

## The European Green Deal needs more offshore wind in Germany - also for “green” hydrogen

WindEurope report on Europe’s offshore wind potential by 2050 undervalues Germany's share – to the detriment of our domestic industry.

**Bremerhaven, 12 Dezember 2019. WAB e.V. questions the results of a report recently published by the European wind association WindEurope. According to the report, the potential of offshore wind capacity in German waters by 2050 accounts to some 36 gigawatts. That is 21 gigawatts less than a Fraunhofer study found in 2017. Our analysis shows that the authors of the WindEurope report use unrealistic assumptions. We support the goal of the European Commission's “European Green Deal” to exploit the full potential of offshore wind energy in Europe. At 57 gigawatts however, the full potential of the German North and Baltic Seas is significantly higher than estimated by WindEurope.**

The BVG Associates report commissioned by WindEurope intends to show “that it is feasible to deploy 450 GW by 2050 and where this capacity could be located most effectively”. According to the report, these 450GW would cover 30 percent of Europe's electricity needs. In our view, the maximum of 35.5GW of offshore wind allocated in German waters is misleading. There is reason to believe that the authors make questionable assumptions.

This becomes evident using the German North Sea as an example. The authors assume that an area of 6,200 square kilometers is suitable for offshore wind farms. For this area, however, they only foresee wind farms with a capacity of 31GW. This corresponds to a so-called “power density” of 5 megawatts (MW) per square kilometer. This is an extremely low value that has little to do with the reality in German waters. An extremely low power density would go hand in hand with a very large distance between turbines and would lead to increased costs: The cables required for the inter-array network would be unnecessarily long, as would the distances between turbines for the service personnel. Most offshore wind farms built so far in the German North Sea – as well as the currently planned ones – therefore achieve a power density that is about twice as high. That makes them efficient. Two examples: The Ørsted wind farm Borkum Riffgrund 2, which went into operation this year, features a power density of 10.4MW per square kilometer (km<sup>2</sup>), the current EnBW project Hohe See comes at 11.8MW per km<sup>2</sup>.

Germany’s competent authority BSH also maps out future wind farms with a power density of 9-10 MW per km<sup>2</sup>. If the authors of the WindEurope report had used this “official” data as a basis for their assessment, they could have come up with an installed capacity of 55.8-62GW in the German North Sea alone – given the area of 6200km<sup>2</sup> that they considered suitable until 2050. This corresponds with the potential 57GW in German waters by 2050 calculated by the Fraunhofer Institute for Wind Energy Systems on behalf of the German Offshore Wind Energy Foundation. The Fraunhofer report also states that Germany needs to tap its entire realistic potential of all renewable technologies to become climate neutral by 2050. In this regard it is not helpful if an industry association discounts the expansion potential in one of Europe’s most important offshore wind markets.

However, we agree with other statements in the WindEurope report. It is indeed very important for governments to ensure stable framework conditions for at least ten years and to set ambitious long-



term expansion targets. It is also important that national supply chains for offshore wind can remain stable and grow throughout Europe in order not to become dependent on imports.

We therefore welcome the latest initiative by the German coastal states that last month again took a stand for an offshore wind goal of at least 30GW in German waters by 2035. In line with the "Bremen Declaration", presented during the WINDFORCE 2019 conference, we are calling for an offshore expansion path of at least 35 gigawatts by 2035. This target takes the production of "green" hydrogen from wind power into account, which can contribute to so-called sector coupling efforts, for example to make the steel, cement, chemical, and transport sectors more climate friendly.

Green hydrogen is among the reasons why Germany needs to tap its available offshore wind potential by 2050. Otherwise, this vital resource will become an import product. Green hydrogen is required by numerous branches of industry to operate in a climate-neutral manner and is essential for a successful energy transition. The full potential in German waters, however, is 57 GW and thus 21 GW more than estimated by WindEurope.

"We welcome the plans of the new EU Commission President Ursula von der Leyen for a European Green Deal. At the same time, we are surprised by the expansion potential for Germany presented by WindEurope," said Irina Lucke, Chairwoman of the WAB e.V. board. "We have now reached the industrialization phase of offshore wind technology and have invested a great deal in this pioneering achievement in Germany. The domestic value chain should be able to benefit from this. The good news from our point of view is that we have already been able to show that we can realize 2 GW of offshore wind expansion per year that will be necessary in the years to come."

"In order to be able to keep the industrial supply chain for offshore wind in Germany that has been built up for years, we not only need stable long-term framework conditions, but also an accelerated 2GW special tender in early 2020 at the latest as this tender was already spelled out in the coalition agreement of our federal government in 2018," said WAB managing director Heike Winkler. "This way, free converter capacities can be used economically. If, on the other hand, the Federal Government plans to expand the offshore wind expansion gap by several years, we will not only miss the opportunity to benefit from the internationally growing export market of offshore wind. Germany would then be reliant on electricity imports in order to be able to achieve its own climate targets and would also become an importing country with regard to green hydrogen."

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