ALLEN & OVERY

CFD regime for offshore wind in Germany

The new German government has ambitious targets for offshore wind: It aims at more than 70GW of offshore wind by 2045. At least 30GW of offshore wind capacity shall be installed by 2030 already. Less than 10GW are currently in operation. This means that more than 20GW of offshore wind capacity needs to be commissioned in little more than eight years. Hence, the German government plans offshore wind tenders of up to 9GW in 2023 and 2024, 5GW in 2025 and 2026, followed by 4GW each year for the next decades. However, the current tender and support regime for offshore wind in Germany struggles to cope with zero subsidy bids and high electricity prices. Against this background, new legislation has been proposed.[1] In addition to other substantial changes, it shall introduce a contract-for-difference regime, something that the offshore wind industry has long been demanding.

Current support regime

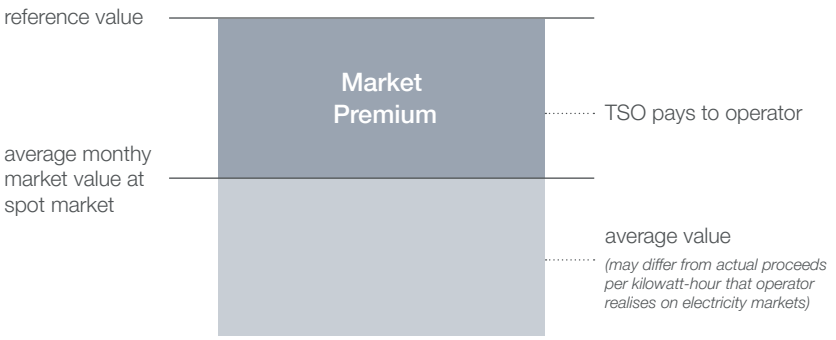
It is not a coincidence that a contract-for-difference (**CfD**) regime is introduced now and in this form. The proposed CfD regime aims to mitigate certain disadvantages of the current support regime, while also making use of certain parts of the existing mechanisms.

The current support regime for offshore wind in Germany is based on the so-called market premium (*Marktprämie*). The market premium is a type of top-up feed-in-tariff. It was introduced as the new core of the German support regime in 2012. The market premium replaced the rigid feed-in-tariff regime with a more market-based solution. In contrast to a regular feed-in-tariff, the market premium requires the operator to sell the generated power on the electricity markets. This so called direct marketing (*Direktvermarktung*) was something fundamentally new for the renewable energy industry in Germany in 2012. Even though the concept of CfDs was already known, the German legislature decided to not divert too much from the existing feed-in-tariff. Hence, the market premium became the core support mechanism for renewables in Germany. At first, it still referenced the same rigid support levels determined by law as the feed-in-tariff system. Since 2017, the market premium is determined in course of a competitive tender process run by the German Federal Network Agency (*Bundesnetzagentur* – ***BNetzA***).

In essence, the market premium is a support payment that the operator of a renewable energy plant receives on top of the proceeds from the electricity markets. It ensures that the operator gets at least the amount per kilowatt-hour that the operator has bid in the tender process, the so-called reference value (*anzulegender Wert*). In order to make the mechanism more transparent and manageable, the market premium is not paid on top of the actual proceeds of the individual operator. Instead, the market premium is paid on top of the offshore wind specific average monthly market value on the spot market of the energy exchange for the price zone Germany.

[1] See the website of the German Federal Ministry for Economic Affairs and Climate Action for the draft and comments from the industry and stakeholders: https://www.bmwi.de/Redaktion/DE/Artikel/Service/Gesetzesvorhaben/entwurf-eines-zweiten-gesetzes-zur-aenderung-des-windenergie-auf-see-gesetzes-und-anderer-vorschriften.html (11 April 2022).

Figure 1 – Market premium mechanism



For offshore wind projects the market premium for the individual offshore wind farm is currently being determined in course of competitive tender processes under the German Wind Energy at Sea Act (*Windenergie auf See Gesetz* – ***WindSeeG***). This tender process awards not only the market premium, but also the right to use the project specific site at sea and a predetermined amount of grid connection capacity. The site at sea is pre-analysed by the German Federal Maritime and Hydrographic Agency (*Bundesamt für Seeschifffahrt und Hydrographie* – ***BSH***). The grid connection capacity refers to capacity available for the individual project at a converter platform very close to the respective offshore wind farm, which the German transmission system operators (**TSO**) have to build and which electricity consumers in Germany have to pay for. Hence, the tender process under the WindSeeG is essential for every new offshore wind farm to be built in Germany. The awarded support goes beyond the level of market premium as it also includes the benefits of the pre-analysis of the offshore wind farm's site performed by BSH and the right to use the grid connection to shore free of charge.

Issues with zero subsidy bids

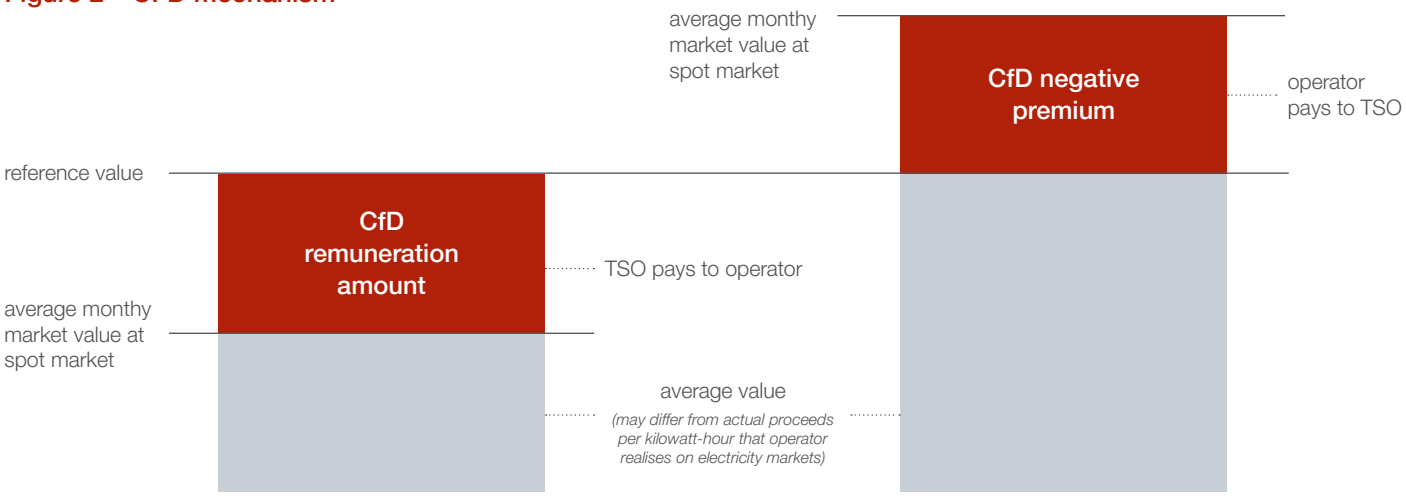
The market premium regime has been developed with the assumption that renewable energy plants will need support payments on top of the proceeds from selling electricity at the wholesale markets. Due to steep learning curves, standardisation, larger turbines and more generally economies of scale, in particular offshore wind technology has seen a steep decline in cost. Against this background, several market participants started to bid a reference value of zero in the tender processes. However, such zero subsidy bids were not foreseen in the market premium regime. Already in the first tender for offshore wind in Germany, in 2017, it became clear that zero subsidy bids would soon dominate the offshore wind tenders.

In particular, when there were more bidders willing to build an offshore wind farm with a reference value of zero than sites for offshore wind farms in the tender process, the pure market premium tender design would fail, because it would not be able to identify which bidder should win the respective site. Luckily, for the next tender in 2018, there were sufficient sites and not many bidders entering the process with a reference value of zero, because the reference value alone would not have been sufficient to select successful bidders.[2]

The following two years there were no tenders for offshore wind sites in Germany. For the tender in 2021 the legislature introduced a mechanism to cope with the issue of too many zero subsidy bids in a tender process. Even though many in the industry argued for the introduction of a CfD regime, the German legislature decided not to abandon the market premium regime. Instead, they decided to add a mechanism on top of the market premium system. Different solutions were discussed. The government even proposed a so-called dynamic bidding process with negative prices as a possible solution. In the end, the mechanism selected for an amendment of the WindSeeG turned out to be a lottery mechanism. This means that in case there are several zero subsidy bids for the same offshore wind site, the respective bidders are placed in a lottery process run by BNetzA. This lottery mechanism applied for the tender process in 2021 and is still applicable under the current version of WindSeeG. As predicted by many in the market, the 2021 tender produced several zero subsidy bids. The lottery mechanism had to be used for two of three sites: the site N-3.8 (with a capacity of 433 MW in the North Sea) and the site O-1.3 (with a capacity of 300 MW in the Baltic Sea).[3] However, the lottery mechanism only helped to solve the market premium's issues with zero subsidy bids.

[2] Though some argued that a subsidiary mechanism under the German Renewable Energy Act would have kicked in, essentially applying a lottery mechanism to the tender under the WindSeeG.
[3] Both sites were however also subject to a right of subrogation allowing Nordsee Two GmbH (a joint venture of Northland Power and RWE Renewables) and Windanker GmbH (part of Iberdrola group) to replace the successful bidders under the lottery mechanism, ie EDF Offshore Nordsee 3.8 GmbH and RWE Renewables Offshore Development One GmbH, respectively.

Figure 2 – CFD mechanism



Scenario A – low electricty prices

Scenario B – high electricty prices

High-electricity prices and perceived "windfall profits"

Yet another development that the market premium regime had not been designed to address are high price levels at the wholesale markets for electricity. In contrast to a CfD mechanism, the market premium is a one-way street. The operator receives market premium payments in months were the technology specific average monthly market value is lower than the project specific reference value. This means that the operator can be sure to never receive less than the reference value for each kilowatt-hour produced in its offshore wind farm. In essence, the operator is protected against low electricity prices. When electricity prices are high, the operator does not receive support payments and can keep the proceeds from selling the produced electricity on the markets. This means that even in months where an offshore wind farm receives payments per kilowatt-hour that are several times higher than the reference value, the operator may keep this upside. In contrast to a CfD regime, the operators do not have to pay any part of their upside back into the system. In particular in the last months, where electricity prices climbed from one record level to another, some politicians felt pressured to argue that operators of renewable energy plants were collecting illegitimate "windfall profits".[4] Retroactive changes to support regimes are very counterproductive when trying to grow and sustain investor confidence and accelerate the built out of renewable energy plants. Furthermore, retroactive amendments are questionable from a constitutional law perspective. However, the discussions about perceived "windfall profits" of existing renewable plants are likely to have facilitated the proposal of the CfD regime for offshore wind farms to be built going forward.[5]

Proposed CFD regime

Both, the issue of zero subsidy bids and perceived "windfall profits", may be addressed by the proposed CfD regime. In case of low electricity prices, the operator would still receive a support payment, which would work much like the current market premium. The only material change seems to be that the average market value would not be drawn on a monthly but on an annual basis.[6] In case of high electricity prices, however, the operator would need to pay the difference between the reference value and the average annual market value as a kind of negative premium (*negative Prämie*). In contrast to the current market premium regime, the operator may therefore not keep the upside when market prices are high.

Due to this effective cap on proceeds from selling the produced electricity on the markets, this proposed CfD regime would fundamentally change the dynamics of the tender processes. Bidders would no longer be able to bid a reference value of zero, because they may not keep the proceeds of high electricity prices. Instead, we would expect to see bidders aiming to bid their best estimate of the amount necessary to finance their offshore wind project successfully. The last CfD tenders in the United Kingdom produced bids around GBP 40 per megawatt-hour in 2019. However, these numbers will be updated shortly, as market participants are preparing for the fourth round of CfD allocation in the United Kingdom. For Germany, we would expect generally similar results. However, the bidders would of course still need to take into account the differences of the supply chain in and to Germany as well as the specifics of the German support regime, eg the benefits of the pre-analysis of the offshore wind farm's site performed by BSH and the right to use the grid connection to shore. The bidders will also have to take into account that in contrast to the current

[4] See for example the discussions around "windfall profit taxes" for renewable energy plants in Spain and considerations of the EU Commission on reducing the perceived "windfall profits" of energy providers (including renewables) in light of the high prices, cf. https://ec.europa.eu/commission/presscorner/detail/en/qanda_22_1512 (11 April 2022).

[5] Recent draft amendments to the German Renewable Energy Act propose to evaluate if CfD regimes may be a more suitable support mechanism for other renewable energy plants such as onshore wind and solar as well, cf. https://www.bmwi.de/Redaktion/DE/Downloads/Energie/0406_ueberblickspapier_osterpaket.html (11 April 2022).

[6] However, this does not mean that the operator only receives annual payments. The current version of the proposal includes a mechanism of monthly instalments, which are reflected in a final account at the end of the respective year.

market premium regime they would not have the option to temporally leave the subsidy scheme and sell their electricity and guarantees of origin under power purchase agreements, eg with corporate offtakers. The proposed CfD regime does currently not allow guarantees of origin (*Herkunftsnachweise*) to be issued.

However, from 2027 onwards the proposed CfD regime shall only be applicable to 50% of the sites tendered, ie the sites that are pre-analysed by BSH. The other 50% of sites shall not be pre-analysed by BSH and tendered based on a price paid by the respective bidder (as well as other factors such as energy yield, letters of intent regarding long-term power purchase agreements, compatibility with biodiversity and recyclability of rotor blades). Since these sites would not receive any support payments, they would be eligible for guarantees of origin (*Herkunftsnachweise*). Hence, the bidders for these sites would need to rely on sufficiently stable offtake, either by the general market or (more likely) by corporate offtakers under long-term power purchase agreements. They may also play a vital role in the ramp-up of the hydrogen production in Germany, which shall reach at least 10 GW by 2030. Recent drafts of European and German legislation suggest that guarantees of origin from newly built renewable energy plants will play a vital role in this context, because they might be necessary to satisfy the requirements for hydrogen produced with electricity from renewables that is delivered through the grid.[7]

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Outlook

The discussions with regard to the proposed CfD regime are still on-going and several points may still change until the actual amendment law is passed. However, the German government announced to deliver the amendments to the WindSeeG as part of the first of two major legislative packages foreseen in 2022. The so-called Easter-package (*Osterpaket*)[8] shall become law in the coming months, ie prior to the parliaments summer break. In light of the very ambitious timeline, large volume of offshore wind projects to be built as well as recent threats to Germany's energy security in context of Russia's military invasion of Ukraine, we expect the law to be passed as soon as possible and market participants to react swiftly to these new and promising opportunities for offshore wind in Germany.

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[7] Please see our article on "*Clean hydrogen projects in the EU*" for more on this topic
[8] A complete set of the legislative proposals that form the Easter Package is accessible here: https://www.bmwi.de/Redaktion/DE/Downloads/Energie/0406_ueberblickspapier_osterpaket.html (11 April 2022)

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