Improved methodology high fidelity simulations and model tests of novel floaters for FOW II

Publieke samenvatting / Public summary

At the beginning of 2022 Crown Estate Scotland has announced the results of the “ScotWind” seabed tender, off which 15 GW will be floating offshore wind (FOW). Next to that Equinor will commission this year the 88 MW Hywind Tampen wind farm in Norway, which will use floating turbines to power oil and gas platforms. This are a few examples showing that floating offshore wind is growing fast especially in Europe, in line with the market projections of up to 70GW of floating wind capacity being installed by 2040.

One of the key challenges to make this ambitious growth realty is that costs are further reduced for example by increasing wind turbine size and optimising the floater design. For this the Carbon Trust have identified several challenges in technology development that need to be addressed in order to make floating wind turbines commercially viable. Simulations and model tests have an important role in maturing this technology. MARIN is a leading testing centre for new floating wind concepts and has gained significant experience in testing different concepts. MARIN and Gusto started in 2020 the PPS project called ”Improved methodology for High fidelity simulations and model tests of novel floaters for floating wind turbines”. Within this PPS project an improved methodology and numerical platform for simulating and testing (novel) floaters for FOWT was successfully developed and applied. Based on the outcome of this project further developments of the improved methodology were defined, like synthetic

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mooring lines, internal structural loads and flexible blades. In this project, the methodology will be further developed to capture the above technical trends accurately for numerical simulations and model tests of floating wind turbines.

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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