

Screening and evaluation of system integration demonstration locations: study area IJmuiden Ver and

Publieke samenvatting / Public summary

Aanleiding

The North Sea is an important area where energy transition takes place. The Netherlands is currently experiencing a strong ramp-up of offshore wind energy construction activities in the North Sea. The energy transition can be accelerated by making use of synergies between different functions. Synergies may especially apply in the energy domain, for instance if different sectors like the offshore wind energy sector and offshore oil and gas sector combine their infrastructure(s), services, human capital, products and knowledge. Development of a number of offshore wind farm areas in Hollandse Kust (e.g. Helm, West and Rijn) and for the first very large and far offshore development zone, IJmuiden Ver, is ongoing. Due to their sizes and locations these windfarm areas might be very suitable for offshore system integration as these areas are also close to activities related to oil and gas production and transport. Specifically, there is a need to work in high pace towards concrete business cases and demonstrations/pilots for system integration.

Doelstelling

In this project we will provide a short list and evaluation of demonstration concepts and locations for a hybrid and integrated energy supply from offshore wind farms and gas/oil production infrastructure near the to-be developed areas of IJmuiden Ver and Hollandse Kust (e.g. West, Rijn and Helm area) which are economically viable and

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facilitate accelerated integration of large-scale renewables.

Korte omschrijving

TNO, ECN and EDI will study the techno-economics and overall economic aspects on a macro scale of system integration options in future scenarios. The regulatory framework also holds some key barriers or drivers for offshore system integration. RUG and Loyens & Loeff will address these challenges in more detail. TNO will develop and execute screening of optimum re-use of the subsurface and decommissioning scenarios for offshore gas infrastructure. Royal Haskoning DHV and Wageningen Marine Research will address the environmental performance of offshore energy infrastructural developments. They will provide insight into which topics are of high interest in strategic environmental impact assessments for system integration and to better understand the ecological impacts on marine life of re-using or adding hard substrates.

Resultaat

The wind farm development areas IJmuiden Ver and Hollandse Kust (HK) - with a foreseen focus on HK areas HK West, HK Rijn and HK Helm - will serve as case study areas to examine the technical, economic, environmental and regulatory challenges of demonstrating offshore system integration concepts in detail and provide offshore stakeholders with guidelines relating to these challenges to ease demonstration and implementation of system integration options within 5 years.

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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