

Case Study for a Hybrid Energy Island Joint Industry Project

Publieke samenvatting / Public summary

The energy transition on the North sea is ongoing. In the next decades the O&G infrastructure will to a certain extent be replaced by and transformed into assets that produce, store and transport renewable energy. The need for this renewable energy relates to the need for lower (CO₂) emissions and to finally reduce the effect of global warming. This is enforced by the Paris agreement and finds a strong support in the public opinion in Europe and other parts of the world. Authorities, users and energy producing companies are working together to adjust the infrastructure to the energy mix of the future. On the energy demand side the speed of electrification of our society will partly determine the pace of the energy transition. On the other hand power to gas solutions also provide a promising scenario, for example for zero emission shipping using fuel cells or hydrogen cars. To support costeffective renewable energy production far out at sea there is a need for O&M support, efficient and safe energy conversion, transport and storage of renewable energy during peak production. This project aims to fulfill those needs with a comprehensive design of a partially floating energy hub.

Objective

The HybridEnerSeaHub JIP project aims to support elements of the energy transition that are located further away from the coast with a cost-effective and flexible offshore island design. The objective of the HybridEnerSeaHub project is:

To develop an initial design of a partly floating

Projectinformatie / Project information

Projectnummer / Project number
TEWZ119013

Subsidiebedrag / Grant amount
€ 673.292,00

Algemene informatie / General information

Penvoerder / Secretariat
Marin

Publicaties en materialen / Publications and attachments

- 04.06.2020

Case Study for a Hybrid Energy Island Joint Industry Project (Presentation Matchmaking Day 2020)

- 15.11.2023

Eindrapport TEWZ119013

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maintenance and energy storage island and to investigate the feasibility in the North Sea

Short description

The involved project partners will be MARIN (coordinating the project, and expert in the field of response of floating structures), Deltares (providing infrastructure and performing tests), TNO (construction and material expert), RoyalHaskoningDHV (concept design of the hybrid island), Offshore Service Facilities BV (Providing know-how on offshore island solutions), WMR (Environmental impact study). The scope of work is divided in the following work packages (WP):
WP 1: Design Basis; functional requirements during the life-cycle phases of the island
WP 2 : Fixed/Floating Hybrid Design Concept
WP 3: Environmental impact evaluation:
WP 4: Performance evaluation of the Hybrid Design Concept
WP 5: Business case evaluation
WP 6: Project coordination

Results

The deliverable of the project will be improved and validated engineering knowledge including environmental impact study for a hybrid energy island. The recorded data will be made available to the project partners along with the final reports. Further development of the technology for hybrid energy islands towards a higher TRL will be facilitated by the results presented in the final reports and the validated numerical simulation software.

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