

Frequensea: Efficient decommissioning of subsea infra

Publieke samenvatting / Public summary

Aanleiding

Against the background of a growing offshore wind sector, an upcoming challenge is the mandatory decommissioning of aging subsea infrastructure, such as power cables and pipeline. Traditional removal methods are costly, energy-intensive, and environmentally disruptive. With around 6000 km of cables and 4500 km of pipelines buried in the Dutch continental shelf alone (ref: Noordzeeloket.nl), a more efficient and ecological solution is urgently needed. Enersea, in partnership with Deltares, initiated the Frequensea project to take on this challenge. This project aims to develop a novel technology that leverages vibration-based tools to facilitate the removal of subsea assets in a way that reduces ecological impact, operational complexity, and cost.

Doelstelling

The goal of this project is to research, design, and validate the Frequensea concept. This is a novel vibration-assisted decommissioning tool (patented in 2021) for subsea infrastructures like cables and pipelines. The claim is by reducing the soil resistance through vibrations, the technology enables safe, efficient, and ecological removal of buried infrastructure. There is significant potential for reducing the size and power requirements of the vessels used in the operation and minimal seabed disruptions, with the added benefit of retrieving less damaged assets enabling possible circular reuse of materials. Ultimately, Frequensea envisions an efficient and sustainable decommissioning process,

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Algemene informatie / General information

Penvoerder / Secretariat
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aligning well with national and EU sustainability regulations for offshore energy decommissioning.

Korte omschrijving

The activities of this project is structured across four technical work packages. First, research is planned on the principles of soil vibration. Earlier feasibility studies with TU Delft and Deltares may be put into good use in this first work package. Secondly, a scale model of the decommissioning tool will be designed, with the intention to develop a Proof-of-Concept in the third work package and to be tested and validated at Deltares test facilities (work package four). These tests will assess and validate the tool's performance on buried infrastructures to ensure feasibility, reliability, and safety.

Resultaat

The result of this project is exciting and tangible: the outcome will be a validated concept of Frequensea decommissioning tool. The knowhow and capabilities of both Enersea and Deltares is expected to grow substantially, as these partners have a latent and strong interests from marine contractors, operators, windfarm developers and regulators alike. With this project, both Deltares and Frequensea are strategically well positioned for further development toward full-scale deployment, contributing to a cleaner, more efficient offshore energy landscape.

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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