farm infrastructure in the North Sea is set to increase alongside the growing demand for energy and the shift towards clean energy sources. These structures create additional habitats for biological communities, both on the submerged surfaces of the structures as on the scour protections. While existing research has primarily focused on the potential habitat creation on the exterior of monopiles, the interior of the monopiles can also function as a habitat for ecological communities when water replenishment holes are present. The suitability of monopile interiors as a habitat depends on parameters like the availability of dissolved oxygen and food. Because of the dark environment and the absence of photosynthesis, these essential resources must be transported into the monopiles through water replenishment holes to support life within.

Doelstelling

In this joint industry project, research institutes Deltares and Wageningen Marine Research (WMR) and other parties Vattenfall, De Rijke Noordzee (DRN) and Seaward, aim to explore to what extend life within the foundations of monopiles can exist and possibly be enhanced by including water replenishment holes. We strive to create design recommendations that can be used by the industry to account for biodiversity in the design of offshore wind foundations.

Korte omschrijving

Projectinformatie / Project information

Projectnummer / Project number
TKITOE_WOZ_2410_Deltares_LIFE
Subsidiebedrag / Grant amount
€ 124.978,00

Algemene informatie / General information

Penvoerder / Secretariat
Deltares

Volg Topsector Energie op X / Follow Topsector Energie on X

@TSEnergie

The research consists of several crucial components, to increase understanding of the potential habitat for ecological communities. A monitoring study in an existing offshore wind farm in the North Sea will increase understanding of the ecological communities and the water quality within the monopiles. Moreover, with coupled hydrodynamic and water quality modelling, understanding of hydrodynamics and subsequent development of the water quality within the monopile will be increased.

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**.