



IN FOCUS

FEDERAL GOVERNMENT SETS THE SAILS FOR MORE OFFSHORE WIND ENERGY



The Offshore Wind Energy Act ensures that the targets that have been set can be met in a highly cost-effective manner as the sites for offshore wind farms are awarded by auction. By adopting this act, Germany is supporting the EU's Offshore Renewable Energy Strategy of 2020.



(Source: Shutterstock/ Raphael Ruz)

Offshore wind turbines play a special role for the energy transition: excellent wind conditions at sea make them reliable and cost-effective providers of electricity. Compared with onshore wind turbines, they can thus reach a high number of full-load hours. And their output is easy to predict. All of these factors will make them a key element of system security. In addition, they also enjoy widespread public acceptance.

After the expansion of offshore wind energy practically stalled in 2020 and 2021, it is now once again picking up speed. In 2022, 342 megawatts was newly installed, and another 288 megawatts added in the first half of 2023. This means that offshore wind energy accounted for 4% of gross electricity generation – the amount of electricity measured before it is fed into the grid – in the first half of 2023 (see Figure 1).

The revised Offshore Wind Energy Act, which entered into force at the beginning of 2023, is to further speed up offshore wind energy expansion. By adopting this act, the Federal Government has provided the framework

required to increase installed capacity from 8.3 gigawatts today to 30 gigawatts by 2030 and to 70 gigawatts by 2045. The EU, too, is attaching great priority to offshore wind energy. In its Offshore Renewable Energy Strategy of 2020, the EU Commission is proposing to take installed capacity from 12 gigawatts today to at least 60 gigawatts by 2030 and to 300 gigawatts by 2050.

Cost-effective expansion

A system change on offshore wind energy was already initiated through the 2017 version of the Offshore Wind Energy Act, which introduced centralised auctions for the allocation of wind farm sites to the bidders. One part of the wind farm sites is allocated without government funding and is based on qualitative criteria (sustainability criteria of the project) and a payment bid by the bidder; for another part of the sites up for auction, the level of government funding is determined in a competitive bidding procedure.

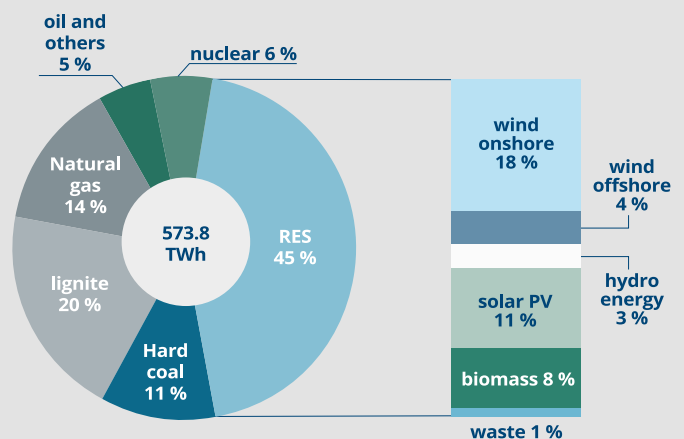


Figure 1: Share of offshore wind energy in gross electricity generation in Germany in 2023

(Source: UBA 2023, BDEW 2023)

This procedure ensures that the expansion targets can be met, whilst keeping economic costs low. Several of the bids that have been accepted did not need any funding at all. If, in this procedure, more than one zero-cent bid is submitted, a dynamic bidding procedure is launched. The award is then given to the bidder willing to pay the highest amount for a site. In the latest rounds of auctions in July 2023, the successful bids were not only able to finance themselves via the market, but were actually willing to pay billions of euros for a site.

European cooperation

More than any other generation technology, offshore wind energy benefits from cross-border cooperation – which is the basis for meeting the EU's expansion targets. For example, the construction of common grid infrastructure in the North and Baltic Sea considerably reduces costs. Initiatives like the North Seas Energy Cooperation (NSEC), which drives forward cross-border projects, are therefore all the more important. They can serve as role models, showing how the European energy transition can be shaped together. The diagram shows the percentages of gross electricity generation by method in Germany in 2023, with offshore accounting for 4%.

IN BRIEF

How important is offshore wind energy in Germany today?

In 2022, offshore turbines generated 24.75 terrawatt-hours of electricity – that corresponds to a share of a little more than 5% of German net electricity generation. There are currently more than 1,500 offshore turbines with a total capacity of 8.3 gigawatts (current as of May 2023). The offshore industry had 21,000 employees in 2021 and is generating around €1.5 billion in gross value added each year.

How do offshore wind energy auctions work?

The Federal Network Agency (Bundesnetzagentur) awards licences for the construction of offshore wind farms in two auction segments. These licences are awarded, on the one hand, based on qualitative auction criteria in conjunction with a payment component and, on the other hand, to the bidders requiring the lowest amount of government funding. The turbines need to start operating by a specific date, which is set in the auction. If this does not happen, companies are required to pay a fine.

What has changed in the auctions following the 2022 revision of the Offshore Wind Energy Act?

The new version of the Offshore Wind Energy Act introduces a faster plan adoption procedure for centrally pre-investigated sites, which replaces the former planning approval procedure. In order to further streamline the process, requirements on the duration of planning approval and plan adoption procedures have been adopted and environmental assessments and consultation rights combined. The Federal Ministry for Economic Affairs and Climate Action has been given supervisory control over the Federal Maritime and Hydrographic Agency for all tasks relating to the Offshore Wind Energy Act. Going forward, offshore grid connections can be awarded directly after a site has been added to the site development plan, which will speed up the contract award by several years.

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