Press Release

Study on hydrogen value creation potential from offshore wind energy in the North

Industry association WAB e.V. expects high value creation potential for the North - if business models for green hydrogen can be created

Bremerhaven, Germany, March 2023. The industry association for offshore wind and green hydrogen, WAB e.V., presented the study "Value creation potentials of hydrogen production and offshore wind energy in Northern Germany" from trend:research at a parliamentary evening with other partners. According to the study, the importance of hydrogen production for energy supply is growing across sectors in order to decarbonise energy-intensive industry, parts of mobility such as shipping and other sectors. For northern Germany, this development brings great opportunities to become a pioneer in the industrialisation of hydrogen in Germany and Europe and thus to secure value-added potential and, in particular, employment for the region, due to its unique regional features. In the best-case scenario, 45,000 employees and more than 20 billion euros in annual turnover are forecast. In addition to WAB e. V., the study was commissioned by PwC Deutschland, Erneuerbare Energien Hamburg and the federal states of Bremen, Mecklenburg-Western Pomerania and Lower Saxony.

Green hydrogen is the urgently needed building block for the decarbonisation of energy-intensive industry, the maritime energy transition and the development of a sustainable, global energy system based on renewable energies. Hydrogen is therefore increasingly seen nationally and internationally as a key driver of a sustainable transformation. Northern Germany already has a head start when it comes to onshore and offshore wind energy generation capacities, storage capacities and seaports for transport and logistics, as well as existing expertise in the maritime industry, the wind industry and existing research institutes. A head start that could result in a pioneering role. "We now have a special situation in which many actors must and want to work together. We should use these favourable circumstances for a sustainable development step in order to utilise more climate protection, an increasing sustainable energy supply and economic potentials as quickly as possible," Heike Winkler, Managing Director of WAB e.V., is certain."With regard to the continuation of the National Hydrogen Strategy (NWS) and all related legal and regulatory frameworks, we call for the enabling of business models for the domestic production of green hydrogen from offshore wind energy. With practical project experience, the export potential can be tapped and the necessary quantities of green hydrogen can be made available for the decarbonisation of industry and the maritime energy transition, Winkler elaborates.

One topic that still plays a rather subordinate role in public perception and is not immediately associated with green hydrogen is the Maritime Energy Transition, including green shipping. Because to date, cargo ships are predominantly operated with diesel fuel and cause just under three percent of global CO_2 emissions. Here, too, the production of green hydrogen plays a major role, as it is the basis for the production of low-carbon fuels. However, sustainable propulsion concepts are only one building block. The urgently needed climate and marine protection for the North Sea and Baltic Sea, which are particularly affected by climate change, can only be implemented with a successful energy transition on land and at sea.

The WAB has had the high potential of hydrogen production from offshore wind energy on its agenda since 2016 and has also pointed out possible positive effects for the labour market in studies and analyses. Even though the WAB managing director is aware that essential infrastructural and regulatory conditions are still missing. Currently, the green hydrogen economy is still in the early stages of a market ramp-up. Projects for production and transport exist, but most of them are still in the implementation phase. At present, almost 500 market participants are involved in the hydrogen economy in northern Germany, where they employ about 4,100 people (FTEs), generating more than one billion euros in 2020. According to the study, it is now

important to promote projects in which hydrogen is produced with offshore wind energy directly at sea or via transport on land. Because where a lot of renewable energy can be generated, hydrogen can also be produced cheaply. In order to take the next step, suitable legal framework conditions for real business models are necessary before the hydrogen economy can take off. In order for resilient structures to emerge, a remuneration structure for green hydrogen is needed that goes beyond the framework of subsidy programmes, creates incentives for potential market participants and enables the market to take off. The study identifies another open point in the high demand for personnel, which cannot be covered at present. This is a challenge that must be met with the creation of sufficient further training opportunities that are oriented towards actual demand.

Overall, the study considers various scenarios for the development of value creation until 2045. Under the term "postponement", it is assumed that due to a change in political power, priorities will be reordered and climate protection laws and expansion targets will be relaxed. In contrast, the "energy turnaround" scenario assumes accelerated expansion targets with corresponding legislative adjustments. Finally, the "climate protection" perspective, in which the political leadership strictly pursues the goal of climate neutrality and is based on a further tightening of the corresponding laws and expansion targets. As a result, all scenarios predict growth in the hydrogen economy. However, with clear differences in terms of the number of employees and turnover. While the "climate protection" scenario predicts 45,000 employees and an annual turnover of more than 20 billion euros, the figures for "postponement" are much more pessimistic, with only a quarter of the employees and turnover each.

Heike Winkler sums up: "It can be assumed that the speed of the market ramp-up is decisive for a sustainable utilisation of the existing value-added potential, also nationwide. Keeping up with international competition cannot be ensured through the funding landscape alone. For this, there must be economically feasible business cases that enable innovative small and medium-sized enterprises in particular to enter the market quickly."

Download the study (german language) "Value creation potentials of hydrogen production and offshore wind energy in northern Germany" here.

About WAB e.V.

WAB, based in Bremerhaven, is the nationwide contact for the offshore wind industry, the onshore network in the Northwest and promotes the production of "green" hydrogen from wind power. Around 250 smaller and larger companies as well as institutes from all areas of the wind industry, the maritime industry and research belong to the association.

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