UPDATE Offshore Wind:

Tenders for renewable energy generation under upcoming EEG 2016 – Cornerstone paper published by German Federal Ministry of Economy and Energy (BMWi)

October 2015

1. Introduction

On 31 July the BMWi published the cornerstone paper on the transition of the support system of renewable energy generation from fixed feed-in tariffs (FiT) to tenders. The proposals set-out in the cornerstone paper have in the meantime been finalized. All the cornerstones are still of a preliminary nature but already today give a good understanding in what direction the future EEG 2016 might develop. The further schedule is as follows:



2. Context of the proposed changes

Already the recently reformed EEG 2014 provided for the transition of the incentive system for electricity produced from renewable sources from FiT to tender schemes at the latest in 2017. The ongoing (pilot phase) tenders for brownfield PV up to 10 MWp marked the start of such tendering systems in Germany. The cornerstone paper focuses on the tenders for onand offshore wind and rooftop solar installations. Other than initially expected, there are no tenders planned for biogas, water or geothermal plants. However, for biogas the BMWi is considering tenders including existing plants to make sure that these will continue operation and will be maintained in due course after the initial term of the FiT has expired. Any further information on this is, however, not part of the cornerstone paper. The new tenders will not affect the existing FiT for small installations below 1 MW installed capacity regardless whether onshore wind or rooftop PV and such projects that fall under existing grandfathering rules of § 102 EEG¹, i.e.:

- 1. Offshore wind plants which received an unconditional grid connection confirmation or a capacity allocation by the Federal Grid Authority (BNetzA) prior to 1 January 2017 and will start operations prior to 1 January 2021
- 2. Onshore wind plants that have been permitted prior to 1 January 2017 and will start operation prior to 1 January 2019.

3. Political goals

It is the political agenda of the BMWi to combine three rather different goals in the transition to tender models:

- 1. To keep new build capacity within the range given by the EEG 2014 for the individual renewable energy sources, e.g. 2,500 MW net p.a. for onshore wind;
- 2. To reduce costs by price competition;
- 3. To keep the small and medium sized enterprises in the sector, i.e. not to destroy their business model.

Many of the design features of the tender models stem from the intention of the policymakers to balance such often conflicting goals, e.g. the tendering shall reduce costs per kWh produced, whereby penalties and bid bonds shall keep a high realization rate but shall be low enough to allow small players to provide security.

This balance needs to be found for each individual technology and their particular market. The tender models put forward for discussion thus differ inter alia by the actual point in time the tendering shall take place in the typical development cycle or whether there will be competition between different bidders with their individual projects or a centralized model where the state pre-develops a certain area and bidders may compete for such project.

¹ There is no grandfathering for green/brown field PV. For rooftop PV grandfathering does not apply if such installations – as usual – do not require a permit or concession under Federal law. The existing grandfathering rule for geothermal plants will apparently not apply, if – as envisaged by BMWi – the FiT scheme will continue for geothermal plants.

4. Subject of the tender

The subject of the tender is the level of the market premium, payable to the generator on top of the sales price of the electricity at market. The tender for onshore wind is thereby limited to the market premium (or more specifically the "applicable value" the market premium is calculated on) for the period of the initial remuneration. The level of the base remuneration after such period shall continue to be fixed by the EEG. For offshore wind, the BMWi is also considering other possibilities due to the fact that – following the preferred route of the BMWi – there will be a centralized model where the actual site conditions are the same for each bidder.

5. Tender design for the individual technologies

Onshore Wind

For onshore wind, a tender scheme is envisaged relatively late in the typical development cycle of a project. Prequalification will require the usual permit (not necessarily unappealable) under the Federal Immission Control Act (BImSchG), receipt of which is typically closer to the end of the development process. Due to the substantial investments already made at such time, the BMWi expects a high realization rate. This corresponds with a relatively moderate penalty payment in case that the project is not realized in the given timeframe in the amount of EUR 30 per kW installed capacity, hence EUR 90,000 for a WEC of the 3 MW class.

Exceptions shall be introduced for small installations up to 1 MW as well as prototypes and test installations. This might create opportunities for smaller WEC producers. Possible further exemptions are considered for small projects, by using the threshold given by the EU regulation on environmental protection and energy incentives, i.e. up to 6 MW and 6 WEC are still under discussion.

The cornerstone paper describes a tight ceiling for bids in the area of the total costs of the projects (with some headroom for tender costs and risks). On the face of it, this approach is certainly not showing a lot of trust in the cost reduction potential of the tenders.

The tender shall be on a "pay-as-bid" basis only instead of the mixture of pay-as-bid and uniform pricing evaluated during the pilot phase with brownfield-PV projects. Similar to the latter there shall be 3 to 4 tenders per year, which will be in the area of 700 to 900 MW each, based on the EEG target for new build capacity of 2,500 MW p.a. (net, i.e. plus capacity decommissioned).

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Source:

tenders for the promotion of renewable energy facilities - cornerstone paper, p. 12 published by the BMWi; July 2015

In the course of the transition, the reference yield model shall be modified in the way that sites with different wind yield compete better (at an overall lower income level). This shall be achieved by a steeper, earlier and longer lasting reduction of the period of the initial remuneration, each time in relation to the reference yield of a comparable WEC on a 100% wind yield site. The following chart illustrates the change proposed by BMWi (IE Leipzig) in comparison to current EEG 2014 and previous EEG 2012.

We believe that the effects of such a change to the reference yield model need to be factored into the price ceiling given for the tenders.

Offshore Wind (Update)

Totally different for offshore wind: Here, the BMWi proposes a centralized system of predevelopment by the state of two projects at 400 MW each per year (much like the Danish or Dutch models). These projects shall then be tendered, hence a bidder would not need an own project in order to participate.

The pre-development shall encompass a strategic environmental assessment, an analysis of environmental and other aspects on the concrete sites, a ground pre-analysis, ship collision analysis and wind opinion. These data shall be made available to all bidders. The costs associated with the pre-development shall be borne by the successful bidder. The same is envisaged for the costs of acquiring the sites (or rather the already performed development work) from the previous owners (see transitional tender below). The successful bidder shall then proceed with the planning approval procedure, i.e. the permission process under German law.

The planning and construction of the grid connection system shall start in parallel with the pre-development of the project. The choice of site shall focus on such clusters of the already

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existing offshore grid development plan (ONEP) that still have the most unused grid connection capacity for reasons of cost efficiency.

The first wind parks are supposed to be taken into operation in the central system in 2024 - as a pilot project possibly already in 2021/22.

The discussion points do not contain any information regarding the concrete design of the tenders for offshore wind, i.e. more detailed information regarding prequalification, pricing rules, realization deadlines and penalties. The background in this regard is the continuing discussion on the fundamental tender model (see in this regard the explanations under 5.2.2). However, the discussion paper which has in the meantime been published by the BMWi, "Design of the Tenders for Offshore Wind Energy" of the BMWi's scientific advisors dated 9 September 2015, contains more detailed information regarding the current status of the discussion. Accordingly, a penalty in the amount of 320-400 EUR/kW is intended, this is between EUR 128 and 160 million for a 400 MW project. It remains unchanged that a material prequalification is not requested. The same applies to the minimum price or quantity limitations, both are not intended. As is already the case for onshore wind, a maximum price is also planned for offshore wind. Pay-as-bid has been suggested as the pricing rule. The realization period shall be 48 months, starting 30 months prior to the binding completion of the network connection system, but at the earliest 18 months after the contract has been awarded. We refer to the overview at the end of this article for details regarding the further design.

Transitional auction as intermediate solution

With a view to approximately 40 permitted projects and more than 50 in different stadium of development, the BMWi envisages an intermediate solution for the transition to the centralized system. Currently, a one-time transitional auction with a volume of up to 2,400 MW for projects already authorized or in an advanced stadium of development (but without an unconditional grid connection confirmation or capacity allocation by the Federal Network Agency) is preferred.

The proposals regarding pre-qualification for such one-time transitional tender are currently not fully aligned for North Sea and Baltic Sea. For the North Sea, only projects without permission in zones 1 and 2 of the Offshore Network Development Plan (ONEP) may participate if they already had their final hearing and a NAS has been confirmed by the Federal Network Agency for the respective cluster of the ONEP.. For the Baltic Sea, it shall be sufficient if a project is in an advanced stadium of development. The BMWi expects a competition of about 5,500 MW in projects for up to 2,400 MW tender volume. In practice, there will be less than 1,200 MW as the current excess in the capacity allocation procedure of 1,200 MW along with reserved capacity for the first project in the centralized system of the Baltic Sea shall be deducted.

Participation in the intermediate tender shall hence – like for onshore wind – require an own project. For unsuccessful projects, there shall be a damage payment in exchange for the project rights, in particular any development data that can be used in the centralized system afterwards. According to the scientific proposals which form the basis for the cornerstone paper, such damage payment shall be at average development costs which are put in the area of EUR 40,000 per MW, e.g. EUR 16 million for a 400 MW project.

With regard to the concrete design of the one-time transitional auction, our comments regarding the central models respectively apply, with the difference that as already set out above, this will require a material prequalification, i.e. an own project where at least the public hearing has already taken place in the permission process and a connection system which is confirmed for the respective cluster of the ONEP (North Sea) or a project which has been developed to a large extent (Baltic Sea). Accordingly, the financial prequalification of 200 EUR/kW is lower, but still remains substantial.

Further suggestions for models

Aside from the centralized model preferred by the BMWi, there are two additional models, i.e. the "accelerated grid connection"-model and the so-called ONEP+ model. Both models would have individual project owners competing with each other for market premium (and grid) instead of the one project approach of the centralized model. The first alternative model would have the grid connection only be launched after the tender has identified the successful project so that there would be no stranded costs for grid connections for unsuccessful projects. This would, however, require much quicker planning and construction processes for the grid connection from currently around 5 years to avoid doubling the development time of offshore wind projects. Whether technical progress will allow for such acceleration is currently unclear.

With a view to the so-called ONEP+ model which is apparently preferred by the offshore wind industry, the BMWi has voiced considerable concern on a sufficient level of competition, as for this model, only bidders in the vicinity of planned grid connection systems would be allowed to bid. Moreover, there would be a substantial risk of stranded investments if the projects successful in the tender are not the same as anticipated when allocating the grid connection systems.

For offshore wind, one can expect to see the sheer purchase power and resulting cost decrease potential of big market players such as utilities to be decisive. The cornerstone paper apparently also anticipate this outcome when highlighting that for offshore wind, the protection of small and medium-sized enterprises will not play the same role as for the other technologies.

Roof-top-PV

For roof-top PV above 1 MW the cornerstone paper envisages a tender procedure separate from brownfield-PV, mainly due to the different capex involved for this kind of projects. The actual design of the tender scheme shall largely follow the one for brownfield- PV. Installations on constructions other than buildings, e.g. landfill sites, shall be integrated into the brownfield-PV scheme

6. Participation of EU-Bidders

Already EEG 2014 foresees the opening of the tenders up to 5% of the new build installation per year for generators in the EU under certain conditions, i.e.: (i) conclusion of a respective treaty between Germany and the other EU member state, (ii) physical import of the electricity or similar effect on German electricity market and (iii) reciprocity. The BMWi is currently working on the concrete design of this participation model by way of ordinance. This shall come in force during winter 2015/2016 with opening of the tenders in 2017

7. Conclusion

The cornerstone paper for the first time put forward concrete details of the schemes to be expected for the upcoming tenders for consultation by the industry and other interested parties. The questions highlighted by the BMWi make clear that the concrete framework of the reform, such as the calculation of the price ceiling and the changes to the reference yield model for onshore wind or even the general scheme for offshore wind, are still not fixed and balancing of the political goals will bring further changes in the process.

8. Overview of proposals made by the cornerstone paper compared with the already established tender for brownfield-PV

Technology	Timing	Pre-qualification	Size re- strictions	Bid-Bond/ Penalty	Term for realization/ Forfeiture	Site compet- ition	Transferability to different project/ Redemption
Brownfield- PV (est.)	Medium	Either already existing development (zoning) plan (B-Plan) or process of establishing a development (zoning) plan, i.e. Resolution on creation (Aufstellungsbeschluss) or disclosure (Offenlegungsbeschuss)	Min. 100 kW, max. 10 MW	1. Bid bond: Max. €4 per kW 2. Bid bond: Max. € 50 per kW Potentially reduced by fulfilment of prequalification requirements	2 years , followed by penalty and forfeiture of claim After 18 months reduction by 0.3 ct/kWh 0.3 ct/kWh	Yes	Yes, with reduction of (o.3 ct/kWh) Within 9 months redemption against 50% penalty payment possible
Onshore Wind	Late	BImschG permit	Min. 1 MW No maximum	€ 30 per kW	2 years, Penalty becomes due in steps of 10 Euro per kW after 24,28 and 32 months. After 36 months forfeiture of claim	Yes	No No redemption possible
Rooftop-PV	Early	None, only site needs to be named	Like brown- field-PV	Like brownfield-PV	9-12 months	Yes	Like brownfield-PV

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Offshore Wind One-time transitional auction	Medium	North Sea: BlmSchG permit or public hearing in the permission process and confirmed NAS in the cluster Baltic Sea: Largely developed project	no	EUR 200 per kW	48 months (starting 30 months prior to the binding completion of the NAS, no more than 18 months prior to the contract being awar- ded), then expiry of entitle- ment to grant funding Complex system of pena- lization of milestones (application documents permission process, financing, start of construction, taking into operation)	No	No
Offshore Wind (central model)	Early	no	no	EUr 320-400 per kW	as above	no	no



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