

Scenarios for offshore hydrogen production and transport (WIND2H+BlendH2)

Publieke samenvatting / Public summary

Aanleiding

Offshore hydrogen is a topic that has attracted recent attention at international level, in particular in countries around the North Sea basin such as the Netherlands, Denmark, and Germany, especially as a potentially cost-effective manner of transporting the energy from increasingly distant offshore wind farms to land. There are still important questions that have not been resolved when it comes to the topic of offshore hydrogen, which relate both to 1) the production of hydrogen offshore and 2) to the transport of hydrogen to land. HyET Hydrogen and HyET E-Trol are two leading SMEs in the Netherlands, both of which are developing technologies that are potentially interesting for the offshore hydrogen case.

Doelstelling

Both the decentralized offshore green hydrogen and the offshore hydrogen transport via blending and debinding concepts have been explored less compared to the alternatives of centralized offshore hydrogen production and transport via dedicated hydrogen pipelines. In this WIND2H+BlendH2 project, we will have a closer look at other potential offshore hydrogen production and transport concepts to understand the competitive position of the Dutch technologies of HyET Hydrogen and ETrol in the offshore hydrogen landscape.

Korte omschrijving

With the recent development of very-high pressure electrolyzers, direct injection of green hydrogen into

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Penvoerder / Secretariat

HyET Electrolysis BV

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the off-shore pipeline network (without the use of mechanical compressors) becomes a possibility. Such systems can directly impact the cost of green hydrogen production from offshore systems. These systems are also much more compact, making decentralized production of green hydrogen by integrating these compact electrolyzers into the frame of the wind turbine a possibility as well. This negates the need for offshore platforms, directly impacting the cost of green hydrogen production. The decentralized systems can also be very modular which can also make the installation cheaper and faster. Furthermore, transporting hydrogen via blending in the offshore natural gas infrastructure can be a cost-effective way to carry out small and mid-scale offshore hydrogen projects without having to develop dedicated hydrogen transport infrastructure, where for the rollout plans of offshore hydrogen production to succeed, there needs to be a cost-effective solution for transporting the hydrogen back to shore.

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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