



WORLD FORUM
OFFSHORE WIND

**Hogan
Lovells**

Offshore Wind Worldwide

Regulatory Framework in Selected Countries



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Foreword

The World Forum Offshore Wind (WFO) is delighted to have co-edited this handbook together with our WFO member Hogan Lovells. Given the offshore wind industry's global expansion over the past years, this publication is highly relevant to all offshore wind market participants. While only ten years ago, offshore wind was a niche industry limited to a few European countries, we have since then witnessed the global breakthrough of offshore wind as an essential technology for electricity generation in order to reduce global CO₂ emissions. This successful development over the past decade has been driven by three major factors: cost reductions, technical maturity and global support.

The cost reductions for offshore wind seen in 2017, 2018 and 2019 have been truly spectacular. Auctions for offshore wind farms in the UK, Germany, The Netherlands and Denmark yielded results unimaginable only five years ago. In 2014, *The Economist* still considered offshore wind energy "staggeringly expensive" and "rather dubious". However, by 2017 it had changed its opinion and acknowledged that offshore wind had experienced a "stunning drop" in costs and was now an "adolescent industry". The killer cost argument against offshore wind energy had finally disappeared.

The technical reliability of offshore wind farms is also unquestioned by now. A successful operational track record of dozens

of offshore wind farms across Europe has proven the technology's maturity. This was impressively demonstrated by the first completion of an offshore wind farm's life cycle when the Danish Vindeby project was decommissioned in 2017 after 26 years of successful offshore operation.

The global support for offshore wind far beyond its European core markets clearly illustrates the trust that governments from around the world have in offshore wind as a source of clean electricity generation. Today offshore wind turbines are up and running in countries across Asia, North America and Europe. New markets such as South Korea, Vietnam, India, Australia or Brazil are taking concrete steps to introduce regulations for the development of domestic commercial-scale offshore wind projects. In addition, technological advancements such as the advent of floating foundations for offshore wind farms create further spectacular growth opportunities as they open up new "deep-water"-markets such as California, Spain, Norway or Japan.

While this global expansion is excellent news for the offshore wind industry, it makes it almost impossible even for the most knowledgeable offshore wind experts to keep track of all the regulatory developments and changes in the various markets around the world. This is exactly why this comprehensive overview of regulatory frameworks for the world's most relevant

offshore wind markets is so important and delivers a great benefit to the entire offshore wind community.

Serving as a reference point, this handbook which will be regularly updated allows market participants to quickly gain a thorough and clear understanding of different regulatory frameworks for offshore wind markets around the world. Fully understanding the regulatory frameworks of new and existing offshore wind markets is at the core of every investment decision. This new handbook provides this regulatory clarity and therefore greatly contributes to the continued global success of offshore wind energy.

Gunnar Herzig

Managing Director,
World Forum Offshore Wind
(WFO)



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Editor's Preface

The upward trend of the worldwide offshore industry is continuing. The year 2020 will mark a further high of the contribution of offshore wind to the overall energy mix. At least if we believe the predictions of the European Wind Association and the Organisation for Economic Co-operation and Development, the capacity will increase by 75 GW globally and the European Union will contribute 40 GW to it. We can expect the market volume to increase by USD 230 billion by the end of this decade. And not only economically, but also technically, the next few years will offer great potential: The development of floating offshore wind turbines will certainly surprise us.

The offshore wind market offers tremendous opportunities. The resource “wind” is waiting to be exploited much further. Reason enough to deal with the legal framework in the various offshore wind jurisdictions. In the absence of a globally standardised policy, the international offshore wind market is characterised by a multitude of different regulatory regimes.

A thorough understanding of these regimes helps to prepare the ground for any market entry. And that is where this handbook is supposed to be of assistance. It intends to provide you with a deeper comprehension of the regulatory risks and chances with which specific markets will inevitably confront you. And it will allow you to compare the different national regimes.

This handbook will be updated and improved on a annual basis, making it a companion for the years to come and a first-class reference for a global overview of the determining conditions of the offshore industry. It is the result of a truly international cooperation. Numerous lawyers from various Hogan Lovells offices on three continents have contributed. They were joined by lawyers from many friendly law firms all over the globe. With their excellent industry knowledge and work, they have ensured that this handbook can provide first-hand insight into the national legal systems. I would like to take this opportunity to thank all contributors most sincerely for their help in making this handbook a success.

On a final note: A handbook like this one must necessarily be limited to the basics. But all our authors will find a sympathetic ear for you and are happy to discuss any questions and comments you might have. Please do not hesitate to contact them. You will find their details at the end of each section. The same applies to us, of course. If you have any criticism, comments or suggestions for future editions, please let us know.

With windy wishes
Yours

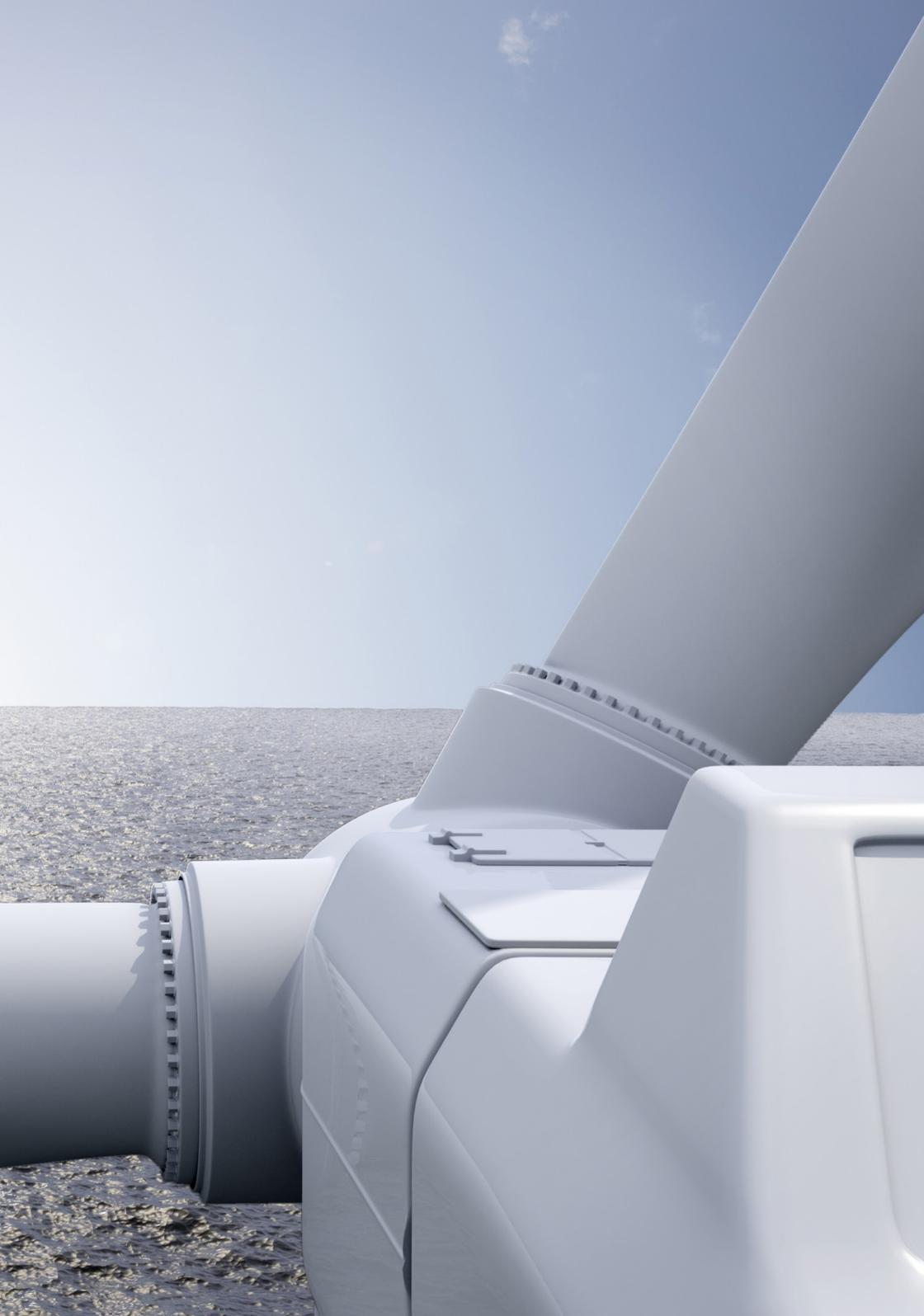


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Belgium

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Lydian



I. State and future of Offshore Wind Projects

A. Current state of offshore wind development and projects

Belgium is currently a world leader in the offshore wind industry with six operational wind farms with a 1,556 MW production capacity.

In 2019, these wind farms have produced 4.6 TWh of electricity, which represents about 6 % of Belgium's total electricity consumption.

During the second half of 2020, two new wind farms, which are currently under construction, will begin to produce energy, which will bring the total production capacity to 2,262 MW. This will enable Belgium to produce an average of 8 TWh, approximately 10 % of Belgium's total electricity demand.

Currently, all tender procedures in the first area of the Belgian North Sea (often referred to as the 'first offshore wind phase') are closed, but with the new maritime spatial plan for the period 2020-2026, the Belgian minister competent for the North Sea has established the framework for an additional wind zone of 281 km² close to the French border, in addition to the wind zone of 225 km² that already exists close to the border with the Netherlands. This additional wind zone intends to add another 2,000 MW (the 'second offshore wind phase').

Furthermore, a new federal law has been adopted in 2019 on the organisation of a competitive bidding procedure for the construction and operation of offshore renewable electricity production installations to establish, in line with EU law obligations, general principles for the competitive bidding procedures for awarding domain concessions to future projects of offshore electricity production. This federal law has set out the framework for the new offshore wind zone but the new tendering procedure will still have to be adopted by Royal Decree. Given the current political situation, i.e. the lack of the composition of a new federal government, there is no clear view on the timing thereof and new tendering procedures are expected not to occur before the end of 2023. There is also a delay by the fact that the Belgian electricity grid is not yet ready for new offshore wind capacity.

B. Expectations of future developments in the market until 2030 and beyond

By the end of 2020 the first offshore wind phase should be completed, bringing the total production capacity to approximately 2,300 MW.

With the second offshore wind phase, the federal government is aiming at adding another 2,000 MW to the grid.

The wind developing sector was pushing for completion of this second offshore wind

phase by 2024 but, given the current political situation (delay on the composition of the new government delays the adoption of the royal decree regarding the new tendering procedure) and the fact that the Belgian electricity grid is not yet ready for new offshore wind capacity, tendering of the new domain concessions are not expected to occur before the end of 2023, which will result in a standstill in the coming years.



II. The Offshore Wind Promotion system

A. Regulatory framework

Belgium is a federal state. The power to enact legal binding decisions is not the exclusive preserve of the Belgian Federal Government and the Federal Parliament. The federal state is organised along two lines.

The first line related to language and, in a broader sense, to everything related to culture. The result was several communities: the Flemish, French and German-speaking communities.

The second line of state reform was historically inspired by economic interests. The regions, which aspired to more economic autonomy, conveyed these interests. The establishment of the three regions was the result: the Flemish, Brussels Capital and Walloon Regions.

The Federal State nevertheless retains important powers; for example, in the area of foreign affairs, national defence, justice, finance, social security, important parts of national health, domestic affairs and also offshore activities.

The legal framework for the development of offshore wind parks in Belgium is subject to the federal act of 29 April 1999 organising the Electricity Market (the Electricity Act).

This federal act has been amended in 2019 on two levels: (i) to introduce a capacity remuneration mechanism; and (ii) to create

the legal basis for the set-up of a competitive tender procedure for the second offshore wind phase and for the related support scheme. The details of the new tender procedures are still to be established by royal decree by the (new – yet to be established) government.

The new locations for new offshore concessions for the second offshore wind phase have, however, already been established by the new maritime spatial plan for the period 2020-2026, which will enter into force on 20 March 2020.

B. Scheme in relation to exclusivity to construct, own and operate a project, as well as to receive feed in revenues

The new tender procedure, that is yet to be established by Royal Decree, will be based on the principle that the new concession will be awarded - for a maximum term of 30 years (including construction, maintenance and decommissioning phase) - to the winning bidder together with the required permits and authorisations. All required environmental and other studies, including in relation to the Modular Offshore Grid (MOG) will be carried out by the government and the network operator in consultation with the Commission for Electricity and Gas Regulation (CREG; i.e. the Federal Electricity and Gas Agency).

C. Incentives for investments

Currently the support schemes exists of:
(i) a system of green certificates and guarantees of origin that are issued in exchange for quantities of produced offshore

renewable energy that can either be sold to the network operator at a minimum guaranteed price or on the market at a higher price; and (ii) a cable subsidy.

Due to the amendments to the Electricity Act, the support schemes for the new concession will be limited to a period of 15 years and, in addition, the government will no longer set subsidy levels in advance, but the concession bidders will have to include the subsidy level as part of their bid in the competitive tender procedure, with the aim of reducing subsidy to zero in the future.

For the existing domain concession, the concession holders received a cable subsidy which has varied over the last decade.

The wind parks that will be constructed under the new concessions will have to connect to the MOG. It is not clear yet whether there will be any specific subsidy in this respect; however, compensation mechanisms will be put in place to ensure the connection to the grid which should provide certainty to investors.

D. Timeframe for the realisation of the project

The procedure for the tendering of new concessions of the second offshore wind phase is yet to be adopted by Royal Decree.

III. Public Law and Regulatory Permits required for the construction and operation of the offshore wind farm and the onshore grid connection

The construction and operation of the OWF and connections with the MOG or the transmission grid require a permit from the Federal Minister of Energy.

Up until now, the request for the permit for the construction and operation of OWFs is filed with the Federal Minister of Energy. The permit is granted by the Minister for Energy.

The CREG and the TSO are required to give advice on the technical details of the permit request. The permitting procedure takes at least 135 calendar days.

The Minister's decision is binding and executable as from its publication in the Belgian State Gazette. Permits can be contested before the Council of State within 60 days following publication. Afterwards, the permit is final.

This legislative framework is currently being amended, which shall result in a new competitive bidding (and permit) procedure, which is, as mentioned above, yet to be established.

IV. Offtake issues

A. Offtake, remuneration and tariff scheme

We refer to the existing support schemes as set out under point II above.

The federal Electricity Act does not contain any specific stipulations for the content of such PPAs, but there is a certain established market practice as to the usual and required contents.

Belgium knows a support scheme based on the issuance of green certificates and guarantees of origin.

In the future, the subsidy levels will no longer be determined in advance by the government, but will have to form part of the future concession holders' bid.

B. Consequences of a project delay

The consequences of delayed project completion with regard to the offtake regime in general depend on the respective provisions in the PPA. Usually a delay of the project or WTGs would, after elapse of a grace period, entitle the offtaker to demand a reasonable adjustment of the price. Additionally, termination remedies would normally be available for prolonged force majeure events.

V. Grid and grid connection

A. Legal framework for the connection to the onshore grid and the establishment of the grid connection

The legal framework for the connection to the onshore grid and the establishment of the grid connection itself consists mainly of the maritime spatial plan and the federal Electricity Act.

B. Planning and construction of the grid connection system

According to the abovementioned legal framework (only) a permit holder for the construction and operation of the OWF is entitled to connect with the so-called MOG. The Belgian transmission system is extended to Belgian territorial waters.

Under the current market structure, the TSO (Elia System Operator or Elia) is responsible for the financing, construction and operation of all onshore and offshore grid connections. The cost for the submarine cable between the OWF and the transmission grid is shared between Elia and the operators of the OWF. The cable subsidy is determined by a Royal Decree and differs per OWF. It is uncertain whether under the new legal framework a cable subsidy will still apply.

C. Responsibility for the cost of the grid connection system

Under the Federal Electricity Act the TSO, not the OWFs, is obliged to finance and construct the GCS. The TSO is entitled to the reimbursement of these costs, which are ultimately included in an offshore grid levy to be paid by the end consumers.

D. Consequences of delays and disruptions of the grid connection system

The Connection Agreement and the Access Agreement govern the liability of the TSO. In the Connection Agreement, the OWF operator is protected against delays in completion of the GCS and against unavailability of the GCS due to technical failure or poor maintenance. Elia's liability is, however, limited to damages caused by its own grave error, misconduct or intent. Moreover, its liability is capped to EUR 5,000,000 per claim.

E. Onshore grid congestions, prioritisation of renewable energy resources and compensation mechanisms

The TSO is under a statutory obligation to improve its grid to comply with best available technology and to ensure the receipt, transmission and distribution of power from renewable energies, unless the required measures are commercially unreasonable. In general, feed-in from renewable energy sources is prioritized by law over feed-in from other sources. This also applies in case of feed-in management measures.

VI. Real Estate

A. Rights over land to be secured

The Belgian part of the North Sea covers about 0,5 % of the total area of the North Sea and includes the territorial sea up to 12nm offshore and the EEZ which extends offshore up to about 45nm. Within the EEZ, Belgium can enforce certain rights; for example, in connection with the exploitation of mineral resources or the generation of energy, but it also has the obligation to take care of the environment.

The zone that can be used for offshore wind production is regulated by and determined in the Maritime Spatial Plan (MSP).

The rights over the land of these zones are granted to offshore wind developers by Ministerial Decree in the form of domain concessions.

For the first offshore wind phase, these zones were determined by the MSP, enacted in the Royal Decree of 20 March 2014 and over these zones domain concession have been given to offshore wind developers.

For the second offshore wind phase, these zones are determined in the MSP, enacted in the Royal Decree of 22 May 2019. It is expected that domain concessions over these zones will not be tendered before the end of 2023. Onshore, the respective operator/owner of the installation which uses the land

needs to secure such use by means of a private law licence/use agreement in case of private landowners or municipalities. Since the use of onshore land plots is only required for the onshore grid connection, and since this falls under the responsibility of the TSO, the OWF owners and developers do not need to take care of these issues.

B. Costs and risk of legal challenges

The domain concessions are granted by Ministerial Decree and could be amended over time but any such amendments will be accompanied by compensation due by the government.

The responsibility for the construction and operation of the GCS is with the relevant TSO; in the case of interruptions in the operation or delays in completion of the GCS, the OWF owner is entitled to receive compensation (see above).

VII. Other

Protection of the marine environment and coastal protection are also laid down in the MSP, and should be taken into account when constructing an OWF.



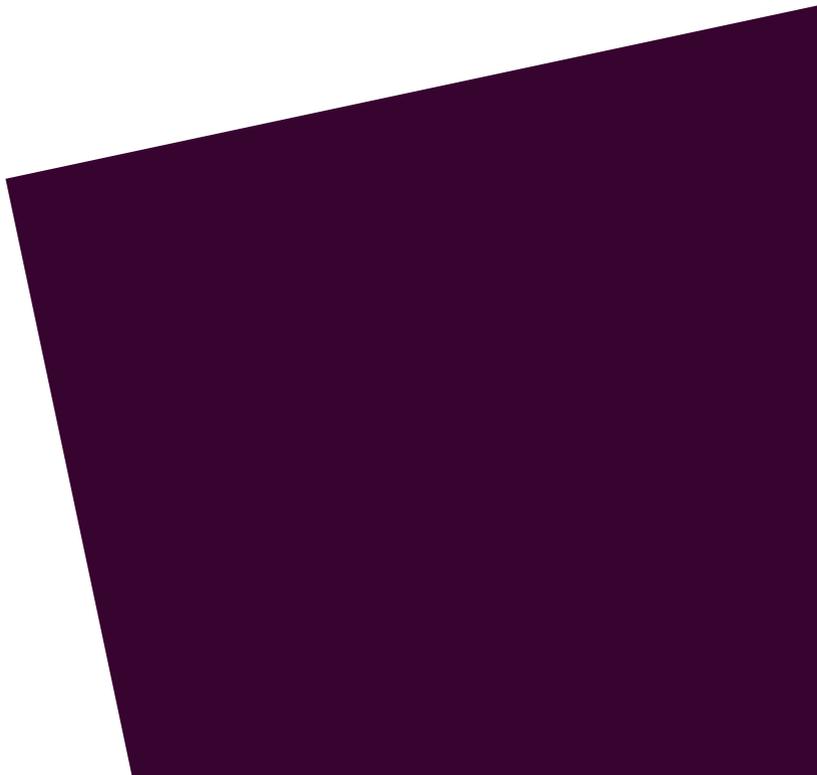
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China

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I. State and future of Offshore Wind Projects

A. Current state of offshore wind development and projects

At the end of 2018, China's renewable energy installation capacity had reached 728 GW, with year-on-year growth of 12 %, according to statistics released by the National Energy Administration (NEA). This breaks down into 352 GW (up 2.5 %) for hydropower; 184 GW (up 12.4 %) for wind power; 174 GW (up 34 %) for photovoltaic power (PV Power); and 17.8 GW (up 20.7 %) for biomass power. Renewable energy accounted for 38.3 % of the national total installed power capacity, which is an increase of 1.7 % on the corresponding period in 2017.

The offshore wind power market in China is growing at a faster pace than any other country's market in the world. China is the world's third largest market in terms of total installed offshore wind power capacity (4.588 GW in 2018), after the U.K. (7.963 GW in 2018) and Germany (6.38 GW in 2018), and is set to become the world's largest, considering the pace at which it is growing and the ambitious targets set by the Chinese government. In 2018, China installed more offshore wind power capacity than any other market (1.8 GW), followed by the United Kingdom (1.3 GW) and Germany (0.9 GW). In 2018, China has approved over 80 offshore wind power projects in total, mainly located in five coastal provinces/municipalities, including Guangdong, Jiangsu, Zhejiang and Fujian Provinces and Shanghai Municipality.

The Chinese government is committed to increase China's wind power installed capacity. The 13th Five-Year Plan for Wind Power Development applicable in the 5-year period from 2016 to 2020 (13th Five-Year Plan) sets out the following targets by the end of 2020: (i) the cumulative installed capacity of wind power (including onshore and offshore) connected to the grid will reach 210 GW, of which 5 GW is of offshore wind power; and (ii) the total capacity of offshore wind power projects under construction will reach 10 GW. Encouragingly, these targets are likely to be met and exceeded.

According to the 13th Five-Year Plan, profitability is still the main factor affecting the development of the wind power sector. The costs associated with the development and maintenance of wind power projects are higher than those of traditional fossil fuel power projects. Wind power projects are heavily dependent on the availability of government subsidies and policy support, and can therefore be affected easily by changes to regulations and government policies. Pursuant to the Special Administrative Measures (Negative List) for Foreign Investment Market Access (2019 Version) (Nationwide Negative List), the Special Administrative Measures (Negative List) for Foreign Investment Market Access in Pilot Free Trade Zones (2019 Version) (FTZ Negative List and, together with the Nationwide Negative List, (Negative Lists) and the Encouraged Foreign Investment Industry Catalogue (2019 Version)

(Encouraged Catalogue) jointly released by the National Development and Reform Commission (NDRC) and the Ministry of Commerce on 30 June 2019 and effective on the same day, 100 % foreign ownership of wind power projects is permitted, and investment in the renewable energy sector, including wind power, is encouraged.

B. Expectations of future developments in the market until 2030 and beyond

The China Renewable Energy Outlook 2018, released by the Energy Reform Institute of NDRC and the China National Renewable Energy Centre on 27 November 2018, sets out China's medium- and long-term renewable energy targets, based on two scenarios as shown in the following table: (i)

Stated Policies Scenario, and (ii) Below 2°C Scenario. The Stated Policies Scenario assumes the full implementation of the applicable government policies for the energy sector as stated by the 13th Five-Year Plan and the 19th National Congress of the Communist Party of China. The Below 2°C Scenario pursues the more demanding emissions reduction goals enshrined in the Paris Agreement.

Accordingly, by 2035 the total wind power capacity is expected to exceed 1,100 GW in the Stated Policies scenario, and 1,800 GW in the Below 2°C Scenario. These figures clearly demonstrate the ambitious goals set by the Chinese government and the many opportunities that will be available to investors in this area.

2035	Stated Policies Scenario	Below 2°C Scenario
Total Capacity	3190 GW	4362 GW
Hydropower	454 GW	454 GW
Wind	1162 GW	1826 GW
Solar	1494 GW	2000 GW
Biomass	62 GW	64 GW
Other RE	18 GW	18 GW
Non-fossil Fuel (coal substitution method)	39%	57%

II. The Offshore Wind Promotion system

A. Regulatory framework

The legal framework governing offshore wind power projects in China comprises a large number of laws and regulations issued over time at the national and local level.

These laws and regulations intertwine with each other creating a somewhat puzzling and incomplete picture.

The Renewable Energy Law of the People's Republic of China (Renewable Energy Law) provides the overall framework governing the development of the renewable energy sector and projects, including in relation to wind power.

More specific details are provided by lower level legislation issued to supplement the Renewable Energy Law. In particular, as regards wind power projects:

1. the Interim Measures for the Administration of the Development and Construction of Wind Power Projects (Wind Power Interim Measures) regulate the development and construction of both onshore and offshore projects; and
2. the Measures for the Administration of the Development and Construction of Offshore Wind Power Projects (Offshore Wind Power Measures) provide a framework regulation on development plan, project approval, business licence, site selection, environmental protection standards, and construction and operation of offshore wind power projects.

Several other laws and regulations, not fully coordinated with each other, provide the remaining regulatory elements in areas such as grid operation, grid connection, purchase of electricity by the grid, selection and award of projects, availability of subsidies, and exploration and use of sea areas.

Offshore wind power projects involve many different authorities at various levels. The main authorities are the following:

1. The NEA (a bureau administered by NDRC) is the Chinese authority overseeing the energy sector. At the central level, the NEA is responsible for issuing a nationwide offshore wind power development plan (Offshore Wind Power Plan), while its branches at the provincial level (Local NEA) are entitled to formulate their own local Offshore Wind Power Plans. Taking the Offshore Wind Power Development Plan of Guangdong Province (2017-2030) as an example, it mainly sets out regional developing requirements and development targets for offshore wind power projects. The Local NEA also drafts an offshore wind power construction plan (Construction Plan) in which it includes the specific projects that can be implemented in the province and awarded to developers. Only projects included in the Offshore Wind Power Plan and Construction Plan are allowed to be constructed and operated. The NEA's responsibilities also include the administration of the planning, development and construction of offshore wind power projects, the selection of

- offshore wind power projects and their developers through competitive procedures, and the issuance of the Project Approval (as defined below) and business licence for electricity generation;
2. the State Oceanic Administration (an administrative agency incorporated into the Ministry of Natural Resources in 2018) (SOA) and its local branches (Local SOA) are responsible for approving the sea areas where projects are carried out, providing the Certificate of Use of Sea Areas (as defined below) which certifies the right to use the areas, approving the installation of the submarine cables, and examining the navigation safety and environmental impact;
 3. the NDRC is responsible for determining the feed-in tariff for offshore wind power projects;
 4. the Ministry of Finance is responsible for controlling and distributing subsidies and funds for offshore wind power projects;
 5. the Ministry of Science and Technology is responsible for promoting research and technology in offshore wind power projects;
 6. the Ministry of Housing and Urban-Rural Development (MOHURD) is responsible for issuing the construction-related approvals and permits for construction activities on land; and
 7. the State Administration for Market Regulation (SAMR) is responsible for issuing national technical standards. In particular, the SAMR and the Standardisation Administration of China recently published the National Standard GB/T 51308-2019 Design of OWF, applicable to Projects. This National Standard aims to promote the standardisation of OWF engineering design and to ensure the safe operation of OWFs in China. However, it is not mandatory.
- B. Scheme in relation to exclusivity to construct, own and operate a project, as well as to receive feed in revenues**
- In the affirmative case, the common practice over the past 10 years to obtain the right to construct a project was to review whether the Offshore Wind Power Plan issued by the Local NEA contemplated the need for such a project and to reach out directly to the Local NEA to express the intent to develop the project. In case of interest, the Local NEA would first instruct the applicant to conduct the relevant preliminary surveys (e.g., offshore wind, geological, hydrographic) and other preliminary assessments (Preliminary Works), and then arrange a bidding process for the particular project inviting the applicant to participate or, in some cases, directly authorize the applicant to engage in the development of the project, based on the Interim Measures for Administration on the Development and Construction of Offshore Wind Power.

Starting from 2019, offshore wind power projects and their developers are selected by the Local NEAs through a competitive procedure (Competitive Allocation Scheme), pursuant to the Administrative Guidance for Competitive Allocation of Wind Power Projects (Trial) published by the NEA on 18 May 2018 (Competitive Allocation Guidance). The Competitive Allocation Scheme applies to all centralised onshore and offshore wind power projects (it does not apply to distributed projects). Each Local NEA adopts its own rules, issued pursuant to the Competitive Allocation Guidance. Some provinces have specific competitive rules for offshore projects, while other provinces have issued one single set of rules covering both onshore and offshore projects. At the time of writing, not all provinces have adopted their local rules.

Generally speaking, the Competitive Allocation Guidance divides projects in two categories:

1. projects with developer already identified (Pre-identified Developer Projects): these are projects for which a developer has entered into a wind power development agreement (Development Agreement) with the local government and completed the Preliminary Works. The Local NEA evaluates these projects based on certain parameters and assigns them a score. The projects with a high score are included with priority in the Construction Plan of the province. There is no additional
2. projects with no developer identified (Non Pre-identified Developer Projects): these are projects for which the Local NEA and local government themselves have organised and completed the Preliminary Works. No developer has been pre-identified for these projects. The developer is determined through competitive tender, announced by the Local NEA.

The evaluation standards used by the Local NEA to assign a score to Pre-identified Developer Projects, and to select the developers of Non Pre-identified Developer Projects, are provided by the competitive rules adopted by the Local NEA and therefore vary from province to province. Generally speaking, the Local NEA uses a comprehensive scoring method that takes into account various factors (technical capabilities of the applicant, track record, technology and equipment used, conclusion of preliminary works, and the tariff) – among these parameters, the tariff bears a weighting factor of no less than 40 % (but it is not the decisive factor).

Alternatively, for Pre-identified Developer Projects, the Local NEA can adopt a method whereby the technological aspects of the project are considered in the first instance and the tariff in the second instance.

C. Incentives for investments

In China, the state power network operators that operate the power grids to which offshore wind power plants are connected (Grid Companies) (i.e., the State Grid Corporation of China and the China Southern Power Grid, respectively) are required to purchase the entire output of the offshore wind power plant. This is different from onshore wind power projects where (depending on the case) the Grid Companies may be required to purchase only a minimum guaranteed amount, and is one of the main advantages of offshore wind power projects compared to onshore wind power projects.

The Grid Company to which the offshore wind power plant is connected purchases the electricity produced by the plant by paying a fixed feed-in tariff to the plant (On-Grid Tariff). NDRC sets and announces the maximum amount of the On-Grid Tariff from time to time (it has set this amount in 2014, 2017 and 2019 respectively so far). The maximum amount of the On-Grid Tariff set by NDRC is denominated “benchmark on-grid tariff” on and before 30 June 2019 (Wind Power Benchmark Tariff) and “guiding wind power tariff” on and after 1 July 2019 (Guiding Wind Power Tariff), respectively.

In the case of projects awarded pursuant to the Competitive Allocation Scheme, the On-Grid Tariff is set out in the bidding documents and cannot be higher than the applicable Wind Power Benchmark Tariff or

Guiding Wind Tariff (Bid Tariff), as applicable. All newly-approved projects in 2019 must be awarded pursuant to the Competitive Allocation Scheme, meaning that the Bid Tariff would be applicable to all these newly-approved projects.

The Renewable Energy Development Fund set up by the Ministry of Finance provides subsidies for offshore wind power projects. The amount of the subsidies is equal to the difference (Premium) between: (i) the On-Grid Tariff the Grid Company pays to purchase the electricity generated by the plant; and (ii) the benchmark tariff applicable to electricity generated by coal-fired power plants (which is set by the NDRC or its local counterparts (Local NDRC) periodically pursuant to the Notice on Reducing the On-grid Coal-fired Power Tariff and General Industrial and Commercial Electricity Tariff and Circulars and Notices on Matters Concerning Reasonable Adjustment of the Electricity Price Structure issued by the Local NDRC). The plant receives the whole amount of the On-Grid Tariff (including the Premium) from the Grid Company, and the Grid Company in turn applies to receive the reimbursement of the Premium from the Renewable Energy Development Fund.

D. Timeframe for the realisation of the project

In accordance with the Offshore Wind Power Measures and the Wind Power Interim Measures, before commencing the construction of the project the developer must obtain the project approval (Project Approval) from the Local NEA, and certain other permits specified in as specified in III. below.

If the developer fails to commence construction of the project within two years after obtaining the Project Approval, the Local NEA revokes the Project Approval and the Local SOA revokes the Certificate of Use of Sea Areas (as defined below). The construction of the first WTG foundation marks the commencement of the construction of the project. Some provinces, like Guangdong, Jiangsu and Fujian, allow the developer to apply to the original Project Approval Authority to obtain an extension of the date of commencement of the construction. The extension can only be granted once, for a period of one year.

Additionally, developers are required to make commitments to the Local NEA regarding the timeline for the commencement of the construction, the completion of all the WTGs and all other works related to the project, and the completion of the connection of the plant to the grid. The Local NEA may re-examine the commitments made by the developers, and publish information showing the extent to which these commitments have been met.

III. Public Law and Regulatory Permits required for the construction and operation of the offshore wind farm and the onshore grid connection

A developer must obtain a large number of opinions, approvals and permits, before it is able to commence the construction works for the project. In particular, the following are needed, in sequence:

1. as a first step, the developer must conduct certain preparatory activities, including the following:
 - a) prepare a feasibility study report of the project, attaching technical review opinions;
 - b) engage a qualified EIA company to issue an environmental impact report, and then submit such report to the Local SOA for approval and comments, after which the SOA issues an opinion on the environmental impact examination and approval;
 - c) obtain a preliminary opinion letter on the right to use the sea area where the project is located, issued by the Local SOA;
 - d) obtain an approval of the investigations and exploration of the sea areas for submarine cable routing, issued by the Local SOA;

- e) obtain a preliminary opinion letter on the right to use the land area where the onshore facilities of the project are located, issued by the local counterpart of the Ministry of Land and Resources;
 - f) prepare a report on the navigation safety, and submit such report to the Local SOA for examination and approval, after which the Local SOA issues an opinion on navigation safety;
 - g) conduct a safety pre-evaluation design and prepare the relevant safety pre-evaluation report, and record-file it with the local counterpart of the State Administration of Work Safety to obtain a safety pre-assessment;
 - h) obtain the grid connection design approval from the Grid Company; and
 - i) obtain the approval of the project financing granted by a financial institution;
2. after the preparatory activities listed above have been completed, the developer can file an application to the Local NEA to obtain the Project Approval, submitting the preliminary approvals and opinions obtained in connection with such preparatory activities and additional documents (if any) as requested by the Local NEA on a case-by-case basis (for example, the Local NEA may request a Report on Social Stability Risk Assessment issued by the local People's Government);
3. after obtaining the Project Approval, the developer must obtain the following additional approvals and permits:
- a) a certificate of right to use the sea areas (Certificate of Use of Sea Areas), issued by the Local SOA, certifying the right of the developer to use the relevant sea areas for the purpose of carrying out the project;
 - b) a permit of construction of submarine cables, issued by the SOA after the completion of the investigation and exploration of the sea areas for submarine cable routing; and
 - c) a suite of construction permits required for construction activities on land, issued by the local counterpart of the MOHURD
- After the construction works have been completed, the developer of the project should undertake certain inspection and acceptance procedures involving the construction works and the environmental protection facilities of the plant. After such procedures have been completed, the project entity must obtain a business licence for electricity generation, in accordance with Article 4 of the Provisions on the Administration of the Electric Power Business License, to engage in the electricity generation business at the offshore wind power plant. Such licence is issued by the Local NEA within 20-30 days, is valid for a 20-year term and can be renewed.

It is important to note that relevant permits and approvals listed above, and the relevant supporting documents required to be submitted to the various authorities, may differ from province to province. Therefore, they must be verified on a case-by-case basis.

The following additional steps must be taken to obtain the connection of the offshore wind project to the grid:

1. after obtaining the Project Approval, the Grid Company and the developer enter into a grid connection agreement, to be filed with the Local NEA. The grid connection agreement sets out terms such as the date of commencement of the construction works, the date of commencement of the operation of the plant and its on-grid transmission facilities, and the respective ownership of the assets involved in the project; and
2. after the completion of the construction works, before the plant is put into operation:
 - a) Local NEA organises a grid connection safety appraisal before connecting the plant to the grid;
 - b) the Grid Company and the developer conclude a grid connection and despatching agreement (see section V.A. below), to be filed with the Local NEA; and
 - c) the power despatching institution in charge of the grid where the project is connected verifies the basic conditions for the connection of the plant to the grid. If it deems that these basic conditions are not met, it issues an opinion requesting the implementation of the necessary modifications for purposes of the connection to the grid.

In principle, the grid connection and the commencement of operation of the plant should occur simultaneously. If there are delays caused by either the Grid Company or the developer, the party causing such delay should compensate the other party.

If the developer is not satisfied with the authorities' decision regarding the issuance of the required opinions, approvals and permits listed above, the law permits it to apply for administrative reconsideration before the relevant authorities in accordance with the Administrative Reconsideration Law of the People's Republic of China within 60 days from the date of the decision. The decision rendered in connection with such administrative reconsideration can be appealed before the PRC courts within 15 days, in accordance with the Administrative Procedure Law of the People's Republic of China.

IV. Offtake issues

A. Offtake, remuneration and tariff scheme

As explained above in section II.C., the Grid Company is required to purchase the entire output of the offshore wind power plants connected to its grid. For this purpose, the Grid Company and the developer of the offshore wind power plant enter into a PPA after the construction of the plant. The PPA is drafted using the standard forms published by the NEA and the State Administration for Industry Commerce (the predecessor of the SAMR), which recommends that the Grid Company and the developer sign a framework PPA agreement applicable for a fixed period and a separate PPA annually.

The price at which the electricity is sold to the Grid Company is fixed during an initial period at the price set through the Competitive Allocation Process; thereafter, if the province sets a lower benchmark tariff after the project is implemented, the tariff under the PPA is automatically reduced to the benchmark tariff of the province.

The plant receives the whole amount of the On-Grid Tariff (including the Premium) from the Grid Company, and the Grid Company in turn applies to receive the reimbursement of the Premium from the Renewable Energy Development Fund.

Distributed offshore wind power projects are allowed and encouraged by the Interim

Measures on Development and Construction of Distributed Wind Power Projects issued by NEA and effective on 3 April 2018, although they are rarely seen in practice.

B. Consequences of a project delay

As stated above in section II.D., the Local NEA revokes the Project Approval and the Local SOA revokes the Certificate of Use of Sea Areas if the construction of the project (i.e., the construction of the foundation of the first WTG) is not commenced within two years after having obtained the Project Approval.

In accordance with the Wind Power Interim Measures, the PPA is usually entered into between the developer and the Grid Company after the completion of the construction of the offshore wind power plant. Therefore, the PPA may not deal with the consequences of delays in the construction of the project.

C. Examples of actual and future tariffs

The Bid Tariff for the first offshore wind power project awarded under the Competitive Allocation Scheme in Shanghai Municipality on 12 September 2019 is RMB 0.7388/kWh, which is lower than the Guiding Wind Power Tariff. A slightly higher Bid Tariff was awarded for subsequent offshore wind power projects in 2019, as reflected in the trends illustrated below. However, it is expected that the Bid Tariff may actually decrease in the long term given that the Bid Tariff cannot exceed the Guiding

Wind Power Tariff and the Chinese government plans to progressively reduce the Guiding Wind Power Tariff. The price could be more attractive if China resolves to implement a scheme similar to the Contracts for Difference scheme that is currently used in the UK, whose implementation in China is being discussed among practitioners and regulators in the offshore wind power industry.

On 13 November 2019, the local counterpart of NDRC of Wenzhou, Zhejiang Province, announced that the Bid Tariffs for 5 offshore wind power projects awarded under the Competitive Allocation Scheme were RMB 0.785/kWh, RMB 0.785/kWh, RMB 0.770/kWh, RMB 0.770/kWh and RMB 0.770/kWh respectively. On the same day, the local counterpart of NEA of Ningbo, Zhejiang Province, announced that the Bid Tariffs for 2 offshore wind power projects awarded under the Competitive Allocation Scheme were RMB 0.760/kWh and RMB 0.765/kWh respectively. On 25 December 2019, the local counterpart of NEA in Shandong Province announced that the Bid Tariffs for 4 offshore wind power projects awarded under the Competitive Allocation Scheme was RMB 0.790/kWh, which is quite close to the Guiding Wind Power Tariff of RMB 0.8/kWh for near-shore wind power projects approved in 2019 as provided in the Circular on Improving the On-grid Price Policy for Wind Power, issued by the NDRC on 21 May 2019.

V. Grid and grid connection

A. Legal framework for the connection to the onshore grid and the establishment of the grid connection

The framework governing the connection of offshore wind power projects to the onshore grid and the establishment of the grid connection is provided by various sources. The major sources are the following:

1. the Electric Power Law of the People's Republic of China: chapter three of which concerns the grid administration, generally requiring Grid Companies to accept the connection request from developers. For this purpose, the parties should enter into a grid connection and despatching agreement, allowing the plant to be connected to the grid, which must be drafted using the template agreement issued by the NEA and the SAMR, the most updated version of which was issued on 1 July 2014;
2. the Wind Power Interim Measures: which provide, among others, the procedures for the construction and establishment of wind power projects (onshore and offshore) including in relation to grid connection;
3. the Interim Measures for Supervision and Administration of Grid Connection for Newly Built Power Generation Plants (issued by the State Electricity, now the NEA, in 2006) (Grid Connection Interim Measures): which provide, among others,

the regulatory requirements imposed by the NEA on matters and procedures relating to the grid connection; and

3. the Measures on Supervision and Administration of Grid Enterprises in Full Purchase of Renewable Energy Power (issued by the State Electricity, now the NEA, in 2007), the Rules on Operation of Power Grids (for Trial Implementation) (issued by the State Electricity, now the NEA, in 2006) (Rules on Operation of Power Grids), and the Provisions on the Administration of Renewable Energy Power Generation (issued by the NDRC in 2006), which provide, among others, the obligation to connect renewable energy projects to the grid.

B. Planning and construction of the grid connection system

For the sea areas under its jurisdiction, each Local NEA is responsible for planning, among others, the GCS which is covered by the Local NEA's Offshore Wind Power Plan, and procure the implementation of the grid connection plan for the project, jointly determined by the developer and the Grid Company.

With respect to the construction of the GCS, the Wind Power Interim Measures set out the allocation of responsibilities among developers and Grid Companies. Developers are responsible for constructing transmission facilities for connecting the power plants to the grid, while Grid Companies are responsible for constructing grid-side facilities to implement the connection.

Pursuant to the Grid Connection Interim Measures and the Rules on Operation of Power Grids:

1. the developer engages a qualified independent design institution to carry out the grid connection design for the project (see section III. above);
2. the Grid Company provides the required technical information to the design institute to allow it to prepare the design;
3. the developer prepares a research report on the grid connection design and submits it to the Grid Company;
4. the Grid Company evaluates the research report and issues a written reply with its opinion on the grid connection; and
5. in accordance with the opinion issued by the Grid Company, the developer carries out the preliminary activities for the grid connection, such as obtaining the review and approval of the supporting transmission engineering works.

C. Responsibility for the cost of the grid connection system

Pursuant to the Renewable Energy Law and the Notice on Reducing the Burden of the Renewable Energy Enterprises (Reducing Burden Notice), Grid Companies are responsible for financing the construction of the transmission facilities for connecting renewable energy power plants (including offshore wind power plants) to the grid. The Reducing Burden Notice required Grid Companies to purchase from the developers, by the end of 2018, any transmission facilities whose construction had been financed by the developers.

Grid Companies can factor such construction and acquisition costs into the electricity transmission costs that the Grid Companies charge to the end users of the electricity supplied by the Grid Companies. To the extent the price charged by the Grid Companies to the end users is not sufficient to cover such costs, the Grid Companies may apply to receive a subsidy from the Renewable Energy Development Fund equal to such shortfall.

D. Consequences of delays and disruptions of the grid connection system

The Reducing Burden Notice requires the Grid Companies to: (i) accept in a timely manner the applications of grid connection from renewable energy power generation projects; (ii) commit to a binding timeline for the implementation of the grid connection; (iii) not suspend or stop accepting applications of grid connection;

and (iv) not refuse the on-grid operation of renewable energy power projects.

Additionally, the grid connection and despatching agreement requires the Grid Companies to ensure the timely connection to the grid and the stable operation of the grid, and provides corresponding liabilities for the Grid Companies in the event of a breach of such obligations. In particular, according to the latest available template of grid connection and despatching agreement applicable to wind power projects, published in 2014, if the Grid Companies cause delays or disruptions to the GCS, they are liable to compensate the wind power generation companies for the direct economic losses, facility repair costs and other direct losses suffered as a result of the delay or disruption. Nonetheless, this is a template agreement and Grid Companies and wind power generation companies are allowed to supplement or revise its terms through negotiation.

E. Onshore grid congestions, prioritisation of renewable energy resources and compensation mechanisms

The curtailment of wind power energy production has been an issue for the wind power industry in China, especially for onshore wind power in northern areas of China. Scholars suggested there are institutional causes behind the scene (different from power congestions caused by the excessive production of energy from conventional sources). In particular, there is lack of coordination in the administration of

the Chinese electric power system, meaning that there are severe coordination problems among multiple players, including central and local governments, Grid Companies, wind power generation companies and large electricity consumers, and that lack of coordination results in transmission constraints, system imbalances, as well as overcapacity, ultimately leading to wind power curtailment.

So far, several regulations have been promulgated to mitigate this issue, such as the Measures for the Administration of the Guaranteed Full Purchase of Electricity Generated by Renewable Energy Resources, the Circular on Administrative Tasks for the Guaranteed Full Purchase of Power from Wind and PV Power Generation, and the Implementation Plan to Solve the Problem of Wind, Water and PV Power Curtailment. The Implementation Plan, in particular, introduced several measures to reduce curtailment of renewable energy power, including implementing renewable energy consumption quotas, promoting renewable energy power market transactions, and enhancing power transmission capacity, setting an ambitious goal to resolve the issue of curtailment by 2020. However, curtailment primarily affects the onshore wind power industry due to the fact that onshore wind power is produced mainly in Northern areas while the power is mainly consumed by end users in the Middle Eastern and Southern areas. Offshore wind power, in contrast, is less impacted by curtailment issues because it is closer to the main power consumption areas.

VI. Real Estate

A. Rights over land to be secured

With respect to offshore and nearshore areas:

1. in accordance with the Law of the People's Republic of China on the Administration of Sea Areas (Law on the Administration of Sea Areas), the ownership of sea areas belongs to the state. To build and develop an offshore wind power project, the developer must obtain, among others, the right to use the sea areas where the project is located, represented by the Certificate of Use of Sea Areas (please refer to section III above);
2. if any uninhabited island is involved in the offshore wind power project, the developer must apply with the SOA to obtain the right of use over such uninhabited island; and
3. the developer must complete the required registration and approval procedures with the local department of the SOA in connection with the laying of submarine cables in the seabed.

With respect to onshore areas:

1. as noted in section III. above, the developer must obtain a preliminary opinion letter on the right to use the land area where the onshore facilities of the project are located, issued by the local counterpart of the Ministry of Land and Resources, and a suite of construction

permits required for construction activities on land, issued by the local counterpart of the MOHURD; and

2. the Grid Companies generally manage the permits and procedures related to the use of the onshore areas in connection with the construction of grid connection facilities and power transmission lines for which the Grid Companies are responsible.

B. Costs and risk of legal challenges

The developer must pay a fee to the Local SOA to use the sea areas and any uninhabited island in connection with the offshore wind power project. The payment standard and payment cycle of the fee is determined by the Notice on Improving the Administration on Collection of Sea Areas Use Fee and the Notice for Issuing the Measures on the Administration of Collection and Distribution of the Charges on Using Uninhabited Islands, and the Regulations on the Adjustment of Fees for the Use of Sea Areas and Uninhabited Islands.

The Ministry of Finance and the SOA set a national standard for the collection of such fee. The local counterpart of the Ministry of Finance and the Local NEA can formulate their own fee collection standard based on the national standard but adjusting it to suit the marine resources and the particular needs of the province.

If there are fishery facilities located on the site of the offshore wind power project, the developer may need to negotiate and agree an appropriate amount of compensation with the owner of these facilities on a case-by-case basis, or pay compensation based on the local compensation standards.

The right to use the sea areas is protected by law once registered with the SOA upon the issuance of the Certificate of Use of Sea Areas. Such right is issued for a specifically approved purpose of use of the sea areas that is stated on the Certificate of Use of Sea Areas. The developer cannot change that purpose of use of the sea areas without the SOA's authorisation and is responsible for protecting and utilising the sea areas reasonably in accordance with law. For example, the local People's Government is entitled to issue a warning letter and corrective orders, impose fines, confiscate illegal gains, order to cease business operations or even shut down the project, in case of a violation of the laws and regulations on the protection of the marine environment.

Additionally, during the period of use of the sea areas in accordance with the Certificate of Use of Sea Areas, the developer must not engage in basic marine surveying without approval by the competent military surveying and mapping department.

VII. Other

When planning and building offshore wind power projects in China, special consideration needs to be given to the local rules and policies in the province where the project is located.





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I. State and future of Offshore Wind Projects

Denmark has the longest history of offshore wind energy production in the world with the establishment of the first wind farm in 1991. Currently, the total capacity of the OWFs constitutes 1271 MW, which will be doubled in 2020.

Denmark's goal is to be independent of coal, oil and gas by 2050. Under the Energy Agreement of 29 June 2018, entered by Danish Parliament and Government, three large-scale OWFs of a total 2400 MW capacity will be constructed by 2030. Project Thor, one of the first of three large OWFs to be built, will be tendered in 2020, and the additional two OWFs will be tendered in 2021 and 2023. The Thor OWF will consist of 80-100 OWTGs with total capacity of 800 MW-1000 MW.

II. The Offshore Wind Promotion system

The Danish State owns the right to utilise energy from wind within the territorial waters and the EEZ. Therefore, any utilisation of such energy by an OWF developer requires a licence from the State issued by the Danish Ministry of Climate, Energy and Utilities. In Denmark, such licences can be obtained through the open-door procedure or the tender procedure.

The OWFs established through an open-door procedure can cover areas which have not been designated for future farms in the spatial plan. The project developer takes the initiative to build an OWF in a specific area by submitting an unsolicited application for a licence to carry out preliminary investigations.

The tendered OWFs cover areas elected by the State based on a screening of the areas' potential for wind energy balanced against their impact on the nature and environment.

The Danish tender process comprises the following stages:

1. a call for a tender by the Danish Energy Agency (DEA), which will include draft tender specifications and concession agreements;
2. pre-qualification process including negotiation with tenderers;

3. a final call for a tender;
4. submission of bids in the form of a fixed feed-in tariff for a defined amount of produced electricity;
5. evaluation and selection of a winner; and
6. concluding the concession agreement.

The tenderer must provide a guarantee upon signature of the concession agreement for the construction of and connection to the grid. A guarantee for decommissioning of the plant must be provided no later than 12 years after grid connection. The guarantee must be DKK 600 million (approx. EUR 80 million) from a financial institution, an insurance company or similar.

III. Public law and Regulatory Permits

A. Spatial planning at sea

In 1995, a spatial planning committee for the OWFs led by the DEA was established. The report “Future Offshore Wind Power Sites – 2025” from 2007 (updated in 2011) identified areas where 23 OWFs, each of 44 km² of total approx. 4200 MW capacity, could be built. The last planning activity was carried out in 2012 in relation to nearshore wind sites and resulted in the selection of 15 suitable areas. According to the Energy Agreement of 29 June 2018, a large-scale screening of waters which will identify locations for up to 10 GW of offshore wind capacity will be launched.

The Thor OWF, which is to be tendered in 2020, will be located in the North Sea west of Nissum Fjord at a distance of 20 km from the shore near the village of Thorsminde. The area which will be covered by the preliminary investigations conducted covers 440 km². The actual location of the other two planned OWFs has not yet been announced.

B. Regulatory permits required for the construction and operation of the offshore wind farm and the onshore grid connection

Four licences are required to establish and operate a wind farm in Denmark, namely:

1. a license to carry out preliminary investigations;
2. a licence for construction of the OWTGs;

3. a license for the utilisation of energy; and
4. a license to produce electricity (for facilities of a capacity above 25 MW).

The establishment of an OWF also requires the following EAs: a Strategic Environmental Assessment (SEA) of the plans; an EIA of the specific project onshore; an EIA of the specific project offshore and up to the first landfall in the beach zone; and assessments pursuant to the Habitats Directive (Natura 2000).

The Danish TSO, Energinet, is responsible for the construction and operation of the onshore GCS. Therefore, the developer is only required to obtain an approval for the GCS. In smaller projects, such approval can be included in the licence to establish.

C. Permitting process

Licenses can be obtained through the DEA which operates as a one-stop-shop in this matter.

1. Licence to carry out preliminary investigations.
The DEA provides a licence which is valid for one year. The purpose is to investigate the location of the OWTGs. The developer will have to send a preliminary investigation report to the DEA which may include the assessment of the project's impact on the environment.

2. Licence to establish the OWTGs
The licence will be granted after the developer sends an application with the results of the preliminary investigations, including the EIA and a detailed project description.

3. Licence for the utilisation of energy
The licence entitles the developer to exploit the wind power from the facility. It will be given when the construction of the wind farm has been completed. The purpose of the licence is to document that all the terms in the licence for construction have been satisfied. The licence is usually given for a period of 25 years with an option to extend it.

4. Licence to produce electricity
The EIA can either be carried out by the developer or by Energinet. In practice, however, the SEA, additional environmental surveys, and onshore EIA are carried out by Energinet prior to the tendering of the wind farm, and the developer will subsequently carry out only the project-specific offshore EIA before the OWF can be established.

It is possible to appeal the DEA's decisions to the Danish Energy Board of Appeal within four weeks after the licences have been granted. The licences cannot be utilised before the expiration of the deadline for complaints.

IV. Offtake issues

A. Offtake, remuneration and tariff scheme

The remuneration schemes for various energy plants are set out in the Danish Promotion of Renewable Energy Act. The Ministry of Climate, Energy and Utilities is responsible for administering the schemes.

The OWF receives a remuneration based on a fixed tariff established in the tender procedure for the electricity produced corresponding to a certain number of full-load hours after connection to the grid. Price supplements are granted as variable premium covering the difference between the market and fixed price. The sum shall not exceed a certain statutory amount. However, in some cases, developers are granted a guaranteed bonus.

If the OWF is established through an open-door procedure, the remuneration is regulated in the same manner as for onshore wind farms. The developer receives a supplement to the price at which the electricity can be sold on the market. However, currently no supplement is payable to the OWFs established under the open-door procedure and connected to the grid later than 20 February 2018.

The price supplements shall be paid for no more than 20 years from the time of the OWTGs grid connection. In addition to the price settlement, an allowance is paid for the so-called balancing costs.

The developers themselves must sell the electricity on the market. The offtake mechanism thus depends on the specific PPA and there is no generally applicable take or pay provision. However, reference is made to section V.D. concerning entitlement for compensation in connection with certain curtailments of production.

B. Consequences of a project delay

If the developer does not meet the deadline for connecting to the grid, it may incur a gradual price reduction per kWh of around DKK 0.1-0.3 paid for a certain amount of TWh for the first year of delay and a significant amount of liquidated damages in case of further delay. The liability system is usually set out in a concession agreement for the specific project.

C. Examples of actual and future tariffs

As described above, feed in tariffs for the OWFs which have been tendered are settled in each tender. Therefore, the feed in tariffs vary. Examples of tariffs from previous tenders are set out in the table below.

OWF	Tender date
Horns Rev 2	7 July 2004
Rødsand 2	7 February 2008
Anholt	30 April 2009
Horns Rev 3	6 December 2013
Kriegers Flak	22 December 2016

V. Grid and grid connection

A. Planning and construction of the grid connection system

Energinet is responsible for constructing and operating the GCS from the onshore substation to the overall transmission grid, while the offshore substation and export cables are within the scope of the tender.

B. Responsibility for the cost of the grid connection system

The developer must cover the construction costs of the onshore GCS.

C. Consequences of delays and disruptions of the grid connection system

If Energinet does not meet the deadlines and comply with conditions for grid connection of the OWF according to the terms of the tendering procedure, Energinet will be objectively liable for damages and for any consequential loss suffered by the developer.

D. Onshore grid congestions, prioritisation of renewable energy resources and compensation mechanisms

Energinet may order a reduction or a shut-down of electricity production for the sake of security of supply or for economically optimal utilisation of the system if this is necessary because of:

1. faults or maintenance work; or
2. capacity limitations in the overall GCS.

The developer is compensated by Energinet for any losses incurred as a result of reduction (except for force majeure). The loss shall be calculated based on the sales of electricity production as a price corresponding to the total value of the market price and price supplement (if the price supplement is paid) or as a price corresponding to the set market price per kWh.

According to the Danish Electricity Supply Act, electricity produced from renewable energy plants has preferential access to the grid. Thus, Energinet can only reduce or curtail the production from such plants if a reduction in electricity produced from other kinds of plants is not sufficient to maintain the technical quality and balance within the coherent electricity supply system.

Feed in tariff
DKK 0.518 per kWh (approx. EUR 0.07)
DKK 0.629 per kWh (approx. EUR 0.08)
DKK 1.051 per kWh (approx. EUR 0.14)
DKK 0.77 per kWh (approx. EUR 0.10)
DKK 0.372 per kWh (approx. EUR 0.05)

↖ *The OWFs established under the open-door procedure and connected to the grid between 1 January 2014 and 20 February 2018 receive a feed in tariff of DKK 0.25 per kWh (approx. EUR 0.033).*

VI. Real estate

A. Rights over land to be secured

The developer must negotiate with, and compensate, local landowners, if the onshore cable routing runs through their land.

Securing land between the OWF and the grid is the developer's responsibility. If a landowner does not wish to enter into an agreement, the developer can apply to the Danish Safety Technology Authority for permission to expropriate the land under the Electricity Safety Act.

No offshore land rights shall be secured for the construction and operation of the OWFs. Further, the required licences granted for construction and operation of the OWFs in Danish territorial waters, the continental shelf, or in the EEZ do not confer any ownership rights of the territories concerned to the licensee.

B. Costs and risk of legal challenges

Not relevant for offshore projects as described in section V.A.

VII. Other

A. Compensation for commercial fishermen

The developer must contact commercial fishermen in the area concerned for the purpose of negotiating potential compensation for the fishermen's documented loss of earnings pursuant to the Danish Fisheries Act. The organisation, Danish Fishermen PO, handles the compensation negotiations on behalf of its members, but it does not represent all commercial fishermen in Denmark.

B. Labour clause

For tendered nearshore wind farms or OWFs, the concession agreement will include a labour clause. Under the labour clause, the developer must ensure that salaries and employment conditions of employees are not less favourable than those established by a collective agreement entered into by the most representative social partners in Denmark within the trade or industry concerned and which apply to the entire territory of Denmark for works of the same character.

C. Social clause (creation of apprenticeships)

The concession agreement will also include a social clause under which the developer must ensure that a certain number of positions that are relevant to the construction work and subsequent on-site operation and maintenance of an OWF are filled with apprentices.



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I. State and future of Offshore Wind Projects

A. Current state of offshore wind development and projects

Even though France has the second field for development of OWFs in Europe after the United Kingdom,¹ and even though the potential of installed wind power and floating wind power is respectively estimated at 16 GW and 33 GW,² no OWF is currently operated in France.

To this day, only one offshore wind turbine produces electricity. This turbine is a floating wind turbine inaugurated in October 2017 in Saint-Nazaire (Atlantic coast). This is a 2 MW prototype that is operated in an experimental site in Le Croisic and which was installed in September 2018.

However, a clear aim of the French government is to foster the development of a local industrial capacity and national champions in relation to OWFs. Therefore, the French government has decided around 10 years ago to catch up with its neighbouring countries by launching several calls for tenders – in three rounds – to attribute OWF projects to private operators.

The first call for tenders (1st round) was launched in July 2011, and aimed to attribute to the winning bidder about 3 GW in different locations on the French Atlantic Coast with the right to get authorisation to

operate the farms and to conclude a PPA for 20 years. At the end of the tender procedure in April 2012, a total capacity of 2 GW was allocated. The consortium Electricité de France (EDF)/DONG was awarded three projects (Saint-Nazaire, Courseulles sur Mer and Fécamp, respectively in the regions of Pays de Loire and Normandy); the consortium Iberdrola/Areva was awarded one project (Saint-Brieuc, located in Brittany); and the site of Dieppe-Le Tréport (Normandy) was not awarded. The OWF of Saint-Nazaire should be the first site to enter into operation, with commissioning planned for 2022, whereas the commissioning of the other sites is planned for 2023.

The second call for tenders (2nd round), launched in March 2013, aimed to attribute 1000 MW on the sites of: (i) Dieppe-Le Tréport (Normandy); and (ii) islands of Noirmoutier and Ile d'Yeu (Pays de Loire) (500 MW each). The consortium ENGIE/EDP Renewables and Neoen Marine/ADWEN was awarded the two projects in May 2014. The works could begin in 2022 in order to operate both farms in 2023. The commissioning of the both sites is planned for 2023.

1 According to www.connaissancedesenergies.org and www.ecologique-solidaire.gouv.fr

2 According to the project of French multi annual energy plan ("Programmation pluriannuelle de l'énergie"), English version, 2019: "Regarding offshore wind: the technical potential for installed wind power is 9 0GW according to ADEME. Due to limitations related to usage competition, the potential is currently estimated at 16 GW. The technical potential for the wind turbine would be 155 GW according to ADEME, of which 33 GW would be accessible taking into account the limits related to the competition of use"

The third tender procedure (3rd round), which took the form of a competitive dialogue, was launched in April 2016 and aimed to attribute up to 600 MW in the site of Dunkirk (North Sea coast). Eight consortia were invited to submit their bids. The consortium composed of EDF Renouvelables France SAS, Innogy SE and Blauracke GmbH was finally awarded the project in June 2019. The commissioning of this site is planned for 2026.

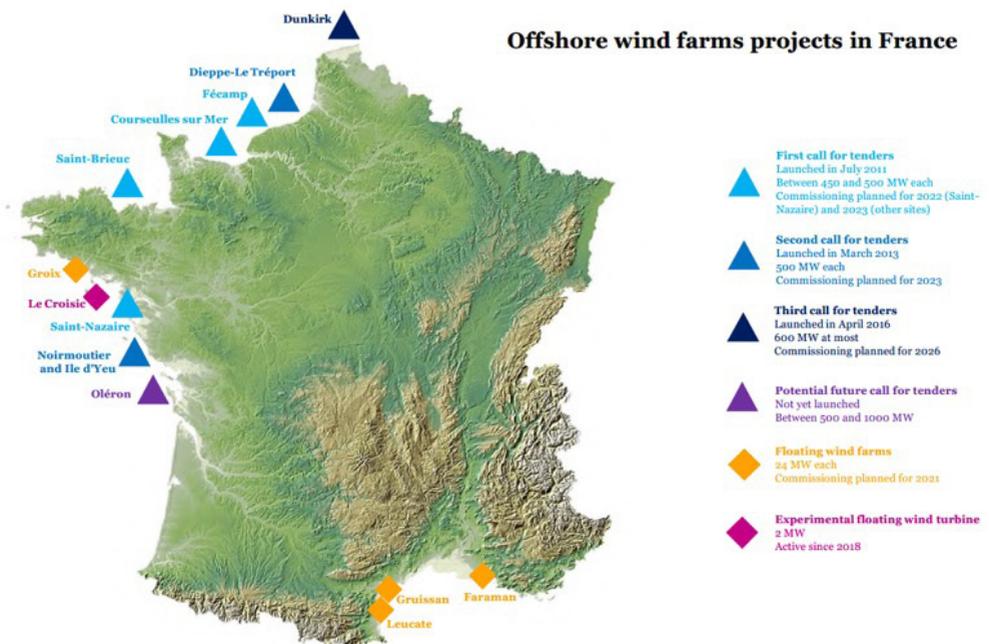
In addition, the French Government announced in November 2016 that a fourth tender procedure would be launched to build an OWF near Oléron island (French Atlantic coast), but no tender has been published to date. This project does not appear to have

been abandoned, as the French government claimed in last June that the promised tender will be launched to award a power capacity of 500 or 1000 MW.

Therefore, to date, a total capacity of around 3.5 GW has been awarded to different operators on seven sites.

Concerning floating wind farms, four pilot farms projects located in Mediterranean and Bretagne have been selected by the French government in 2016. They will have a capacity of 24 MW each and should be in operation in 2021.³

All these projects are summarised in the graphik below:



³ According to www.ecologie-solidaire.gouv.fr

B. Expectations as to future developments in the market until 2030 and beyond

Under French law, the national energy policy aims to push up the share of renewable energies to 23 % of the gross final consumption of energy in 2020 and to 33 % in 2030. In order to achieve these goals, the share of renewable energies should represent in 2030 at least 40 % of electricity production, 38 % of final consumption of heat, 15 % of final consumption of fuel and 10 % of gas consumption.⁴

A multi-annual energy plan (MAEP – in French, the programmation pluriannuelle de l'énergie – PPE), establishes the priorities for government action regarding energy policy for the metropolitan part of the country for the next decade, shared in two 5-year periods.⁵

The MAEP project elaborated in January 2019 stipulates a calendar of call for tenders for the award of offshore wind capacities.⁶

This calendar states that 1000 MW will be attributed in 2020 (projects in the English Channel and North Sea, with a maximum of 65 Euro per MWh), between 1000 and 1500 MW will be attributed in 2023 or 2024 (with a maximum of 60 Euro per MWh), and one project of 500 MW will be attributed per year as of 2025 (fixed or floating OWF, depending on prices and fields).

The final version of the MAEP has to be adopted by a decree, which is expected early in 2020.

Nevertheless, a recent law - adopted after the drafting of the MAEP - is much more ambitious: the law relating to energy and climate dated November 2019⁷ added a specific goal for electricity produced by OWF in the Energy Code, which is to “*foster production of electricity coming from offshore wind plants, in order to progressively push up the pace of award of installed capacities for the production coming from tenders to 1 gigawatt per year by 2024*”.⁸

Thus, from now on up to 2024, the Government will launch calls for tenders to award around 3 GW, and from 2024, 1 GW will be awarded each year.

The MAEP will be updated to become consistent with these new goals, but also to reflect recent evolutions of market prices, as the price offered by the winning candidate of the Dunkirk tender is already lower than prices estimated for future tenders in the MAEP.

4 Article L.100-4 of the Energy Code

5 According to article L.141-1 and following of the Energy Code. There are also specific MAEPs for French non-metropolitan areas

6 An English version of the synthesis of the MAEP project is available online: <https://www.ecologique-solidaire.gouv.fr/sites/default/files/PPE-Executive%20summary.pdf>

7 Law n° 2019-1147 dated 8 November 2019 relating to energy and climate

8 Article L.100-4 4^{ter} of the Energy Code

Finally, as the next OWF should be implemented in Normandy, the French State launched in November 2019 a public debate to define more precisely more zones allowing the development of future OWF projects in this area, the environmental compliance requirements for the projects and the modalities for the projects' connection to the national onshore grid.⁹



II. The Offshore Wind Promotion system

A. Regulatory framework

The regulatory framework is defined by a set of laws and decrees, giving a strong role to the French Energy Regulatory Authority (in French: the *Commission de régulation de l'énergie* – CRE).

The newest laws impacting the development of OWF are the following.

Law n°2015-992 dated 17 August 2015 relating to energy transition for green growth defines the framework of the French energy policy and sets out its goals in terms of production and consumption of renewable energies (see section I. above), and creates the MAEP mechanism evoked above.

Law n°2018-727 dated 10 August 2018 for a State serving a society of trust takes into account the lessons learned from the first set of awarded OWF projects (the development of which was hindered by insufficient preliminary studies and inadequate permitting and *ultra vires* procedures), and simplifies the permitting process and increases the role of the Minister in charge of energy – therefore unburdening the operators of some tasks. More precisely, it states that the Minister in charge of energy requests the French national public debate commission (“*Commission nationale du débat public*”) to organise the participation of the public before the award of the project. It also allows the winning bidder of a tender

⁹ www.ecologie-solidaire.gouv.fr

procedure to adapt its project to take into account the technical progress that may have appeared since the submission of its offer.

Finally, as mentioned above, law n°2019-1147 dated 8 November 2019 relating to energy and climate, increases significantly France's goals in terms of electricity produced by the OWF.

These laws and other applicable provisions are mainly gathered in three different codes, which are the Energy Code, the Environment Code and the Code of public entities' property.

CRE is a main player in the OWF sector and plays a strong role in setting the agenda for the sector and its regulatory framework as it helps the Government to, among other things, prepare the competitive procedures and to attribute the OWF projects.

B. Scheme in relation to exclusivity to construct, own and operate a project, as well as to receive feed in revenues

French OWF projects can, in theory, be realised under two different schemes.

In theory, any operator is entitled to apply for the required authorisations (see section III. below) and, once obtained, to operate any OWF. Whereas all regularly authorised OWF projects allowed, in theory, in the past, the operators to conclude a PPA with EDF under which: (i) EDF was obliged to buy the energy produced; and (ii) according to a subsidised, fixed feed-in tariff scheme (as onshore wind farms), only a very limited

number of offshore wind projects – some floating offshore wind installations which won a specific French or European call for tenders – are still eligible to the fixed feed-in tariff scheme.

These fixed tariffs were insufficient to cover costs and risks for most OWF projects, in particular as regards grid connection costs. As a result, no projects have been undertaken under this regime, which remains to date essentially a theoretical possibility.

In practice, French OWF projects are nowadays awarded and developed under a specific public tendering scheme, which allows it *inter alia* to derogate from the fixed feed in tariff regime and to match the specific cost structure of a given OWF project, but also to ease considerably the permitting process and timeline. If the production capacities in the OWF sector are insufficient to achieve the goals fixed in the MAEP – which is currently the case –, the Government can organise a call for tender for the building and operation of an OWF.¹⁰

The successful bidder has the right to get an authorisation to operate the OWF and to conclude a PPA or an additional remuneration contract with EDF. However, he has to obtain the authorisations relating to environment protection and occupation of the maritime public domain (see section III.B. below).

The framework of public tender procedures is as follows:

¹⁰ Article L.311-10 of the Energy Code

Whereas the call for tenders was the sole call for competition procedure that can be used to attribute the building and operation of OWF, another procedure, called competitive dialogue, has existed since 2016.¹¹

Firstly, in a call for tenders,¹² the Minister in charge of energy establishes the specifications (“cahier des charges”), in which it mentions, amongst other information: (i) the maximum power sought and the geographic area; (ii) a description of the installations, including their technical features, duration and financial modalities of the PPA or additional remuneration contract; and (iii) the modalities and regulations for the call for tenders, including the bid award criteria. Risk-sharing provisions may be granted under the tender framework as a further incentive package, in particular as regards a change in law or *force majeure* risks. The tender specifications are submitted to the CRE’s opinion.

The Minister in charge of energy publishes a call for competition in the Official Journal of the European Union.

This is a formal, rigid process which offers in practice very little room for negotiation and implies that candidates submit a technical and financial offer (price) based on the tender specifications and contractual documentation. At the end of the procedure, and after the offers have been analysed by the CRE, the Minister in charge of energy chooses the most economically

advantageous tender without negotiation on the basis of objective criteria which have previously been communicated to the candidates.

A call for tender was used to attribute the 1st and 2nd sets of French OWF projects respectively launched in 2011 and 2013. In these two tenders, the evaluation criteria were: (i) electricity purchase price (40 %); (ii) industrial and social quality of the project (40 %); and (iii) respect for the marine environment and existing activities (20 %).

Secondly, the competitive dialogue is a smoother, more flexible procedure under which the candidates participate in the establishment of the specifications drafted by the Minister in charge of energy. More specifically, the Minister elaborates a first draft of Intention to Tender (“ITT”) – containing the main information such as the purpose of the competitive dialogue, the calendar of the procedure, the expected technical and financial capacities of the candidates, the award criteria – and submits it to the CRE. The government thereafter publishes a call for competition in the Official Journal of the European Union. Then, it prequalifies candidates that will be able to participate in the dialogue itself on the basis of their technical and financial capacities. The Minister in charge of energy discusses with the prequalified candidates in order to define or develop solutions to meet its needs and prepare the detailed tender specifications. Candidates are invited to

11 Ordinance n°2016-1059 dated 3 August 2016 relating to electricity production coming from renewable energies and decree n°2016-1129 dated 17 August 2016 relating to competitive dialogue process for the electricity production installations

12 Article R.3111-1 and following of the Energy Code

submit their bids on the final version of specifications drafted by the Minister, which contains detailed information, including the detailed award criteria. After the offers have been analysed by the CRE, the Minister in charge of energy selects the winning bidder(s) on the basis of these criteria.¹³

This procedure aims to reduce costs and secure the projects, because the dialogue should help the candidates to adapt their proposals, and the studies made upstream for the award of the projects help them to take into account environmental risks with a higher degree of accuracy than before.

A competitive dialogue has also been used to award in early 2019 the Dunkirk OWF project (3rd set of French OWF projects), launched in 2016.

In this tender, the evaluation criteria were electricity purchase price and strength of the financial plan (80 %) and inclusion of environmental stakes and optimisation of the area (20 %).

In upcoming public tenders (classic calls for tender as well as competitive dialogues), the price criterion's weight will have to represent more than half of the whole criteria's weight.¹⁴

C. Incentives for investments

For offshore wind installations implemented through a tender process, the producer/operator benefits from an advantageous system for selling the electricity it produces. He will indeed sell the electricity at a fixed price or a fixed reference tariff that it would have determined in its offer during the tender process (see section IV.A. below for more information on price fixing modalities). Besides, the producer/operator is protected in case of project delays through the possibility of postponing the deadline for commissioning, the PPA or additional remuneration contract (see section IV.B. below), notably in case of "imprévision", or to get an indemnification from the electricity transport grid operator in case of delay in the grid connection of the installation (see section IV.D. below).

A very limited number of categories of installations generating renewable energies, including some floating wind installations, can also benefit from the feed-in tariff without it being implemented through a tender process (see section 2.2. above).

The producers of all the other OWF installations have to sell the electricity produced on the market without any bonus. Consequently, in practice, no OWF was implemented outside of a public tender's framework.

¹³ Article R.311-25-1 and following of the Energy Code

¹⁴ Article L.311-10-1 of the Energy Code

In addition, the OWF framework was recently clarified and simplified. The permitting process has been eased, merged and simplified and the ways to challenge them via *ultra vires* challenges have been limited (see section II.B. above).

On the contrary, the successful bidder can be financially sanctioned if it does not implement the project without a valid reason – in particular if it violates some provisions of the Energy Code or stipulations of the tender specifications.¹⁵ The amount of the penalty depends on the size/installed capacity of the installation and on the seriousness of the breach, within a ceiling of 500 Euro per kW.

D. Timeframe for the realisation of the project

As a principle, the delay to commission the offshore wind installation is generally set in the specifications of each tender.¹⁶

Under the French OWFs first call for tenders' specifications, the project holder has to commission: (i) at least 20 % of total power of the installation at the latest six years after having been chosen to implement the project; at least 50 % at the latest seven years after the same date; and (iii) the entire OWF installations at the latest eight years after the same date.

Under the second call for tenders' specifications, the project holder has to commission: (i) at least 40 % of total power of the installation at the latest 87 months after having been chosen to implement the project; (ii) at least 90 % at the latest 99 months after the same date; and (iii) the entire OWF installations at the latest 111 months after the same date.

Under the third call for tenders' specifications, the project holder has to commission the entire OWF installation no later than at the latest date between: (i) 84 months after the Minister in charge of energy has notified to the prospective candidate its designation; and (ii) 12 months after the deadline for national operator of the electricity transport grid (in French: *Réseau de transport d'électricité* – RTE) to make connection facilities available – which is fixed at 42 months after the latest date between the delivery of the authorisation to use the public domain relating to undersea grid connection facilities and the delivery of the environmental authorisation needed to implement undersea grid connection facilities.

¹⁵ Article L.311-15 of the Energy Code

¹⁶ Article R.311-13 of the Energy Code

III. Public law and Regulatory Permits

A. Regulatory permits required for the construction and operation of the offshore wind farm and the onshore grid connection

The construction and operation of an OWF requires obtaining three main authorisations: namely a licence to operate an electricity production unit; an authorisation to use the maritime public domain; and an environmental authorisation. No building permit is required in opposition to onshore wind farms.¹⁷

The RTE has to obtain separately its own permits and authorisations / expropriation rights for the completion of its grid connection works (see section V. below).

B. Permitting process

Each wind farm shall be built and operated on the basis of the aforesaid three main authorisations, which have been simplified over time.

Firstly, the producer/operator has to obtain a *licence to operate an electricity production unit* (regulatory licence). His licence is granted by the Minister in charge of energy at the end of the tender to the successful bidder. Moreover, when the installation is implemented through a public tender and its installed capacity

is less or equal to 1 GW – i.e., for all the current projects in France and also for the foreseeable future projects –, this licence is deemed to be obtained.¹⁸

In contrast, the successful bidder is responsible for obtaining the two other authorisations.

Secondly, the producer/operator has to obtain an *authorisation to use the maritime public domain*, by means of the conclusion of a lease of the seabed with the State (“concession d’utilisation du domaine public maritime”).¹⁹ This authorisation is granted by the Prefect, after an administrative investigation, and aims to define technical prescriptions of the occupation and fees due by the operator. It is subject to: (i) an EA;²⁰ and (ii) a public inquiry.²¹ The authorisation’s duration cannot exceed 40 years.

If, in the future, an OWF were to be awarded outside of the French territorial waters, but inside the French EEZ, the producer would have to obtain a “unique authorisation” in accordance with provisions of the ordinance n°2016-1687 dated 8 December 2016 relating to maritime spaces which are under French Republic’s sovereignty or jurisdiction.²²

Thirdly, the producer/operator has to obtain an *environmental authorisation*, which is

¹⁷ Articles L.421-5 and R.421-8-1 of the Code of urban planning

¹⁸ Article R.311-2 10° of the Energy Code, added by decree n°2018-1204 dated 21 December 2018 relating to authorisations procedures of offshore renewable energy installations

¹⁹ Articles L.2124-3 and R.2124-1 and following of the Code of public entities’ property

²⁰ Articles L.122-1 and R.122-2 of the Environment Code

²¹ Article L.2124-3 of the Code of public entities’ property

²² Articles 12 and 20 of the ordinance

known as the “unique environmental authorisation”, as it actually gathers in one single authorisation several licences and authorisations pertaining to several distinct legislations and regulations.²³ This authorisation is also granted by the Prefect. According to a recent law of 2018 which eases the feasibility of the OWF projects,²⁴ all or part of the impact study can be undertaken by the Minister in charge of energy. This will help the candidates to better adjust their offers and pricing to the reality of the project and to allow all candidates to submit bids based on similar information.

According to the same law, these three authorisations can define flexible/variable features for the concerned projects, as regards the number of wind turbines concerned, their size and installed capacity, or their organisation in the dedicated area.²⁵ Thus, the projects can be modified after the delivery of the authorisations without requesting any new authorisation, for example to adjust them to new technologies.

Besides, the producer/operator’s tasks have also been mitigated as it is no more in charge of the organisation of the participation of the public to the OWF projects.²⁶ The Minister in charge of energy is indeed responsible for requesting the intervention of the French national public debate commission before the public tender. This commission

determines the modalities of the participation of the public to the decision process of the public tender. The public is consulted, among other things, on the location of the project. The consultation of the public upstream of the tender may reduce the risk of challenge of the projects before the courts.

Finally, the administration can repeal or remove a decision creating rights for its beneficiary – such as the abovementioned authorisations – within four months after their award if it appears that the decision to award such authorisations was illegal.

In practice, the most important risk is that of a challenge of one or several authorisations by environmental associations. The authorisations can, in principle, be challenged before the administrative judge within two months (or more if an administrative appeal has been done) of the notification of the decision to its beneficiary.

In such a case, the authorisation will be final and binding only once all actions will be served – i.e., in the past, after that the first instance’s judge, the judge of appeal and the highest court have made decisions and, now, “only” after the administrative court of appeal of Nantes and the highest court (the Council of State) have ruled.²⁷

23 Articles 181-1 and following, and R.181-54-1 and following of the Environment Code

24 Law n°2018-727 dated 10 August 2018 for a State serving a society of trust and decree n°2018-1204 dated 21 December 2018 relating to authorisations procedures of offshore renewable energy installations

25 Article L.181-28-1 of the Environmental Code. This mechanism is called “enveloppe permit” (“permis enveloppe” in French)

26 Article L.121-8-1 of the Environmental Code

27 Article R.311-4 of the Code of administrative justice

IV. Offtake issues

A. Offtake, remuneration and tariff scheme

The income of any OWF operator chosen through a public tender (classic call for tenders as well as competitive dialogue) is highly secured through a PPA or CfD concluded with the EDF, under which the latter is obliged to buy the electricity produced at a fixed price or to compensate the spread between the effective market price and the fixed reference tariff. Therefore, the tariff scheme is not necessarily a take or pay structure, but there is no risk of demand for the producer, as in a take or pay structure.

Two different remuneration systems coexist since 2015, namely the bespoke PPA/feed-in tariff scheme (“obligation d’achat”) and the CfD/feed-in premium scheme (“complément de remuneration”). Even though both are still coexisting and can be used in the tender procedure, depending on the choice made in the tender specifications,²⁸ the competitive dialogue seems to be the only procedure that will be used to attribute the future OWF projects.

Under the feed-in tariff scheme, which is the oldest system, the operator selected through the tender process automatically benefits from a guarantee of purchase of the electricity, through a framework PPA entered into with EDF.²⁹ The electricity is directly sold to EDF at a fixed price.

Bidders propose an electricity price in their bids, in accordance with a capped price fixed by the tendering authority.

The feed-in tariff scheme was used in the first two sets of French OWF (call for tenders one and two).

Under the first and second tenders, PPAs are concluded for a period of 20 years starting at the completion of each tranche. The electricity produced by each tranche will only be purchased as of the full completion of each tranche.

The electricity purchase price was initially divided in two components: (i) the OWF component, which is variable in connection with the actual level of electricity produced on the wind farm (price per MWh increasing and decreasing in accordance with defined tranches of yearly full power capacity); and (ii) the grid connection component, which was a fixed price aimed at recovering the actual completion costs invoiced by the RTE (including interests on capex). However, the grid connection component is now in principle paid by the RTE (see section V. below). Besides, the grid connection component of the successful bidders’ prices of rounds one and two was removed by the law dated 10 August 2018, so that grid connection costs are actually finally borne by the RTE for all OWF projects.

For the offshore wind installations which would not be implemented through a tender

²⁸ Article L.311-12 of the Energy Code

²⁹ Article L.311-13 of the Energy Code

procedure (*guichet ouvert*), only the floating installations awarded by specific French or European calls for proposals are eligible to the general, fixed price feed-in tariff scheme.³⁰ Actually, this scheme is more generally only applicable to some installations generating renewable energies that are less mature and/or of a weak power.

Under the CfD/feed-in premium scheme, created by the law dated 17 August 2015 relating to energy transition for green growth, the electricity produced by the OWF is sold by the operator on the electricity market at the market price, but the producer gets compensation depending on the reference tariff (instead of a price) that it fixed in its bid. The producer's income gained by the sale of its electricity on the market is completed by a bonus calculated as the difference between the market price and the reference tariff.

As under the CfD/feed-in-tariff scheme, bidders propose reference tariffs in accordance with a capped tariff defined by the tendering authority, and then conclude a contract with EDF – called a feed-in premium contract (*“contrat de complément de rémunération”*)³¹

The CfD/feed-in premium scheme has been used in the Dunkirk OWF project.

Under this tender's specifications, the CfD/feed-in premium contract lasts 20 years from the latest of these two dates: (i) the effective

completion date of the entire installation; and (ii) 12 months after the longstop date imposed on RTE to make grid connection facilities available for the OWF.

Both PPA and CfD contracts are standard documents with limited risk transfer, and little if any negotiation margins for bidders. Templates are drafted by EDF, approved by the Minister in charge of energy and attached to the tender specifications, without the possibility of a mark-up.

They have to be executed within six months from the request of the successful bidder.

They are both attached to the offshore wind installation and stay in force during the installations life, within the duration stated in the tender specifications.³²

Among the offshore wind installations, only those implemented through a tender process are eligible to a CfD. In other words, no offshore wind installations implemented outside a tender procedure's scope can benefit from an additional remuneration.

B. Consequences of a project delay

Under the first and second calls for tenders, PPAs are concluded for a period of 20 years starting at the completion of each tranche.

However, the duration of the PPAs may be reduced in case of delay due to risk events borne by the operator, up to 50 % of the delay's duration, or postponed in a number

³⁰ Articles L.314-1 3° and D.314-5 of the Energy Code

³¹ Article L.311-13-2 of the Energy Code

³² Articles R.311-27 and R.311-27-1 of the Energy Code

of instances as a mitigate for shared risk events. It can be postponed before commissioning, in case of a grid connection taking longer than six years after the award of the projects claim against an administrative authorisation and judicial proceedings exceeding 54 months, administrative proceedings in respect of the authorisation to use the maritime public domain and other environmental authorisations exceeding six months, or in case of “imprévision” events (i.e hardship/unforeseen events). It can also be postponed, after commissioning, in case of “imprévision” or unavailability of the grid system.

Under the third tender (Dunkirk OWF) procedure, the duration of the CfD is reduced if the deadline for commissioning is not respected. It is reduced by the number of days between the effective date of commissioning and the contractual deadline for commissioning.

Before commissioning, the duration of the CfD can be extended, under certain circumstances, in a number of instances. These instances are that of: (i) a delay in the grid connection facilities’ commissioning which cannot be indemnified according to the specifications (on this indemnification process, see section V. below); (ii) a claim against an administrative authorisation; (iii) the delayed delivery of the authorisation to use the public domain – i.e more than 12 months after the request; (iv) the late

delivery of the environmental authorisation – i.e more than 18 months after the request; (v) a pending claim against the decision of the Minister in charge of energy awarding the project to the successful bidder or EU Commission decision on the compatibility of the tender with the domestic market, whereas claims against administrative authorisations are served; or (vi) the recognition by the Government of a ground for an excusable event/exemption of liability.

The CfD can also be postponed, after commissioning, for an “imprévision” event.

The deadline for commissioning can also be postponed under the same circumstances.

C. Examples of actual and future tariffs

As explained above, tariffs are fixed at the end of the tendering procedures, depending on tariffs offered by the candidates in accordance with the specifications of the tender.

Concerning rounds 1 (Saint-Nazaire, Courseulles-sur-mer, Fécamp and Saint-Brieuc) and 2 (Iles d’Yeu et de Noirmoutier, and Dieppe-Le Tréport) of the calls for tenders, tariffs were fixed at around 200 Euro per MWh.

However, many actions have been brought against administrative authorisations and therefore have considerably delayed most

of those projects, so that none of those OWF has been fully completed to date, which results in no offshore wind installation granted under these tenders being yet operational. Taking into account the important change in market prices and conditions occurred since the initial launch of the first two calls for tenders, the French State has decided in 2018 to renegotiate the prices offered to the winning bidders of the 1st and 2nd calls for tenders for French OWF, through a specific law dated August 2018, of which some provisions were voted for this specific purpose.³³ This has allowed a cut in purchase tariffs by 30 %³⁴ and is now fixed between 135 and 155 Euro per MWh for the projects of round 1, and between 131 and 137 Euro per MWh for the projects of round 2.³⁵

In July 2019, the European Commission approved support of the French State for these six OWFs, considering that this support is in line with EU State aid rules.³⁶

Concerning the third call for tender (Dunkirk OWF), candidates have offered much lower prices. The reference tariffs fixed in their bids varied between 44 and 60.95 Euro per MWh, with an average at 51.02 Euro per MWh, and the successful bidder offered 44 Euro per MWh.³⁷

V. Grid and grid connection

A. Legal framework for the connection to the onshore grid and the establishment of the grid connection

Grid connection is implemented and operated by RTE which has, in practice, a monopoly on the electricity transport network in France.

RTE is involved upstream of the public tenders to identify the capacity of the grids. It is in charge of the management and the global project ownership of the farms' connection and the engineering of the submarine connections, and also finances costs for the OWF implemented through public tenders. The costs for developing and building the OWF offshore and onshore grid connections is included in RTE's regulated asset base financing scheme.

B. Planning and construction of the grid connection system

RTE is responsible for undertaking the works necessary for the grid connection (including permitting), as well as their operation and maintenance, from the delivery point.

RTE needs to obtain its own authorisations for the completion of its works. It also has to get an authorisation to use the maritime

33 Article 58 of Law n°2018-727 dated 10 August 2018, allowing the State to ask successful bidders which do not have concluded a PPA before 11 August 2018 to propose an improved offer

34 According to the Ministry of Energy (www.ecologique-solidaire.gouv.fr)

35 According to the European Commission (https://ec.europa.eu/competition/state_aid/cases/1/201933/269222_2088484_174_2.pdf)

36 https://ec.europa.eu/commission/presscorner/detail/en/IP_19_4749

37 CRE, Synthesis report of the competitive dialogue n°1/2016 on offshore wind installations in an area off Dunkirk's coast (<https://www.cre.fr/>, in French)

public domain³⁸ and an environmental authorisation.³⁹

In addition, RTE concludes a connection contract with the producer/operator before the commissioning of the OWF, on the basis of a template approved by the CRE.⁴⁰ This contract defines the point of connection, the features and performances of the installation and the technical solution chosen for this installation. For instance, the CRE has recently approved the specific connection conditions of the OWF of the first and second public tenders.⁴¹

C. Responsibility for the cost of the grid connection system

Before 1 January 2018, as for all the transport grid connections, connection costs were taken in charge by the OWF producer and ultimately refunded through France's general electricity public service fund (in French: *contribution au service public de l'électricité* – CSPE), which is paid by final users through their electricity bills.

A law dated 30 December 2017 has modified this rule for the OWF projects implemented through a public tender.⁴² According to article L.342-7 of the Energy Code, RTE shall, from now on, assume all costs for the connection of the OWF, in accordance with the technical conditions stated by the call for tender's specifications, including

abandonment costs if the project is cancelled – except where due to the producer's default.⁴³ This provision applies for tendering procedures for which a tender notice was published after 1st January 2016.

Nevertheless, the law dated 10 August 2018 has equally changed the rules for OWF launched under the previous, first two calls for tenders. Under article 58 of this law, RTE shall bear the connection costs in conditions similar to that applicable for the more recent tenders. The grid connection component of the purchase price stated in the first and second tenders was therefore removed.

As a result, RTE currently bears the grid connection costs for all of the OWF projects implemented through a public tender. Such costs are funded through RTE's regulated asset base regime, i.e., the general tariff for the use of electric grids (in French: *tarif d'utilisation des réseaux électriques* – TURPE) which also happens to be paid by the final users, through an incentive regulation mechanism aiming to control investment costs. The TURPE is regulated by the CRE which checks that it only covers RTE's expenses that an "effective" network operator would have been exposed to in the same conditions.

38 Articles L.2124-1 and R.2124-1 of the Code of public entities' property

39 Articles 181-1 and following, and R.181-54-1 and following of the Environment Code

40 Article L.342-4 of the Energy Code

41 Deliberation of the CRE n°2018-227 dated 8 November 2018

42 Law n°2017-1839 dated 30 December 2017 ending research and oils exploitation and relating to diverse provisions on energy and environment

43 For example, under the third public tender, the amount of the indemnification in case of producer's default is a fixed amount going from 15 to 75 million Euro, depending on the moment of the withdrawal of the project

D. Consequences of delays and disruptions of the grid connection system

The producer/operator of the OWF is protected against the consequences of delays as well as disruptions of the GCS by the transport network operator.

In case of delays in the GCS, for the first and second public tenders, the successful bidder is entitled to receive compensation for its prejudice resulting from a delay in grid connection. The compensation paid by RTE covers the financing costs and extra costs, and extra costs of design, development and implementation of the production installation.⁴⁴

For the third public tender (Dunkirk OWF) and the following ones, RTE shall also pay compensation to the producer/operator for its losses incurred as a result of a delay in the completion of the grid connection, provided that such delay is not caused by force majeure or by an event attributable to the producers and impacting the connection works.⁴⁵ In principle, the producer receives a monthly prepayment of 80 % of its financial loss corresponding to the electricity that could not have been injected in the grid, but still supports a deductible corresponding to 10 % of its loss. However, the specific modalities of the compensation stated in each tender specification, if any, shall prevail on these general provisions.

In case of disruptions of the GCS, as far as the first and the second public tenders are concerned, the producer can subscribe to an additional service consisting in the repair of the grid in a certain timeframe, failing which RTE shall pay a penalty to the producer. The risk of grid malfunction during the operation is also mitigated through an extension of the duration of the PPA for a duration equivalent to the unavailability period.

For the third public tender and the upcoming ones, the producer is better protected as RTE has to pay compensation in case of damage or dysfunction of offshore production installations' connection facilities lasting more than a fixed number of days (depending on the moment of the disruption).⁴⁶ As in case of delay, the producer shall receive from RTE a monthly prepayment corresponding to 80 % of its financial loss, depending on the number of days during which the connection facilities were not available, but still supports a deductible amount of 10 %. However, the modalities of the compensation stated in such case, if any, by the concerned tender specifications shall prevail on these general provisions.

⁴⁴ Article R.342-4-10 of the Energy Code

⁴⁵ Articles L.342-3 and D.342-4-12 of the Energy Code

⁴⁶ Articles L.342-7-1 and D.342-4-13 of the Energy Code

E. Onshore grid congestions, prioritisation of renewable energy resources and compensation mechanisms

Such risk can theoretically materialise, but the principles set out in clause V.D. above in case of disruptions of the GCS, which allocate such risks to RTE (save for the 10 % deductible on losses mentioned above), shall apply.

I. Real estate

A. Rights over land to be secured

As mentioned above, the producer/operator's rights over offshore land are secured through a lease of the seabed concluded with the State, allowing it to use the maritime public domain (see clause III. above).

On the contrary, rights over onshore and nearshore land are given to RTE. Therefore, RTE itself manages the securing of these rights.

B. Costs and risk of legal challenges

There are high risks that the rights of use of the public domain are challenged before the courts. The authorisation to use the maritime public domain is indeed one of the authorisations required for the projects and there is a regular habit for environmental associations to challenge such authorisations, so the risks of delays due to the occurrence of this scenario are substantial (even though recent legislative and case law evolutions have limited the impact and likelihood of occurrence of such risks).

Therefore, in practice, projects do not achieve financial close until all outstanding claims/ultra vires challenges are completely and finally settled.

VII. Other

When the first tender procedure was launched in 2011, the French regulatory framework and OWF policy was clearly unfit for a successful implementation of OWF. In particular: (i) insufficient preliminary studies had been performed by the public sector on the concerned projects, leaving them to be done by the successful bidder after bid award; and (ii) the permitting process had not been sufficiently adapted to match the specifics of OWF projects and imposed the winning bidder to obtain a number of various administrative authorisations, some of them requiring several years of processing, in particular insofar as most of them indirectly required the prior completion of preliminary technical and impact studies or consultations of the public before their award. These multiple authorisations have in turn been challenged by numerous environmental associations before several distinct courts. Therefore, a wide and sparse judicial fight took place for about 10 years and completely crippled the projects. This explains to a large extent why no French OWF (except one small floating wind installation) has been commissioned at the day of printing of this document.

Since then, the situation has considerably evolved, in a positive sense, and the current regulatory framework for the OWF has improved a lot, through several legislative and regulatory reforms which have brought substantial legal clarifications and simplifications. The number of authorisations needed has significantly decreased, a significant portion of the preliminary studies are now undertaken by the State ahead and before the launch of the tender procedures, and all litigation concerning the OWF has been centralised and unified within a single specialised court – the administrative court of Nantes – which rules at both first and last instance, which allows to divide by three or four of the timeframe for settling legal challenges. Besides, the French government has planned to launch a series of important public tenders in the coming months and years to achieve its green energy ambitions – which it has very recently considerably heightened, which will allow for a steady growth in terms of quantity of electricity produced by OWF.



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I. State and Future of Offshore Wind Projects

A. Current state of offshore wind development and projects

During the first six months in 2019, the German power market hit a new record: for the first time on- and offshore wind energy were the largest energy sources in Germany followed by brown coal, nuclear power, coal, solar, and natural gas. The net renewable energy production actually coming out of the socket is ca. 47 % and ca. 25 % generated by wind (20.8 by onshore wind and ca. 4.3 % by offshore wind) with a peak at 56.9 %.¹ Offshore wind power production from January to the end of September 2019 amounted to approximately 17 TWh – an increase by 31 % from the corresponding period in 2018.²

Despite Germany being the origin of the *Energiewende* and despite its position at the forefront of the renewable energy production from offshore wind, the offshore wind market in Germany lost momentum during 2018 and the number of newly commissioned offshore wind turbines decreased.

At the end of the first half year in 2019, a total of 1,351 offshore wind turbines with a capacity of 6,658 MW were connected to the grid.

In 2018, OWTGs with a capacity of 970 MW were installed offshore, compared to 1,250 MW in 2017. In the first half of 2019, OWTGs with a capacity of 252 MW were installed and put into operation. As per end of July 2019, four offshore wind projects with a total capacity of 679 MW are under construction.³ Ten further offshore wind projects with 3,100 MW in total are scheduled for realisation and completion until the end of 2025 and have received capacity and Renewable Energies Act funding awards,⁴ however, with final investment decisions still pending.⁵

Stakeholders argue that the current political environment is slowing down the pace of the offshore wind market in Germany and propose that the lawmaker improves the political framework.

The political commitment of the current Federal Government foresees to achieve a 65 % share of renewables in the power production by 2030. At the same time, the – capped – target for offshore wind is set at 6.5 GW by 2020 and 15 GW by 2030.

1 Fraunhofer ISE, Stromerzeugung in Deutschland im ersten Halbjahr 2019, available at: https://www.ise.fraunhofer.de/content/dam/ise/de/documents/publications/studies/daten-zu-erneuerbaren-energien/ISE_Stromerzeugung_2019_Halbjahr.pdf

2 Offshore-Wind: Stromproduktion steigt um 30 Prozent, available at:

<https://www.erneuerbareenergien.de/offshore-wind-stromproduktion-steigt-um-30-prozent>

3 Status des Offshore-Windenergieausbaus in Deutschland, Erstes Halbjahr 2019, Deutsche Windguard, page 3, available at:

<https://www.windguard.de/statistik-1-halbjahr-2019.html>

4 Results of the April 2017 and April 2018 auctions available at: https://www.bundesnetzagentur.de/DE/Sachgebiete/ElektrizitaetundGas/Unternehmen_Institutionen/Ausschreibungen/Offshore/offshore-node.html

5 Status des Offshore-Windenergieausbaus in Deutschland, Erstes Halbjahr 2019, Deutsche Windguard, page 8

Stakeholders across the board argue that the offshore sector needs to reach an installed capacity of 20 GW in 2030 and 30 GW in 2035 in order to realistically achieve the 65 % goal.

The next auctions for offshore wind are scheduled for 2021-2024 with a yearly award of 900 MW and 600 MW in 2025 and with scheduled commissioning five years after the award.

B. Expectations as to future developments in the market until 2030 and beyond

Offshore wind development has reached the interim expansion cap of 6.5 GW which was targeted for 2020 ahead of time.

The medium term forecast for the future development of renewable energy from offshore wind and the corresponding business cases is determined by the currently applicable expansion cap of 15 GW targeted for 2030 and the Offshore Wind Act which aims at increasing the total installed capacity

of the OWFs to 15 GW by 2030 starting in 2021, which means a yearly capacity allocated by auctions of 900 MW and 600 in 2025.

Market participants demand an increase of the development target/cap, some to 20 GW for 2030, and others to 35 GW in 2035.

However, the extent to which, for example, the implementation of the Paris Agreement, the adoption of the German “Climate action Plan 2050” by the German government or the implementation of the coalition agreement of the governing parties will result in specific legal measures which affect the statutory extension plan/cap remains to be seen.

Nonetheless, in anticipation of possible legal amendments, the BSH has considered scenarios in their first Site Development Plan under the central model which are based on an increased extension of offshore wind until 2030/2035.



II. The Offshore Wind Promotion system

A. Regulatory framework

Construction and operation of offshore installations (OWTGs, transformer stations, cables, GCSs) in the German EEZ are subject to the Offshore Installations Act (*Seeanlagengesetz*).

Construction and operation of the OWFs and GCSs to be commissioned after 31 December 2020 are subject to a new permit regime under the Offshore Wind Energy Act (*Windenergie-auf-See-Gesetz*).⁶ This act primarily includes an auction and the construction permission regime. The Offshore Wind Energy Act applies (regarding the construction permission) for all the OWFs to be commissioned as of 2021.

Competent authority for applications and procedures under the above mentioned acts is the Federal Maritime and Hydrographic Agency (*Bundesamt für Seeschifffahrt und Hydrographie*).

Within the 12nm zone, the construction of the OWFs and other facilities (cables etc.) are subject to the building and other laws of the particular states.

The overall development of renewable energy of all sources, applicable feed-in tariffs and market premiums, grid connection, transmission and distribution issues are subject to the Renewable Energies Act (*Erneuerbare Energien Gesetz*).⁷

B. Scheme in relation to exclusivity to construct, own and operate a project, as well as to receive feed in revenues

Exclusivity for the right to take part in the procedure for the planning approval (*Planfeststellung*), which is the type of construction permit required for the construction and operation of the OWTGs, is granted to the successful bidder under a mandatory auction procedure under the Offshore Wind Energy Act.

As part of the Offshore Wind Energy Act, Germany introduced a “central” model characterised by the following features: The Federal Maritime and Hydrographic Agency is responsible for the development and pre-examination of offshore sites for the construction and operation of the OWFs. In a first step, the Federal Maritime and Hydrographic Agency sets up a “Site Development Plan” which determines location and realisation periods for specific sites. In the next step, the Federal Maritime and Hydrographic Agency performs a pre-examination of the sites in order to determine their suitability and to provide bidders with all the information required in the following bidding procedures. As a last step, the sites are made subject to a competitive bidding procedure.

In this procedure, the bidder offering the lowest tariff wins. The award to the successful bidder includes the entitlement to an onshore grid connection in the amount of

6 English translation available at: https://www.bmwi.de/Redaktion/DE/Downloads/E/windseeg-gesetz-en.pdf?__blob=publicationFile&v=9

7 English translation available at: https://www.bmwi.de/Redaktion/DE/Downloads/E/eeg-2017-gesetz-en.pdf?__blob=publicationFile&v=8

the awarded capacity, and to a market premium as offered (see below).

This applies to the OWFs to be commissioned as from 2026. Further auctions will be held as from 2021. For the OWFs with a scheduled commissioning 2021-2026, auctions were already held in 2017 and 2018.

C. Incentives for investments

The remuneration/incentive basic concept for sources of renewable energy including the OWFs is provided for in the Renewable Energies Act (cf. sections 19-27).

The Renewable Energies Act provides for two basic incentives / payments schemes: a market premium payment (MP) on the basis of a CfD concept, and a feed-in tariff payment (FiT).

For the OWFs commissioned after 31 December 2020, such incentives only apply in case the respective OWF successfully participated in an auction process (see below).

Under the Renewable Energies Act, a mandatory direct selling regime applies; that means the operator of the OWTF is obliged to sell the produced power to a third party in which case the operator is entitled to receive the MP. The FiT only applies in some specific exceptional cases (small facilities and as a short term compensation for certain defaults of the direct selling).

Both schemes are calculated based on a specific “value to be applied” (*anzulegender Wert – AW*).

For the OWFs which are not yet subject to the new auction regime (grid connection confirmation or capacity allocation prior to 1 January 2017 and commissioning prior to 1 January 2021), the AW value is fixed (but subject to various alterations) to a base rate of 3.9 ct per kWh and an initial rate of 13.9 ct per kWh (example for commissioning in 2020).

Under the auction regime, the AW value is determined by the Federal Network Agency (*Bundesnetzagentur*) in an auction process. For each site advertised, the bid with the lowest value wins the auction. The successful bid value is then the AW value. Auctions will be held yearly on 1 September as from 2021 for the pre-examined sites and a capacity ranging from 700 to 900 MW, and will be notified by the Federal Network Agency at the latest six months before.

Besides rather technical conditions for the participation in the auction, one material precondition for making bids in the auction is the provision of a security in the amount of EUR 200 per KW of installed capacity (cf. section 21 Offshore Wind Energy Act) which secures potential claims of the TSO for penalties against the bidder under the Wind Energy Act. Such penalties become due (cf. sections 60 et seq. Offshore Wind Energy Act) in case the realisation timeline (see below) is not complied with, unless failure to do so was not attributable to

the bidder including contractors and sub-contractors for the construction of the OWF and it is most likely that the bidder, upon cessation of the impediment, is willing and commercially and technically able to realise the project without undue delay. The security has to be provided until the auction date. The bid volume must correspond to the share of the auction volume attributable to the specific site. For each advertised site, the lowest bid wins the auction.

The award on the successful bid by the Federal Network Agency has further legal consequences: The successful bidder: (i) is entitled to claim the market premium; (ii) is entitled to obtain connection to the GCS; and (iii) is allocated with the respective capacity of such GCS. In turn, the bidder is subject to certain obligations with respect to the project realisation, which are secured by penalties and securities.

MP and FiT are paid for each OWTG for a period of 20 years beginning with the commissioning of the respective OWTG.

The MP is calculated on a monthly basis according to the formula $MP = AW - MW$, with MW being the actual average monthly value of the market value of electricity from offshore wind energy installations on the spot market of the EPEX Spot SE power exchange in Paris for the price zone for Germany in cts per kWh. The amount of FiT basically equals the AW value minus 0.4 ct per kWh.

D. Timeframe for the realisation of the project

The successful bidder is subject to a project realisation timeline (cf. sec. 59 Offshore Wind Energy Act) under which certain milestones up to reaching the WTG's technical readiness for the operation needs to be achieved. Such milestones are determined based on the date of the bid award and the binding completion date for the completion of the relevant GCS (as determined under sec. 17d para. 2 Energy Industry Act) as follows:

1. 12 months after the bid award: submittal of necessary permitting documents to the Federal Maritime and Hydrographic Agency;
2. 24 months prior to the binding completion date for the GCS: submission of proof of financing for the construction of the WTGs which requires the submission of binding contracts for the procurement of the WTGs, the foundations, the transformer station and inner array cabling;
3. three months prior to binding completion date for the GCS proof of commencement of offshore installation;
4. six months after binding completion date for the GCS: submission of proof of achieving actual readiness for operation for at least one OWTG; and
5. 18 months after binding completion date for the GCS: submission of proof

of achieving actual readiness for operation for all OWTGs.

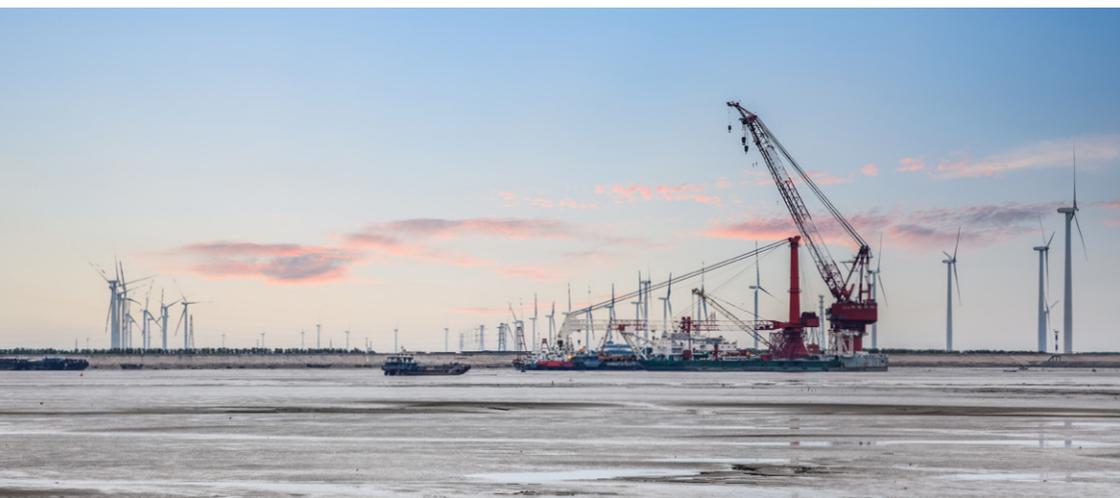
The failure of the operator to comply with such deadlines is sanctioned with penalty payments and, as *ultima ratio*, the withdrawal of the acceptance of the bid. The amount of the penalties for failures to comply with the above mentioned realisation times is as follows: (i) 100 % of the security amount; (ii) 30 % of the security amount; (iii) 70 % of the security amount; (iv) one twelfth of the remaining security amount for each month in which technical readiness for operation has not been reached for at least one WTG; and in relation to (v) the amount which results from the amount of the remaining security multiplied with the quotient of the division of the installed capacity of the WTGs not ready to operate by the bid award volume. In case the bidder fails to comply with the realisation times (i), (ii) or (v), the Federal Network Agency is bound to withdraw the bid award irrespective of the penalties.

III. Public Law and Regulatory Permits

The approval, construction and operation of OWFs and GCSs are subject to the permit regime as set out in the German Offshore Wind Energy Act if and to the extent that: (i) they are located in Germany's EEZ; or (ii) if they are located on the high sea in case the company headquarters of the party responsible for the project is located in Germany.

The type of permit required is a planning approval (*Planfeststellungsbeschluss*). A planning approval has, in contrast to other types of public permit, a concentration effect, i.e., in principle, all required public permits are concentrated in, and granted by, the planning approval. Competent authority is the Federal Maritime and Hydrographic Agency.

To the extent the installations are located within the territorial sea (12nm zone)



competent authorities for the issuance of the (separate) planning approval is/ are the respective state authorities of the particular state(s) where the installations are located.

Administrative decisions in general including permits such as the planning approval are subject to a staggered concept of remedies (first stage: administrative opposition proceeding, second stage: action before the administrative court) filed by the applicant (i.e., the OWF owner) or third parties until one month after the decision has been notified to the respective person. In case of a planning approval, an action can be directly filed without completing an opposition procedure first. Notifications of administrative decisions in general take place individually, which means there can always be a risk that a remedy period is still running for unidentified individuals which have not been notified individually but are affected by the planning. However, in case of planning approvals, notification takes place by displaying a hard copy of the planning approval for two weeks in the respective municipalities where the project has an impact. After the two weeks' period, the planning approval is deemed to be notified towards all affected persons and as such final and binding. After that time, the planning approval is only subject to cancellation in very exceptional cases, e.g., where the cancellation is reserved or the permit holder does not comply with ancillary conditions.

IV. Offtake issues

A. Offtake, remuneration and tariff scheme

As mentioned above, the Renewable Energies Act provides for a (public) incentive payment in the form of a market premium and in some minor cases in the form of a FiT (see above for details). The OWF owner who wishes to receive the market premium must enter into a PPA with an offtaker. The Renewable Energies Act does not contain any specific stipulations for the content of such PPAs, but there is a certain established market practice as to the usual and required contents.

B. Consequences of a project delay

The consequences of delayed project completion with regard to the offtake regime in general depend on the respective provisions in the PPA. Usually a delay of the project or WTGs would, after elapse of a grace period, entitle the offtaker to demand a reasonable adjustment of the price. Additionally, termination remedies would normally be available for prolonged force majeure events.

Regarding the entitlement to receive incentive payments under the Renewable Energies Act the following applies: The entitlement is conditional upon the commissioning of the respective OWTG and is valid for 20 years from that date.

C. Examples of actual and future tariffs

In the second auction round which took place in April 2018, the average value of successful bids was 4.66 ct per kWh with a maximum of 9.83 ct. Several successful bids offered 0 ct per kWh. In the first round, the average value of successful bids was 0.44 ct per kWh. The significant difference is supposed to be caused by the fact that in the first round only projects located in the North Sea have participated while in the second round also projects in the Baltic Sea were considered where the costs are higher due to more complex site conditions.

V. Grid and grid connection

A. Planning and construction of the grid connection system

Central starting point for the provision of the grid connection for the OWF is the Offshore Wind Energy Act according to which (only) a bidder whose bid was accepted is entitled to grid connection capacity, limited to the amount of capacity accepted with the bid. Such entitlement applies to the GCS which is determined in the Site Development Plan set up by the Federal Maritime and Hydrographic Agency. Regarding the timing of the grid connection, the entitlement applies as from the 'binding completion deadline' for the grid connection as determined in accordance with sec. 17d of the Energy Industry Act. The operation of energy grids and in particular electricity grids is the primary subject of the Energy Industry Act, including the obligation to establish the grid connection.

Under the current market structure, primarily the two private TSOs, TenneT (North Sea) and 50Hertz (Baltic Sea) are responsible for the financing, construction and operation of all grid onshore connection systems.

Details of the obligation to construct and operate the GCS are provided for in sec. 17d et seqq. of the Energy Industry Act and the Site Development Plan set up by the Federal Maritime and Hydrographic Agency. Subject to detailed procedures, the respective TSO responsible for the connection has to publish

an estimated completion date for the grid connection. Such date becomes binding 30 months prior to the published completion date.

B. Responsibility for the cost of the grid connection system

The TSOs, not the OWFs, are obliged to finance and construct the GCS under the Energy Industry Act. The TSOs are entitled to reimbursement of these costs which are ultimately included in an offshore grid (liability) levy to be paid by the end consumers. Since 2019, the allocation has included not only the additional costs arising from claims for damages in case of delayed completion, scheduled and unscheduled interruption caused by maintenance or defect, but also the entire costs for the construction of the GCS.

C. Consequences of delays and disruptions of the grid connection system

The OWF owner is protected against a delay in completion of the GCS and against unavailability of the grid due to failures or maintenance works.

The operator of the OWTG is entitled to a compensation of 90 % of the lost feed-in income in case of an interruption of the GCS during or more than 10 consecutive days as from the 11th day or in case of interruptions on more than 18 days per calendar year as from the 19th day.

The same compensation entitlement applies in case the GCS is not completed on time as from the 11th day of the delay. The

compensation is calculated dependent on the actual loss of feed-in income, which is to be proven by the OWF owner on the basis of WTG and wind data. One main requirement of all compensation claims is that the interruption or delay of the GCS is the (only) cause for the lack of feed-in.

D. Onshore grid congestions, prioritisation of renewable energy resources and compensation mechanisms

Grid operators are under a statutory obligation to improve their grids to comply with the state of the art in order to ensure the receipt, transmission and distribution of power from renewable energies, unless the required measures are commercially unreasonable. However, the development of the onshore grid lags behind the increase of installed renewable energy capacities, in particular in the north of Germany where the expansion of renewables is faster than in the south. In order to prevent critical grid situations, the grid operators are entitled to conduct feed-in management measures and remote control OWTGs in exceptional cases (cf. sec. 14 Renewable Energies Act) if: (i) otherwise a capacity shortage in the relevant grid area would be caused; (ii) the feed-in priority for renewables is complied with, unless other power sources need to be connected to the grid in order to ensure the security and reliability of the grid; and (iii) the available actual feed-in data for the relevant grid area. In general, feed-in from renewable energies is prioritised by law over feed-in from other sources. This also applies in case

of feed-in management measures. In case the remote control of the OWTG is foreseeable, the grid operator shall inform the owner at least on the day prior to the measure or otherwise without undue delay. The grid operator to whose grid the relevant OWTG is connected is obliged to compensate the affected owner 95 % of the lost feed-in revenues plus additional

expenses less saved expenditure (cf. 15 Renewable Energies Act). If, and to the extent, the lost feed-in revenues exceed one percent of the feed-in revenues in the same year, the grid operator has to compensate 100 %. The grid operator is entitled to consider the costs for the compensation for feed-in management measures in the grid fees.

VI. Real estate

A. Rights over land to be secured

In the German EEZ, no particular land rights need to be secured since this area is not owned by anyone. Although Germany has certain sovereign rights in the EEZ, these are functionally limited. Under territorial law, the EEZ is therefore “no man’s land”. Neither Germany nor any other state owns the seabed in the EEZ.

The relevant permission to use the respective land in the EEZ is included in the planning approval issued under the Offshore Wind Energy Act.

The seabed within the 12nm zone technically is a land plot or consists of multiple land plots which are owned by the Federal Republic of Germany. The respective right to use such property for WTG or cable system installations is included in the respective planning approval.

Onshore, the respective operator/owner of the installation which uses the land needs to secure such use by means of private law licence/use agreement in case of private landowners or municipalities. Since the use of onshore land plots is only required for the onshore grid connection, and since this falls under the responsibility of the TSO, the OWF owners and developers do not need to take care of these issues.

B. Costs and risk of legal challenges

In general, there is no risk regarding possible successful challenges of the rights to use the land. As explained above, in the EEZ and within the 12nm zone, the right to use the land is included in the planning approval which becomes final and binding upon expiry of the respective remedy periods.

The responsibility for the construction and operation of the GCS is with the relevant TSO; in case of interruptions in the operation or delays in completion of the GCS, the OWF owner is entitled to receive a compensation (see above).

VII. Other

When planning and construction offshore installations in Germany, special consideration needs to be given to the existence of unexploded ordinances (UXO) in the North Sea and the Baltic Sea and onshore as a result of World War 1 and World War 2



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I. State and Future of Offshore Wind Projects

A. Current state of offshore wind development and projects

India has a 7500+ km long coastline¹ and has the fourth highest installed capacity for wind power in the world.² That being said, offshore wind development is at a very nascent stage and the Government is preparing to issue the tender for India's first offshore wind project which would be established off the coast of the state of Gujarat in Western India.³ However, the fact that India's very first foray in this space is for a capacity of 1 GW and the Government's stated intent of achieving capacity addition of 5 GW by 2022 and 30 GW by 2030⁴ in offshore wind indicates the heightened level of interest and commitment by the Indian Government in developing the Indian offshore wind space. The Indian Government has to date, released the National Offshore Wind Energy Policy (Offshore Wind Policy) which sets out the overall policy framework for

development of offshore wind⁵ and has also released a draft of the offshore wind energy lease rules (which is yet to be adopted)⁶ detailing the terms on which offshore leases would be granted to offshore wind developers.

India has closely partnered with key European partners to benefit from their expertise in the sector to enable it to rapidly develop the same in India. For instance, the Facilitating Offshore Wind in India Project (FOWIND) initiative which is focused on the identification of suitable offshore zones in the states of Gujarat and Tamil Nadu is being implemented with funding support from the EU.⁷ Another project backed by the EU is the first Offshore Wind Project of India which has been launched to facilitate access to European sector expertise and know-how to facilitate India's first offshore wind project.⁸ India has also entered into a bilateral cooperation agreement with Denmark which is particularly focused on developing offshore wind capabilities in India.⁹

1 National Portal of India (Government of India), 'India at a Glance', <https://www.india.gov.in/india-glance/profile> accessed 30 January 2020

2 Priya Rawat, 'Renewable Energy', <https://www.investindia.gov.in/sector/renewable-energy> accessed 30 January 2020

3 National Institute of Wind Energy 'Expression of Interest for 1000 MW Offshore Wind Farm in Gujarat' (10 April 2018) https://mnre.gov.in/sites/default/files/webform/notices/EOI_for_Development_of_1000_MW_Offshore_Wind_Farm_in_Gujarat.pdf accessed on 30 January 2020 and Ministry of New and Renewable Energy, Government of India, 'Development of India's first 1.0 GW Offshore wind project off the coast of Gujarat' (7 August 2018) <https://mnre.gov.in/sites/default/files/webform/notices/Indias-First-1.0-GW-Offshore-wind-project-at-Gujarat.pdf> accessed on 30 January 2020

4 Press Information Bureau, Government of India (Ministry of New and Renewable Energy), 'Year End Review 2018 – MNRE' (10 December 2018) <https://pib.gov.in/newsite/PrintRelease.aspx?relid=186228> accessed on 30 January 2020

5 Ministry of New and Renewable Energy, Government of India 'National Offshore Wind Energy Policy' (1 October 2015) <https://mnre.gov.in/file-manager/UserFiles/National-Offshore-Wind-Energy-Policy.pdf> accessed on 30 January 2020

6 Ministry of New and Renewable Energy, Government of India 'Draft Offshore Wind Energy Lease Rules, 2019' (25 January 2019) <https://mnre.gov.in/sites/default/files/webform/notices/Draft%20Lease%20rule%20for%20stakeholders%20comments.pdf> accessed on 30 January 2020

7 Global Wind Energy Council, 'FOWIND—Facilitating Offshore Wind in India', <https://gwec.net/about-winds/fowind/> accessed on 30 January 2020

8 First Offshore Wind Project of India <https://www.fowpi.in/> accessed on 30 January 2020

9 Press Information Bureau, Government of India (Cabinet), 'Cabinet approves Cooperation Agreement between India and Denmark in the field of Renewable Energy with focus on Offshore Wind Energy' (15 April 2019) <https://pib.gov.in/Pressreleaseshare.aspx?PRID=1570597> accessed on 30 January 2020

B. Scheme in relation to exclusivity to construct, own and operate a project, as well as to receive feed in revenues

The Offshore Wind Policy envisages development of offshore wind capacity in India through an open international competitive bidding (ICB) process. The National Institute of Wind Energy (NIWE) is the nodal agency tasked under the Offshore Wind Policy to seek proposals for development of offshore wind power projects in the identified blocks under ICB. The Offshore Wind Policy provides that following the award of the project, the project developer would enter into a PPA with the offtaker identified in the bid documents and would also enter into a lease agreement with respect to the seabed lease required for the project with NIWE.¹⁰

In case of projects which are competitively bid out (such as offshore wind projects), note that Section 63 of the Electricity Act, 2003 (Electricity Act) clearly indicates that the tariff determined through the transparent bid process would be adopted by the appropriate commission.

C. Incentives for investments

While various states under their respective renewable power policies have emerged with different options to promote development of renewable power, broadly, the following incentives are available:

1. **Electricity Duty Exemptions:** Common among state policies are exemptions for wind power projects from levy of electricity duty.
2. **Must-run Status:** The Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 (as amended) prescribes the relevant Load Despatch Centre shall make all efforts to ensure evacuation (that is, the feeding the electricity generated from a project into the transmission network) of wind and solar power on a 'must run' basis (other than for reasons of grid security or safety of equipment or personnel or other such conditions) and if such backing down occurs, the developer is required to be compensated.¹¹
3. **Land Use:** From the perspective of any onshore land requirements, note that some state policies contain provisions assuring deemed conversion of land (which may be agricultural) for non-agricultural use upon payment of conversion charges, if the land being acquired is for a grid connected renewable project.
4. **Renewable Purchase Obligation:** State Electricity Regulatory Commissions (SERCs) across states have introduced regulations imposing requirement on distribution licencees to mandatorily offtake a specified percentage of total power from renewable sources.

¹⁰ Supra Note- 5

¹¹ Ministry of Power, Government of India, Guidelines for Tariff Based Competitive Bidding Process for Procurement of Power from Grid Connected Wind Power Projects (8 December 2017)

5. Measures under Offshore Wind Policy:

The Offshore Wind Policy assures developers of coordination support from NIWE for facilitation of approvals.

Further, the policy indicates that all fiscal and financial benefits available for onshore wind projects would also extend to cover offshore wind projects. The policy also indicates that the Indian Government may promote bundling of power generated offshore with conventional power subject to availability of unallocated conventional power with a view on reducing cost of power.¹²

D. Expectations as to future developments in the market until 2030 and beyond

As indicated above, while the offshore wind sector is currently at a nascent stage in India, the Government is targeting capacity addition of 5 GW by 2022 and 30 GW by 2030 in offshore wind sector and to date, is undertaking various policy initiatives as are detailed above.

II. Public Law and Regulatory Permits

A. Regulatory Framework

The electricity sector in India in general falls within the regulatory ambit of the Electricity Act and the rules and regulations notified thereunder. While the Ministry of Power, Government of India (MOP) is generally responsible for the development of the electricity sector in India,¹³ matters relating to new and renewable sources of energy are guided by the Ministry of New & Renewable Energy (MNRE) which is the Indian Government's nodal ministry dedicated to the development of renewable energy in India, including offshore wind.¹⁴ The Government of India, through MNRE, frames policies and schemes for promoting electricity generation through renewable energy sources which include wind, solar, biomass, bagasse cogeneration and urban and industrial waste, among others.

An overview of other key sector regulators for electricity in India is set out below:

1. Central Electricity Authority (CEA) is an authority established pursuant to the Electricity Act. The Electricity Act identifies the role and responsibilities of CEA as covering policy advice to the Indian Government with respect to the electricity sector, preparation of plans for development of the electricity system and

¹² Supra Note-5

¹³ Ministry of Power, Government of India, 'Responsibilities' <https://powermin.nic.in/en/content/responsibilities> accessed on 30 January 2020

¹⁴ Ministry of New and Renewable Energy, Government of India, 'History / Background' <https://mnre.gov.in/history-background> accessed on 30 January 2020

- coordination with planning agencies to optimise resource utilisation with a view on providing reliable and affordable power to consumers, identification of standards for construction of plants and transmission lines and connectivity to the grid, safety requirements and grid standards as well as setting out the conditions for metering.¹⁵ The CEA is also tasked with supporting the MOP for implementation of schemes and initiatives for enhancing the electricity system.
2. Electricity Regulatory Commissions have been established to regulate tariff, transmission of electricity and to grant licences in relation to transmission. These commissions are also responsible for advising the Indian Government in terms of electricity and tariff policy formulation. The Central Electricity Regulatory Commission (CERC) is established at a federal level and governs the inter-state supply and transmission of power while at each state; there are SERCs whose roles are limited to the above functions with respect to supply and transmission of power within the relevant state. Decisions of the Electricity Regulatory Commissions may be appealed before the Appellate Authority for Electricity (APTEL) which, in addition to such appellate authority, is also vested with powers of original jurisdiction to consider petitions and to issue directions to the relevant Electricity Regulatory Commissions.¹⁶
 3. Transmission utilities have been established at federal and state level. The Central Transmission Utility (CTU) is responsible for transmission of electricity through the inter-state transmission system and to plan and coordinate in relation to the inter-state transmission system with the State Transmission Utilities (STUs), the Government of India, state governments and generating companies. STUs are responsible for undertaking electricity transmission within the relevant state and to undertake planning and coordination of functions at an intra-state level. Load Despatch Centres are responsible for the scheduling and despatch of electricity.
 4. The National Load Dispatch Centre has been established under the Electricity Act to undertake scheduling and despatch among Regional Load Despatch Centres. Regional Load Despatch Centres have been established with a view on ensuing regional power system integration for regions identified by the Indian Government, while the State Load Despatch Centres have been organised at state-level to ensure integrated operations of the power system at state-level.¹⁷

¹⁵ Section 73, Electricity Act

¹⁶ Ministry of Power, Government of India, 'Statutory Bodies', <https://powermin.nic.in/en/statutory-bodies> accessed on 30 January 2020

¹⁷ Id.

5. The Forum of Regulators has been established by a notification issued under the Electricity Act¹⁸ and is comprised of the chairpersons of the CERC and the SERCs, with the primary role of analysing the tariff and other orders issued by the CERC and the SERCs to compile data and highlight efficiency improvements by utilities, harmonising regulation of the power sector in India and ensuring information sharing and research to promote the efficiency, economy and competition in the Indian power sphere.
6. Distribution licencees under the Electricity Act are required to establish a grievance redressal forum to address issues faced by consumers and non-redressal issues are to be addressed by a statutory ombudsman who is designated by the relevant SERC.

In addition to the above, the NIWE has been established by the MNRE as a research and development agency focussing on the wind energy sector in India.¹⁹ The Offshore Wind Policy designates the NIWE as the nodal agency for development of offshore wind energy in India which would seek proposals for development of offshore projects through ICB route, enter into contracts with project developers, collect lease with respect to offshore blocks allocated to developers, undertaking and coordinating research, assessment and surveys in the EEZ and demarcating offshore blocks.

Further, other regulators relevant from the perspective of offshore wind power development include the Ministry of Environment, Forests and Climate Change (MOEFCC)—which administers laws in relation to the environment and its protection and the Ministry of Home Affairs and Ministry of Defence—both relevant from the perspective of security clearances.

In terms of the regulatory framework, as indicated above, the principal statute governing electricity in India is the Electricity Act. Generation of electricity, including from renewable sources, is a de-licensed activity. The Electricity Act provides a statutory framework for promotion of generation of electricity from renewable sources. The SERCs across various states in India have imposed obligations on distribution licencees within the relevant state to ensure that a certain percentage of power has to be mandatorily sourced from renewable sources.

Additionally, several states with potential for development of wind energy have emerged with state-level policies to promote development of renewable energy (including wind energy) which offers various exemptions and incentives to boost the development of renewable power. In terms of tariff regulation, as indicated in our response above, given that the Offshore Wind Policy envisages the award

18 Notification dated 16th February 2005 issued pursuant to Section 166(2) of the Electricity Act

19 National Institute of Wind Energy, Ministry of New and Renewable Energy, Government of India, 'About NIWE' <https://niwe.res.in/about.php> accessed on 30 January 2020

of offshore wind projects through ICB mechanism, tariff determined through such transparent ICB process would be adopted by the Electricity Regulatory Commission for such projects in terms of Section 63 of the Electricity Act.

B. Regulatory permits required for the construction and operation of the offshore wind farm and the onshore grid connection

The Offshore Wind Policy identifies the following key clearances and no objection certificates which would be required for the construction and operation of the OWF. The difference between ‘clearance’ and ‘no objection certificate’ as articulated in the Offshore Wind Policy is that activity cannot be taken up in the absence of a ‘clearance’ however in case of a ‘no objection certificates’, the same would be deemed to have been granted upon expiry of a stipulated timeframe.

1. Environment impact assessment and coastal regulatory zone clearances to be obtained from the Ministry of Environment, Forests and Climate Change;
2. Clearances for defence and security aspects to be obtained from the Ministry of Defence;
3. Clearance for development of projects within India’s maritime zone to be obtained from the Ministry of External Affairs;
4. Clearance for employment of foreign nationals in offshore wind projects to be obtained from the Ministry of Home Affairs;
5. Approval for construction if such contraction is near aviation/radar/aerodrome facilities to be obtained from Ministry of Civil Aviation;
6. In the event the installation is proposed in existing oil & natural gas blocks, then a clearance is required from the Ministry of Petroleum & Natural Gas. For other locations, a ‘no objection certificate’ is required.
7. Clearance required from Ministry of Shipping for projects located near major ports. Further a no-objection certificate would be required for operating away from shipping lanes;
8. Clearance to be obtained from the Department of Space from security perspective with respect to installations of the Department and for ensuring observance of minimum safety distance from such installations;
9. No objection certificate to be obtained from the Department of Telecommunication to operate outside of the subsea communication cable zones; and

10. No objection certificate to be obtained from the Ministry of Mines to operate outside mining zones.

In addition to the above, note that other approvals which would typically be applicable to renewable power developers would be applicable to developers of offshore wind projects. These would include licences to operate a factory and approval of factory plans in terms of the Factories Act, 1948 (which is a labour and work conditions and safety-related statute), registration as principal employer under the Contract Labour (Regulation and Abolition) Act, 1970 (which applies to engagement of contract workers including through contractors), approval from the Chief Inspector to the Government (in terms of the testing and safety of the equipment installed), evacuation/connectivity approvals, registration under the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 (applicable to establishments engaging construction or building workers—further there is an associated legislation in terms of which employers are required to contribute cess (which is a type of tax levied and earmarked for a specified purpose) based on the construction cost to the labour welfare fund).

Insofar as pollution control clearances are concerned, note that a notification of the Central Pollution Control Board currently identifies wind energy as a ‘non-polluting’ or ‘white category’ industry for which no

consent to establish or operate is required (as is required for other industries) under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution Act), 1974.²⁰ However, given that the process of establishment of offshore wind projects would be different from the process of establishment of onshore wind farms, it appears that the Central Pollution Control Board at the time of notification may have only contemplated onshore wind projects (although there is no guidance in its notification in this regard).

C. Permitting process

The authorities identified in the response above are the issuing authorities for the approvals identified in the Offshore Wind Policy. The Offshore Wind Policy also indicates that the Ministry of New and Renewable Energy would come out with a clear time schedule for approvals and clearances to facilitate developers—however, it has not yet been issued. The framework set out in the Offshore Wind Policy is that Stage I or ‘in principle’ clearances would be obtained by NIWE from the Ministry of Defence, Ministry of Home Affairs, Ministry of External Affairs, Ministry of Environment, Forests and Climate Change and the Department of Space prior to notification of blocks for ICB process. However, post-allocation, developers would have to pursue formal clearances from the concerned authorities, although NIWE would act as an overall coordination agency to facilitate the process with respect to the approvals identified

in II.B. 1–10 of our above response. The process for obtaining the approvals differs based on the approval required and the statute in terms of which such approval is required. The approvals would be binding on issuance, but are valid only so long as the conditions specified in such approvals are being adhered to by the developer. ‘In principle’ clearances would of course be conditioned on grant of final approvals at the appropriate stage of the project. Certain approvals are granted with fixed validity periods and would have to be renewed from time to time while others are conditioned on certain activities commencing or being completed within a specified timeframe, failing which the approval would lapse.

D. Timeframe for the realisation of the project

While the bid documents for India’s first offshore wind project have not yet been released, note that generally bidders who have been awarded with concessions for development of offshore wind power projects, would likely, as is the case for other power projects) be required to complete identified conditions precedent within prescribed timeframes and also in terms of project progress and completion be required to meet certain specified milestones. Details of this would become clearer once the bid documents are released.



III. Offtake issues

A. Offtake, remuneration and tariff scheme

While the template of the PPA for offshore wind has not been released and India is at this stage still in the process of tendering the first project of this nature, note that PPAs would typically be long-term tie ups for supply of power, and power producers would be able to recover a tariff for the supplied power based on the tariff determined through the ICB process. In the event of shortfall in offtake, there would generally be a scheme for generation compensation in the PPAs. However, this would be subject to certain exclusions such as grid security, equipment and personnel safety etc.

B. Consequences of a project delay

While the template of the PPA for offshore wind has not been released and India is at this stage still in the process of tendering the first project of this nature, generally, PPAs executed with government offtakers (such as agencies of the Government or

Government distribution utilities) provide for a levy of liquidated damages on the developer in case of project commissioning delays, except for delays caused by offtaker-default or force majeure conditions. Liquidated damages would also be levied in case certain conditions/milestones are not met as per the timelines prescribed in the PPA.

The offtaker would have the right to invoke the performance security furnished by the developer to the offtaker under the PPA to realise any liquidated damages. If delay persists beyond a certain timeframe specified in the PPA, the offtaker can terminate the agreement.

C. Examples of actual and future tariffs

As indicated above, the Offshore Wind Policy contemplates tariff determination pursuant to bid process and in terms of Section 63 of the Electricity Act, the tariff discovered through transparent and competitive bid would be applicable for the relevant project.

IV. Grid and Grid Connection

A. Legal framework for the connection to the onshore grid and the establishment of the grid connection

In terms of the Offshore Wind Policy, the CTU and/or STUR would be responsible for undertaking onshore evacuation of electricity and connection to the electricity grid. The Offshore Wind Policy also indicates that the concerned transmission utility/state government may facilitate allocation of land onshore proximate to the wind farm site “... to enable establishments of substations to evacuate power generated from OWFs.”²¹ However, the policy is not clear as to the entity responsible for the construction of the substation and the allocation of costs in respect of the same. In the onshore construct, typically, the responsibility of the developer is to obtain connectivity with the transmission system up to the designated substation at its own cost and to bear the entire cost of transmission from the project to the interconnection point. In case of a pooling substation, losses in transmission line are apportioned among developers sharing such pooling arrangement as per their generation.

B. Consequences of delays and disruptions of the grid connection system

Wind power projects are accorded ‘must run’ status and as such are to be compensated by the offtaker in case of any back down of generation requested by the offtaker or load despatch centre.²² Such compensation would not only be payable if the back-down has been requested on account of considerations of grid security or safety of equipment and personnel or such other extraneous conditions. The exclusions from generation compensation would be articulated in the bid documents and the PPAs.

²¹ Supra Note- 5

²² Ministry of Power, Government of India, Guidelines for Tariff Based Competitive Bidding Process for Procurement of Power from Grid Connected Wind Power Projects (8 December 2017)

C. Onshore grid congestions, prioritisation of renewable energy resources and compensation mechanisms

As indicated above, wind power projects have been accorded 'must run' status and as such would be prioritised over conventional power. Additionally, various State Electricity Regulatory Commissions have specified renewable purchase obligations (RPO) on distribution utilities stipulating that a minimum percentage of total consumption should be derived from renewable sources. However, note that there is no priority allocation *inter se* various renewable power options and as such it is possible for the RPO requirements to be fulfilled through purchase of potentially cheaper sources such as solar or onshore wind. That being said, note our responses above on the scheme for generation compensation in case of back-down and the exclusions to the same.

V. Real Estate

A. Rights over land to be secured

With respect to offshore/seabed rights, the Ministry of New and Renewable Energy has released its draft rules for offshore wind energy leases but the same is yet to be finalised and notified.²³ Broadly, the draft rules provide for lease of areas within the EEZ of India to developers who have been awarded offshore projects through the ICB process. Areas under lease as per the draft released would range from 100-500 km² and the lease period would be five years for planning and exploring activities and 30 years for establishment of offshore wind power projects, which may be extended on renewal of the lease for five years at a time with due approval of the Indian Government. While the draft indicates that no royalties would be applicable for the development of offshore wind projects, an annual lease fee at INR 10,000 per km² would have to be paid for the duration of the lease. Further, a deposit of INR 100,000 per MW would also have to be paid in case of offshore wind energy projects and INR 1000 per MW for prospecting activities.²⁴ As indicated, the above is based on the draft rules released which may be subject to change based on stakeholder comments.

The Offshore Wind Policy is not clear as to the scope of land acquisition or rights that would have to be secured by developers on onshore or nearshore land. As indicated in IV.A. above, the Offshore Wind Policy

²³ Supra Note- 6

²⁴ Id.

indicates that the concerned STU/state government may facilitate onshore land allocation to enable establishment of substations. However, the policy does not spell out which entity would construct the substation and the cost allocation for the same and clarity on this may emerge as the policy framework evolves.

Developers typically would have to arrange for right of way access for the transmission infrastructure up to the interconnection point at their own cost. The complexity in arranging for this would depend to a large extent on the nature of land over which such access is required—for instance, if any land is designated as eco-sensitive or forest land or tribal land etc.

B. Costs and risk of legal challenges

The main challenge is to typically secure the right of way access and the delays that may result on account of delays in grant of right of way access. Once right of way access has been arranged and documented with requisite fees having been paid, it is not common for right of way to be withdrawn or disrupted during the term of operation. Insofar as offshore leases are concerned, given that the lease would be granted by the Government pursuant to a clearly defined regulatory framework, risks during term of operation that would hamper operation are fairly unlikely—although, as described in VI. below, proceedings challenging validity of disruption of fishing grounds if any or the compensation paid out may be possible at the initial stages.

VI. Other

The Offshore Wind Policy specifies that project developers are required to avoid adverse impact to fishing grounds and ensure minimal impact on the livelihood of fishing communities in the area. If fishing grounds are being disrupted, then the developer is required to compensate the affected communities in line with Government policies relating to rehabilitation and resettlement. Note in this regard that in the event governmental action to facilitate OWF development results in fishing rights being disrupted; affected fishing communities may be able to seek constitutional recourse to protect their right to freedom of profession and right to life under Articles 19-21 of the Indian Constitution.



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I. State and Future of Offshore Wind Projects

In 2017, the ratio of total renewable energy to total power sources in Japan was 16 %. By 2030, this ratio is expected to increase to 22-24 %, of which 1.7 % will be wind power. Compared to other countries, this is a low level. For example, the United Kingdom has wind projects with a total capacity of 6,836 MW whereas, according to Japan's Ministry of Economy, Trade and Industry (METI), the total capacity in Japan is 20 MW.

One reason for the low level in Japan can be attributed to the delay in promotion of offshore wind power, particularly the development of wind power generation facilities in territorial waters where large-scale power generation is feasible. This delay was, in part, caused by the fact that the legal landscape concerning the use rights of general sea areas was previously unclear. For instance, the Port and Harbor Act (PHA) and the local government ordinances on the management of national property (LGOs) were used as the basis for granting the right to use territorial sea areas. However, inconsistencies appear to exist between the PHA and the LGOs, including in relation to occupation periods. Under the PHA, the occupation period was 20 years, limited to the minimum area necessary for management and operation as an integral part (furthermore, it was not feasible to accommodate large-scale power generation facilities under the PHA). On the

other hand, under the LGOs, the occupation period was generally understood to be between three and five years (and adjustment rules of the stakeholders were unclear).

As a result of this uncertainty, in December 2018, the Act regarding Promotion of the Use of Sea Areas to Develop Offshore Renewable Energy Facilities (Kaiyou Saiseikanou Enerugi Hatsudensetsubi no Seibi nikakaru Kaiiki no Riyo no Sokushin nikansuru Houritsu) (the New Act) was enacted and came into effect as of April 1, 2019. Amongst other things, the New Act: (i) stipulates that the territorial sea area can be occupied for a maximum of 30 years; (ii) clarifies the rules for adjusting interests of stakeholders; and (iii) introduces a public auction system to promote a long-term, stable and efficient power generation business. METI and Japan's Ministry of Land, Infrastructure, Transport and Tourism (MLIT) have held several joint meetings on the New Act since last year, and the interim draft of the secretariat was issued on 20 March 2019.

In addition, in June 2019, METI and MLIT issued the Guidelines for the Designation of the Promotion Zones (Promotion Zones Guidelines) and the Guidelines for Operation of the Occupation Auction System in Territorial Sea Areas ("Auction Guidelines", and together with the Promotion Zones Guidelines, the "Guidelines").

A. Operation under the New Act

The outlines below show the process for the selection of promotion zones and business operators under the New Act. This process applies the following four principles:

1. Long-term, stable and efficient implementation of the energy business.
2. Harmonisation of diversified use of ocean areas and resources (for example, coordination with incumbent stakeholders such as those in the fishing and shipping industries).
3. Implementation of a fair, impartial and transparent system.
4. Promotion of a well-planned and sustainable offshore wind power industry (i.e., the creation of a supply chain network to realise a rapid reduction in project costs and recovery from malfunction or disaster).

The selection of five promotion zones by 2030 has been identified as the key performance indicator of the policy goal under the New Act. This may be increased beyond five zones in order to accelerate the expansion of offshore wind power facilities by granting long-term occupancy permits.

In order to achieve the policy goal of the New Act, key issues such as the financial burden created by subsidy programs on the national government and restrictions on regional grid systems must be dealt with appropriately.

B. Designating promotion zones

1. Standards for designating promotion zones

Six conditions must be satisfied for an area to be designated as a promotion zone.

These are as follows:

- a) Predictable natural conditions (including, amongst others, climate and hydrographic conditions) and a minimum energy output.

The promotion zone must be feasible from a business and safety perspective. The long-term usage rate of the facility must be maintained while minimising the operation and maintenance costs of the facility (for example, indicative wind speed of 7 m/s while maintaining a 30 % capacity factor and, for bottom-mounted types, water area depth of less than 30 metres).

References are made in the Guidelines to the European market with project sizes scaling between 30 MW and 350 MW. The lessons learned from these projects may be used to determine the size of projects to be announced in promotion zones, while taking into consideration the unique features of the relevant Japanese prefectures.

The policy goal is to avoid overwhelming the market by announcing projects that are too big or uneconomical. We expect that the scale of the promotion zones

will be determined by reference to the aforementioned European market figures.

- b) There will be no adverse impact on the use, preservation or management of sailing routes or surrounding ports.

Frequent sailing routes used by large ships should be avoided and appropriate distances from such sailing routes should be secured.

- c) Suitable base port(s) for offshore wind power facilities.

It may be necessary to upgrade the base port in order to store, deliver and assemble construction materials required for the installation, operation and maintenance of offshore wind power facilities (for example, the nacelle, turbine blades and other equipment).

In addition, each base port will require a quay for the transportation of imported goods or domestic cargo. Such quay must have sufficient load-withstanding capability and a pier site of appropriate size.

A secured grid connection exists between the offshore renewable energy facilities and the grid system of the electricity utility company.

A business operator that already has access to grid connection in a designated zone (the Original Business Operator) may continue to use such access for its bid in an auction. If another business operator is declared as the selected business operator (the Selected Business Operator), however, the Original Business Operator will be required to assign its grid connection right, including the grid capacity right, to the Selected Business Operator. Failure to do so will result in the Original Business Operator being disqualified from participating in future auctions.

An alternative suggested approach, which is under consideration, is that the government should secure the grid connection, including the grid capacity right, in advance of auctions.

- d) The offshore renewable energy facilities will not cause any adverse impacts on fishery activities.

The business operator should initiate a consultation process with the fishery trade associations that are members of councils (kyogikai) in order to determine whether an offshore wind facility could cause any adverse impacts on the fishery activities on the relevant site. If, through the consultation process, any adverse impacts are identified, the government will not designate such site as a promotion zone.

In addition, if any study of a potential site shows that there will be adverse conditions to the fishery trade, METI, MLIT and the local stakeholders will avoid forming a council for such site.

- e) There must be no conflict with any other laws concerning the sea area/areas of water to be designated.

Confirmation with the relevant administrative bodies will be necessary to determine that no conflicts exist with either (i) the fishing ports designated by mayors, municipal or prefectural governors or the Minister of Agriculture, Forestry & Fisheries under the New Act on the development of fishing ports and grounds, (ii) port areas designated by the PHA, (iii) coastal preservation areas designated by the Coast Act or (iv) low water line preservation areas stipulated by the New Act on the preservation of low water line and maintenance of base facilities to promote the preservation and use of the EEZ and the continental shelf.

2. Procedures for designating promotion zones

The New Act states that, in order to designate promotion zones, METI and MLIT shall, in consultation with the heads of the relevant administrative bodies and by collecting the opinions of the mayors of the relevant prefectures, investigate and confirm the conformity of the relevant zones to the required standards for designation and issue and circulate a public announcement on the designation of the promotion zones.

More specifically, the following steps should be completed:

- a) Collect various known information (for example, information which may evidence conformity to the criteria for promotion zones).
- b) Select prospective zones with a view to achieving designation quickly and efficiently.
- c) Form councils for the prospective zones.
- d) Conduct detailed investigations into those prospective zones which have been confirmed as conforming to the required standards for designation.
- e) Make an assessment for designating the zone.

In terms of schedule, it is estimated that approximately ten months will be required in order to collect all relevant information and complete the procedures set out in steps a) to e) above.

3. Selection of operators by auction

In order to select a business operator by public auction, a set of auction guidelines will address matters relating to (a) the assessment standards, (b) standards of output of power facilities, (c) participant qualifications, (d) base ports, (e) decommissioning and (f) the term of the occupancy permit (up to 30 years). Brief explanations for each of these matters can be found below.

a) Assessment standards

The single most important factor in selecting a business operator is the supply price, also referred to as the tariff. In addition, the overall selection process will, among other things, assess each business operator's ability to (i) develop a project that is beneficial to local economies, (ii) co-ordinate with local stakeholders and (iii) finance, own, operate and maintain the project.

In assessing each business operator's operational capabilities, the government will consider its operational record, feasibility of business plan, risk identification and analysis, financial

plan, capex plan and operating budget, plan for speedy recovery from disaster for the stable supply of electricity and any other relevant criteria of similar nature.

In assessing each business operator's ability to co-ordinate with local stakeholders and the project's impact on local economy, the government will consider, among other things, (i) the business operator's key personnel who will be coordinating with the heads of the relevant administrative bodies, (ii) the business operator's relationship and co-existence with the fishery business operators and shipping companies and (iii) any impact on the national or local economies.

b) Standard for the output of the power facilities

The business operator may propose a total output of the project with a range of $\pm 20\%$ of the total output set out for that project when the promotion zone is designated by METI and MLIT. In order to achieve an efficient offshore wind energy industry, it is expected that the Guidelines will stipulate acceptance of such range of output for a project while taking into account the opinions of the calculation committee for procurement price.

c) Qualification of participants in a public auction

The business operator must be a legal entity established in Japan in order to participate in public auctions. A foreign investor may qualify for auctions only if it has a legal entity incorporated in Japan or if it invests through an affiliated Japanese entity, *kabushiki kaisha* or *godo kaisha*.

The business operator will be suspended from participating in public auctions if it (i) fails to assign its existing secured grid connection rights to the selected business operator without any valid reason, (ii) provides forged or false information to the government in connection with the designation of promotion zones or (iii) participates in or leads a bid-rigging (*dango*) scheme in connection with any public auction.

d) Base ports

In order to designate a promotion zone, it will be necessary to confirm the size of the power facilities to be installed, as well as identify the base ports within the zone that will enable efficient installation and maintenance of such power facilities.

The base ports should, among other requirements, be fitted to accommodate the use of SEP vessels, have a load-bearing quay and pier zones with sufficient space. A base port may

need to be fitted to accommodate uses of multiple power facilities within a single designated promotion zone.

e) Decommissioning

The business operator must provide a technical and financial plan to decommission the power facilities upon expiry of the occupancy period. The financial plan may include the use of third-party guarantees or a reserve account mechanism. The scope of decommissioning works remains under consideration as no consensus has been formed on feasible methods for the decommissioning of the base ports and the related costs. Therefore, there remains an element of uncertainty in connection with this matter.

f) Term of the occupancy permit

The term of the occupancy permit will be up to 30 years. This period will allow for (i) the environmental investigation assessment (typically a four to five-year period), (ii) the construction period (usually two to three years), (iii) the term of the project (approximately 20 years) and (iv) the decommissioning (typically two years), plus leeway periods.

4. Information to be provided by the government at a public

The government is required to provide information relating to (i) wind condition data based on surveys, with compilation

of data for every 10 minutes, on average, for at least 12 consecutive months and (ii) submarine geologic data based on surveys.

The government acknowledges that any delay which could result from a failure to initiate the surveys should be avoided by using the results of wind condition simulations or NEDO's (Japan's New Energy and Industrial Technology Development Organization) offshore wind condition maps to swiftly designate the promotions zones and roll out public auctions.

5. Examination and assessment process for the selection of business operators

The government will select the business operator who submits an occupancy plan that (i) conforms to the required standards, including those set out at item 3 (Qualification of participants in a public auction) above and (ii) "is the most appropriate in enabling a long-term, stable and efficient power business".

The government will seek the opinions of prefectural governors to determine how well the business operator can co-ordinate with local stakeholders and the impact of the project on the local economy. Business operators must undertake that they will not contact, and will be prohibited from contacting, any local stakeholders during the auction process. Breach of such undertaking and prohibition will result in penalties being imposed on the business operator. Such penalties could be to ban the business operator from participating

in the public auction in question or to suspend the business operator from participating in public auctions for a certain period of time.

In terms of schedule, the government is targeting a six-month period from the commencement of a public announcement of the auction guidelines to the submission of plans of occupancy by business operators.

II. The Offshore Wind Promotion System

Under the New Act, the promotion zones will be designated by METI and MLIT, and public occupation guidelines will then be prepared for each area. Based on these guidelines, a public auction will be initiated and an occupation plan will be submitted by the operator. At the end of the process, the most appropriate business operator will be selected, the plan will be approved and an occupancy right for up to 30 years will be granted by MLIT.

III. Public Law and Regulatory Permits

A. Spatial planning at sea

As of 30 July 2019, METI and MLIT have, on the basis of information gathered from prefectures (between 8 February and 15 April 2019), identified 11 zones in which preparations for offshore projects are underway for the designation of promotion zones under the New Act. In four of these zones (Akita Noshiro, Akita Yurihonjo, Chiba Choshi and Nagasaki Goto), METI and MLIT have identified promising zones in which they will immediately begin preparations for the councils' organisation and the government's investigation into wind and geological conditions.



B. Regulatory permits required for the construction and operation of the offshore wind farm and the onshore grid connection

This will vary depending on the project area in question but, typically, consideration should be given to whether the following regulatory permits may be required.

Land purchase and sale notification under the National Land Use Planning Act (Act No. 92 of 1974)
Development and Permission under the City Planning Act (Act No. 100 of 15 June 1968)
Permission for agricultural land conversion under the Agricultural Land Act (Act No. 249 of 15 July 1952) (for agricultural land in agricultural areas, including procedures for changing municipal agricultural promotion area development plans under the Act on the Development of Agricultural Promotion Areas)
Forest land development permission under the Forest Act (Act No. 249 of 1951)
Notification of Felling and Post-Felling Afforestation under the Forest Act (Act No. 249 of 1951)
Notification of Civil Engineering Works on the land which contains Buried Cultural Properties under the Act on the Protection of Cultural Properties (Act No. 214 of 1950)
Notification of Changes in the Form or Nature of Land under the Soil Contamination Countermeasures Act (Act No. 53 of 29 May 2002)

Permission for construction of new structures under the Natural Parks Act (Act No. 161 of 1 June 1957)
Permission of installation of river structures under the River Act (Act No. 167 of 1964)
Environmental Impact Assessment Procedures under the Environmental Impact Assessment Act (Act No. 81 of 13 June 1997)
Notification of the establishment of a new specified factory under the Factory Location Act (Act No. 24 of 1959)

The business operator typically enters into a grid connection agreement with a utility company and such utility company is required to obtain the regulatory approval from METI and MLIT.

There are 10 major utility companies in Japan (TEPCO, Kansai, Chubu, Tohoku, Chugoku, Kyushu, Hokkaido, Hokuriku, Shikoku and Okinawa).

C. Permitting process

The issuer depends on the regulatory permits. For instance, Development and Permission under the City Planning Act requires permission to be granted from a local municipality, whereas permits for agricultural land conversion will be provided by a local agricultural committee. Each permit will become final and binding upon its issuance by the relevant regulator.

IV. Offtake issues

A. Offtake, remuneration and tariff scheme

The Act on Special Measures Concerning Procurement of Renewable Electric Energy by Operators of Electric Utilities (FIT Law) regulates the procurement price and procurement terms. Pursuant to the FIT Law, an entity whose business will be to supply renewable energy (specifically, energy generated by a renewable energy power generation facility it owns and maintains) to an electricity utility under the terms of specified contracts (i.e., the PPA) may apply to obtain a METI Certificate in respect of its business plan.

Under the FIT Law, the minister of the METI will specify the procurement price and terms. Further, electricity utilities cannot decline to

enter into a PPA with a certified business operator unless the content of the agreement would potentially and unfairly harm their interest.

Set out in the table below are the current prices per kWh.

It should be noted that, for offshore wind projects under the New Act, the procurement price will be determined through the auction process.

B. Consequences of a project delay

Any project which has been certified after FY 2018 will have a commercial operation date deadline. In the event that a business operator cannot achieve commercial operation prior to the commercial operation date deadline, the procurement period will be shortened by an equivalent period of time.

Fiscal Year	Onshore	Onshore (replacement - using existing facilities)	Offshore (sea-bed mounted type wind turbine facilities)	Offshore (floating type wind turbines)
2018	JPY20 plus tax	JPY17 plus tax	JPY36 plus tax	JPY36 plus tax
2019	JPY19 plus tax	JPY16 plus tax		
2020	JPY18 plus tax		-	
2021	-	-	-	-
Procurement Period	20 years			

V. Grid and Grid Connection

Planning and construction is currently the responsibility of the utilities.

A. Responsibility for the cost of the grid connection system

In addition to the utilities, business operators who want to connect with the onshore grid connection will incur a certain amount of the costs. The exact amount will vary depending on the utility in question.

B. Consequences of delays and disruptions of the grid connection system

As a general rule, there is typically no protection for the wind farm owner. However, this will be decided on a case-by-case basis as it ultimately depends on the terms of the grid connection agreement.

C. Onshore grid congestions, prioritisation of renewable energy resources and compensation mechanisms

Under the Enforcement Regulations for the FIT Law (METI Ordinance No. 46, 2012, including subsequent revisions) (the Enforcement Regulations), if the amount of electricity provided is expected to exceed demand, and notwithstanding that the Purchaser may have taken remedial steps set out in Article 14.1(8) i of the Enforcement Regulations (including curtailment of its own power generation facilities or frequency adjustments), the Seller shall comply with the curtailment instructions from the

Purchaser as set out in Article 14.1(8) i. The curtailment instructions must be limited to 720 hours of curtailment in each fiscal year (pro-rated). The Seller shall not seek compensation for any damages resulting from curtailment, provided that the Purchaser has informed the Seller in writing (without delay) of the justifications and mitigating steps after issuing such instructions.

If item (1) (natural disaster causes) or (2) (human safety reasons) under Article 14.1 (8) ho of the Enforcement Regulations applies to the Purchaser and such causes are not attributable to the Purchaser, the Purchaser may also curtail the output of the power facility. The Seller shall not seek compensation from the Purchaser for damages resulting from the curtailment if the Purchaser has shown reasonable cause for such curtailment.

If item (1) or (2) under Article 14.1 (8) he of the Enforcement Regulations applies to the Seller, the Seller shall curtail output at the power facility in accordance with the instructions of the Purchaser. If the Seller is so instructed by the Purchaser, the Seller shall not seek compensation from the Purchaser for damages resulting from the curtailment if the Purchaser has shown reasonable cause for such curtailment.

Other than the above scenarios, the Seller may seek compensation from the Purchaser for damages incurred as a result of curtailment by the Purchaser or curtailment by the Seller at the instruction of the

Purchaser up to an amount calculated by multiplying the unit price of electricity by the acknowledged amount of electricity that would have been provided by the Seller to the Purchaser if the output had not been curtailed, unless such curtailment was due to unforeseeable special circumstances or due to causes attributable to the Purchaser.



VI. Real Estate

A. Rights over land to be secured

Under the New Act, after the business operator has been selected through the auction, and its plan has been approved and certified by METI under the FIT Law, an occupancy right for the designated promotion zone for up to 30 years will be granted by MLIT. For other rights over land (onshore, nearshore and offshore), this will vary depending on the projects sites and areas. Please refer to our response at paragraph II.B. above.

B. Costs and risk of legal challenges

Under the New Act, if councils (including fishery organisations) confirm that the project will create obstacles to fisheries, METI/MLIT will not designate promotion zones. In the council, there are opportunities for the stakeholders (including fisheries and the business operator) to engage in discussions. However, one issue is that it is not clear what nature or level of obstacles to

fisheries will incite the METI/MLIT to not designate promotion zones. One mitigating factor to this issue is that METI/MLIT will disclose the minutes of the councils as frequently and as and as soon as possible. This is expected to provide us with a better understanding of this issue.

Even if METI/MLIT designates the promotion zones and grants occupancy rights, METI/MLIT cannot guarantee that fishers will not litigate against the business operator in the future. Ultimately, the business operator will have to assume this as a risk. For such reason, before the auction process commences, the business operators should communicate with stakeholders as much as possible. This is of critical importance, particularly given that the Guidelines prohibit business operators from communicating with stakeholders during the auction process. The auction will be initiated and occupation plans will be submitted by the business operators. Lastly, METI/MLIT will select the most appropriate business operator

and an occupancy licence for up to 30 years will be granted by the MLIT.

Even if the selected business operator obtains the 30-year occupancy rights, it should be noted that MLIT cannot guarantee that the selected business operator will not be litigated against by fishers or that the selected business operator will achieve

certain amounts of revenues (since this depends on wind conditions). Therefore, the selected business operator assumes a risk of losses due to uncertainty of future events. It is worth considering the process in which the selected business operator conducts the detailed investigation in the promotion zone after the auction but before the occupancy right is granted.



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I. State and future of Offshore Wind Projects

Korea's offshore wind market remains in its infancy but is growing rapidly. The current Moon Administration is the first to take an active interest in renewable energy and has set an ambitious target of achieving 63.8 GW of installed capacity and 20 % of the power generation from new and renewable energy sources by 2030 (more recently, an updated target of 30-35 % by 2040 has been announced). In contrast, only 13.3 GW of new and renewable generation capacity was installed and 7 % of the power is generated from new and renewable energy sources as of the end of 2016. Korea's Ministry of Trade, Industry and Energy (MOTIE) has indicated that offshore wind will need to account for 12 GW of new capacity in order to achieve that target. Actions for the long-term phase out of nuclear energy and reduction in reliance on coal fired generation continue to grow.

Korea South-East Power (KOEN) achieved COD for Korea's first utility-scale offshore wind project in November 2017, a 30 MW project located in the coastal waters of Jeju Island known as Tamra. There are many more projects in the pipeline, including several large-scale floating offshore wind projects off the coast of Ulsan being developed by (among others) Equinor, Korea National Oil Corporation, Korea East-West Power, Shell, Green Investment Group, CoensHexicon, SK E&S, Copenhagen

Infrastructure Partners (CIP), EDP Renewables, Wind Power Korea and Aker Solutions, though generally these projects remain in the feasibility study and FLiDAR deployment stages. Developers such as POSCO Energy, KOMIPO, SK E&S, CIP, Hanwha E&C and KOEN are developing several other offshore projects, including 600 MW near Jeonnam Wando Island, 300 MW near Jeonnam Province's Sinan County, 100 MW in the Saemangeum Renewables Complex and 60 MW near Jeonnam Province's Yeonggwang County. Although none of these projects have yet issued a notice to proceed with construction, the momentum is clearly building and Korea's offshore landscape will change significantly by the early 2020's.

II. The Offshore Wind Promotion System

To obtain exclusivity to construct, own and operate an offshore wind project, a developer must obtain an electrical business licence (EBL) from the MOTIE, specifying the amount of generation capacity licensed to be developed, the location for the project and a “preparation period” during which the operation of the proposed project must be commenced.

The MOTIE issued a new rule effective August 2018 requiring offshore wind EBL applicants to have collected meteorological data for a period of at least one year.

In order to instal a meteorological measurement device (e.g., FLiDAR or met mast), the developer must first obtain a public waters occupancy permit from the applicable public waters management authorities (PWMA) for such installation pursuant to the Public Water Management and Reclamation Act. After obtaining a public waters occupancy permit, a developer is generally granted exclusivity for a four-year period to the area that is within a 5 km radius of each meteorological measurement device. During this four-year period, the MOTIE will reject subsequent EBL applications within such areas.

As to the regulatory features, Korea’s Renewable Portfolio Standard (RPS) provides key support (replacing the previous FIT system effective until 2012) by requiring the country’s largest power

generators (i.e., those with installed power generation capacity of over 500 MW (RPS Participants)) to progressively increase, on a yearly basis, the proportion of their power that is produced using renewable energy. The RPS Participants are required to source 7 % of their total generation from renewable sources in 2020, and the requirement will climb to 10 % by 2023. RPS Participants can meet these quotas through self-generation or by purchasing renewable energy certificates (RECs) from renewable energy independent power producers (IPPs). If an RPS Participant fails to meet its RPS targets, it will be liable to pay a penalty in an amount of up to 150 % of the average REC price for its REC shortfall. Penalties vary depending on the nature (and frequency) of non-compliance.

An IPP is generally required to sell the electricity it has produced at the system marginal price (SMP) via Korea’s wholesale electricity market administered by the Korea Power Exchange (KPX). The SMP is calculated by the KPX for each trading hour to meet that hour’s electricity demand and is based on the variable production cost for the marginal supply of power required at the relevant hour that is produced by the most expensive generating unit in the cost-based pool. Korea Electric Power Corporation (KEPCO) is the sole purchaser of electricity from the KPX and has a monopoly on the retail sale of electricity in Korea (as well as on transmission and distribution).

The sale of RECs creates revenue streams for IPPs that complement the revenues received from the sale of electricity on the KPX (at the SMP). One REC nominally represents 1 MWh of electricity, but different multipliers (i.e., weightings) are applied to the issuance of RECs depending on a number of factors, including the type of renewable energy used.

Offshore wind has a high weighting value compared to other types of renewable energy (including solar PV or onshore wind) to accommodate the higher investment cost. RECs are issued by the Korean New and Renewable Energy Center (KNRE) of the Korean Energy Agency to certified eligible facilities. KNRE will determine (upon inspection) whether a facility complies with the standards to be certified and registered to receive RECs (and also determines the applicable REC multiplier). RECs can be traded on the spot market or under long-term contracts.

III. Public Law and Regulatory Permits

A. Regulatory permits required for the construction and operation of the offshore wind farm and the onshore grid connection

1. Offshore wind farm

To engage in an “electrical business” (a business that primarily generates, transmits or distributes electricity) in Korea, a developer must first obtain an EBL. As of August 2018, an EBL for an OWF will only be issued after collection of at least a year’s meteorological data for a specific site, which requires the developer to first obtain a public waters occupancy permit from the applicable PWMA.

Following issuance of an EBL, a developer must again obtain a public waters occupancy permit from the PWMA, this time for the installation of the WTGs. The PWMA may grant an occupancy permit for a period of up to 30 years. After receipt of this second occupancy permit, the developer must formulate a public waters occupancy implementation plan and obtain approval of this implementation plan from the PWMA within one year of the issuance of the applicable public waters occupancy permit (but prior to commencing construction).

The developer may also need to conduct a marine traffic safety examination, evaluating potential impacts on marine traffic by the proposed construction of

facilities (such as undersea cables) and the status of marine traffic, traffic congestion level, appropriateness of marine traffic system, safety plan for marine traffic, etc. pursuant to Korea's Marine Safety Act. This is not required if it is impossible for vessels to travel in the proposed project site or if the site is located more than 5 km from areas where vessels frequently travel.

If the proposed project site covers an area greater than 30,000 m², the developer must commission a "buried cultural heritage inspection institution" to complete a ground surface inspection to determine the existence of cultural heritage sites or artifacts within the proposed project site in accordance with the Act on Protection and Inspection of Buried Cultural Heritage.

The Environmental Impact Assessment Act (EIA Act) generally requires that wind power projects with generation capacity exceeding 100 MW complete an EIA to formulate measures for preventing, alleviating or mitigating negative impacts of the proposed project on the environment prior to commencement of construction. Construction of wind power projects with generation capacity not exceeding 100 MW may also be subject to an EIA, depending on the facts and circumstances (and location) of the proposed project.

Following completion of applicable EIA procedures, OWFs with generation capacity of 10 MW or more must obtain

approval for their construction plan from the Minister of the MOTIE. If the generation capacity is less than 10 MW, the developer need only notify the Minister of the MOTIE of its satisfaction of applicable construction standards prior to commencement of construction.

The Korea Electrical Safety Corporation (KESCO) must inspect newly-constructed wind power generation facilities, both when their foundations are constructed and when the entire construction is complete and prior to COD, and, if the KNRE determines that a facility qualifies for RECs, it will determine the applicable REC multiplier.

Following construction, developers of OWFs of at least 3 MW must notify the Minister of the MOTIE of COD "without delay".

Having said that, Korea's Electric Power Source Development Promotion Act (EPSDP Act) provides partial "fast track" alternative to the general permitting processes set out above for strategically important renewable energy projects. The EPSDP Act generally provides that certain permits otherwise required for project development (including the development permit based on the National Land Planning and Utilisation Act (NLPUA), the public waters occupancy permit, and the approval of public waters occupancy implementation plan) are deemed to be obtained if the MOTIE approves the implementation plan prepared by the developer.

The MOTIE had not previously designated renewable energy projects under the EPSDP Act, but this changed in September 2018 with the EPSDP designation of the Yeongam solar PV power project in South Jeolla Province.

2. Onshore grid connection

Any onshore facilities to be constructed in connection with an OWF development, such as an onshore substation, require the prior issuance of a development permit from the local government in accordance with the NLPUA.

Once the NLPUA development permit is issued, the following permits and approvals specified under the NLPUA are deemed to have been issued, provided that (i) those permits/approvals are related to the “development” at issue and (ii) all application documents for those permits/approvals are submitted for the development permit application:

- a) permit to use agricultural land for non-agricultural purposes – Farmland Act;
- b) permit to use forest for non-forestry purposes – Mountainous Districts Management Act;
- c) permit to use grassland for other purposes – Grassland Act;
- d) permit to cut trees – Creation and Management of Forest Resources Act; and

e) permit to occupy roads – Road Act.

In order to use transmission and distribution lines, a developer must meet the technical requirements set forth by KEPCO and enter into a grid connection agreement with KEPCO in accordance with the Regulations on Use of Transmission and Distribution Infrastructure.

B. Permitting process

EBLs are issued by the MOTIE, but are only issued to companies established in Korea. To apply for an EBL, the business owner must submit an application to the MOTIE, which is then comprehensively reviewed by the Electricity Regulatory Commission (ERC), which is responsible for, among others, reviewing regulations concerning operation of the Korean power market, applications for EBLs or other approvals and general monitoring of the power market.

Upon positive review from the ERC, the MOTIE may issue an EBL. The preparation period with respect to wind power projects is four years from the issuance of the EBL, i.e., the applicant is required to achieve COD within four years of the date of the EBL. Although this period may be extended, any such extension is subject to the MOTIE’s discretion.

Issuance of the 30-year public waters occupancy permit may require:

1. consultation with the Ministry of Oceans and Fisheries;

2. consultation with the Ministry of National Defense; and
3. consultation with the Ministry of the Interior and Safety.

As noted above, although the EIA Act generally requires that wind power projects with generation capacity exceeding 100 MW complete an EIA prior to commencement of construction, projects with generation capacity not exceeding 100 MW may also be (and often are) subject to an EIA. The EIA process generally involves a public hearing and takes approximately one year to complete, although EIA that may be required for projects with generation capacity not exceeding 100 MW may be completed in less than a year. The process begins when a developer submits its EIA proposal to the MOTIE (or, in certain circumstances set forth in the EIA Act, directly to the Ministry of Environment (MOE)) outlining its proposed scope, methods, analysis, limitations, etc. to be included in the EIA. The EIA should cover, among other things, an assessment of the proposed site's natural and ecological environment, air, water, soil, living environment, social environment, and economic environment. Following completion of applicable EIA procedures, MOTIE's approval of construction plans can often be obtained in approximately one month.

The NLPUA development permit for construction of any onshore facilities should be obtained from the local government before the commencement of such

construction. The documents required for application include, among other things, documents evidencing ownership of or rights to use the land included in the site, design drawing and documents necessary for application of permits which are deemed to be issued with the NLPUA development permit (as described above). In addition to the requirements set out in the NLPUA, local governments have enacted local legislation governing or restricting the issuance of development permits.

Negotiation of grid connection agreements with KEPCO generally takes several months to complete, and such agreements are valid for one year from the date of actual use of transmission or distribution facilities. Unless either party terminates or amends such agreements, they are automatically renewed for additional one-year periods for the duration of the project.

KESCO's inspection of foundations and the balance of project require application to KESCO at least seven days prior to a proposed inspection date.

IV. Offtake issues

A. Offtake, remuneration and tariff scheme

As noted above, an IPP's revenues are derived from a combination of the sale of electricity (at the SMP) and the sale of RECs.

The SMP is determined by the KPX. The KPX as the market operator forecasts electricity demand for the next day and receives bids for generation from generators on the previous day. In other words, the market runs on a "one day ahead" system where the bidding for tomorrow's despatch occurs today. The KPX then determines the SMP as the hourly settlement price based on the projected demand and bids for generation for each hour of the day. That said, the marginal cost of the generation unit that is last to receive the despatch order for such hour is determined to be the SMP, which represents the most expensive price at which electricity can be supplied at any given hour based on the demand and supply at that hour.

RECs can be sold either on the spot market operated by the KPX or via long-term contracts. Most utility-scale offshore wind projects opt for long-term fixed-price contracts, which enable an RPS Participant to purchase RECs for a term of 20 years based on an aggregate fixed price of the SMP and the REC price. As SMP is determined by the market and fluctuates by the hour, the REC price is automatically determined by subtracting SMP from the agreed fixed price.

The implementation of the "long-term fixed price contract" system enables IPPs to obtain a stable income stream, and thus facilitate the financing for development and construction of new renewable power projects.

PPAs between IPPs and KEPCO (direct PPAs) are not currently allowed in Korea because IPPs are required to sell electricity on the KPX and only KEPCO is permitted to purchase electricity wholesale from the KPX and retail it to electricity consumers. Although KEPCO opposes any deregulation that would permit direct PPAs, it seems likely that IPPs will soon be able to sell renewable power to large consumers indirectly through KEPCO's intermediation (Indirect PPAs). In October 2019, the MOTIE launched a pilot programme intended to test methods for Korean companies' participation in RE100, a voluntary global corporate initiative to rely 100 % on electricity generated from renewable sources. We understand that the MOTIE is strongly considering expanding the pilot programme in 2020 to permit Indirect PPAs.

B. Consequences of a project delay

Offshore wind developers who obtain EBLs are granted a four-year "preparation period" within which they are required to achieve COD. If a project is delayed beyond this preparation period, the developer will need to obtain an extension of the preparation period in order to retain its required EBL.

An IPP will typically negotiate a long-term fixed price contract with an RPS Participant in advance of COD, and the consequences of a project delay under this agreement is a matter for bilateral negotiation. Delays will necessarily subject the developer to the risk that the REC multiplier applicable to the project may be revised down, since the REC multiplier is not fixed until the KNRE inspects the project facilities following construction. The MOTIE periodically reviews and recalibrates REC multipliers to optimise the supply and demand of different types of renewable energy, and it stands to reason that, within time, REC multipliers for OWFs will gradually decline as construction costs fall.

C. Examples of actual and future tariffs

Feed in tariffs are not applicable to new projects in Korea's renewable energy market since the advent of the RPS scheme in 2012. Market pricing for both SMP and RECs is in constant flux, which is why utility-scale offshore wind IPPs negotiate long-term fixed-price contracts with RPS Participants to ensure long-term predictable cash flows. Combined SMP plus REC prices reflected in long-term fixed-price contracts are negotiated on a case-by-case basis and not publicly available, but we understand that these prices currently range between KRW165-175 per kWh. We note that this is a substantial premium over the government-subsidised offtake price currently paid to KEPCO by industrial electricity consumers.

V. Grid and Grid Connection

A. Planning and construction of the grid connection system

The project developer is responsible for preparing a viable plan for connecting the OWF to the applicable onshore KEPCO substation and obtaining rights to use the lands on which transmission lines will be installed. The transmission lines between the OWF and the grid connection point will be constructed by KEPCO on behalf of the developer or by the developer pursuant to KEPCO's engineering standards.

B. Responsibility for the cost of the grid connection system

The costs associated with connecting to the transmission grid are borne by the developer.

C. Consequences of delays and disruptions of the grid connection system

Risk allocation for delays and disruptions of the onshore grid are technically a matter for contractual negotiation in the KEPCO grid connection agreement, but, in practice, IPPs typically have no choice but to accept KEPCO's general terms and conditions, which do not provide compensation for delays or disruptions of the onshore grid connection absent fault of KEPCO.

D. Onshore grid congestions, prioritisation of renewable energy resources and compensation mechanisms

KEPCO is entitled to suspend or restrict the use of transmission or distribution infrastructure in the following circumstances upon notification to customers (notification may be sent afterwards in case of emergency):

1. where there is a need to control the balance of supply and demand of electricity;
2. where KEPCO's infrastructure needs to be suspended for construction (e.g., repair, replacement, etc.);
3. where it is requested by KPX pursuant to the Regulations on the Electricity Market Operation; or
4. where there is an emergent or serious need to suspend the use of KEPCO's infrastructure for safety.

We note that, although KEPCO has the authority to suspend or restrict access to transmission and distribution infrastructure for the above reasons, to our knowledge, it has never actually exercised this authority.

As noted above, the Electricity Business Law requires that the KPX prioritises the purchase of electricity from renewable energy projects over conventional sources (regardless of marginal unit cost).

VI. Real Estate

A. Rights over land to be secured

The developer of an OWF in Korea will be required to secure title to or usage rights over all lands to be included in the project site and all lands necessary to instal transmission lines from the wind farm to the assigned KEPCO substation.

The terms for acquiring title, use or lease rights to private lands are generally freely negotiable with the landowner.

On the other hand, the process for acquiring title, use or lease rights to land owned by the government is regulated by statute. If the land is classified as an "administrative property", then title thereto may not be acquired. In this case, the developer must obtain a use permit from the national or local government in order to develop electric facilities such as interconnection facilities thereon. If the land is classified as a "general property", then title, lease or usage rights thereto may be acquired from the national or local government, as applicable.

B. Costs and risk of legal challenges

Costs for land rights vary from case to case depending on the value of the relevant land and the price negotiated with the land owner (or the applicable governmental authority in the case of publicly-owned lands). There is very little risk of successfully challenging a developer's title to or usage rights over applicable lands.

VII. Other

The Public Waters Management and Reclamation Act (and its Enforcement Decree) requires developers to obtain consent from “interested parties” for the use of public waters. “Interested parties” means the persons who hold the rights which are expected to be infringed by a relevant public waters occupancy permit, including persons with fishing rights to such public waters. A developer is liable to compensate the fishermen for losses, e.g., reduction in the

revenues of fishing business, arising out of the use of public waters.

Most of the precedents in Korean law for determining compensation to interested parties for use of public waters arise in connection with the construction of near-shore infrastructure projects (such as wharfs and breakwaters). Because OWFs may be further from the shoreline, it may be practically more difficult to identify “interested parties” and determine the appropriate scope of loss or compensation.





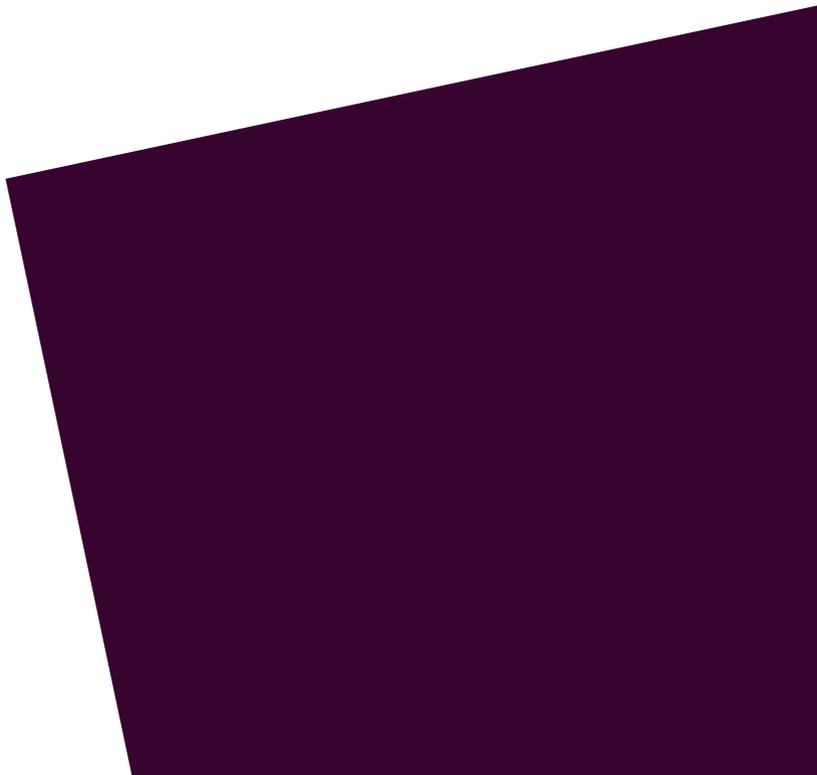
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I. State and future of Offshore Wind Projects

In the Netherlands, the North Sea is more than one and a half times the size of the land area. The increasing demand for sustainable energy, the relatively low water depth, the favourable wind climate and the proximity of ports and energy consumers offer great opportunities to facilitate energy transition.

There are currently five active OWFs in the Netherlands. These generate a total of approximately 1 GW of power. Further, OWFs are scheduled to be commissioned in the future.

In 2013, the Dutch government signed the Energy Agreement for Sustainable Growth (in Dutch: Energieakkoord) which sets out the energy ambitions and targets up to 2023. The Energy Agreement was signed by more than 40 organisations, including central, regional and local governments, employers and unions, nature conservation and environmental organisations and other civil-society organisations and financial institutions. The Energy Agreement serves to make the Netherlands less dependent on energy imported from abroad and is a contribution to tackling the problem of climate change.

It was agreed that five more wind farms are to be completed by 2023. Two of the five wind farms will be built in the area of Borssele and the remaining three wind farms in the areas of the provinces Zuid-Holland

and Noord-Holland, 18.5 km from the coast. Together with the existing wind farms, these new OWFs should ensure a total capacity of 4.5 GW.

In 2018, the Dutch government published “The new Offshore Wind Energy Roadmap 2030” which sets out the energy ambitions and targets between 2024 and 2030. It sets out a target of an additional capacity of 7 GW to be added between 2024 and 2030. In 2021, the Dutch government will call to tender for the development of these new wind farms. On the basis of these plans, it is estimated that, in 2030, 40 % of the current energy consumption can consist of sustainable energy in the Netherlands which will result in a huge CO₂ reduction.

The above shows that the Dutch government highly prioritises the development and construction of new OWFs. At the same time, the government also recognises that the North Sea is subject to intensive use and is one of the busiest international seas in the world. This requires a broader vision of the North Sea to ensure effective management of this area of water, which is developed in the “2030 North Sea Strategy”. The 2030 North Sea Strategy centres on ecological recovery, a future-proof food supply and a sustainable energy supply.

Taking these visions and strategies together, by 2030, a capacity of approximately 11.5 GW of offshore wind energy is expected from OWFs in the Netherlands.

II. The Offshore Wind Promotion System

The Netherlands Enterprise Agency (in Dutch: Rijksdienst voor Ondernemend Nederland) (NEA) conducts the offshore wind energy subsidy and permit tenders on behalf of the Ministry.¹

In preparation for these tenders, the NEA commissions various studies in relation to the wind farm zones. A so-called Project and Site Description (PSD) will be published to help any party with an interest in participating in the planned tenders. The PSD describes the site, surroundings and characteristics.

Two types of tenders are distinguished: tenders with subsidy and tenders without subsidy.² In both cases, the applications must meet the aforementioned criteria from the Offshore Wind Energy Act.

In tenders with subsidy, the subsidy comes from the subsidy programme Stimulation of Sustainable Energy Production (SDE+) of the Ministry. In practice, production of renewable energy is not always profitable because the cost price of renewable energy may be higher than the market price. SDE+ compensates OWFs for the difference between the cost price and the market price (“the unprofitable component”) for a fixed number of years.

Pursuant to the Offshore Wind Energy Act, the subsidy application procedure is linked to the permit application procedure.

The minister simultaneously decides on the permit application and the subsidy application. If several applications comply with Article 14 of the Act, the Minister will issue the permit to the party that is granted the subsidy.

If multiple applications are filed in tenders without a subsidy, the Minister will grant a permit to the bid with the highest ranking. Amongst others, the following criteria will be taken into account when preparing the ranking:

1. the knowledge and experience of the parties involved;
2. the quality of the design of the wind farm;
3. the capacity of the wind farm;
4. the social costs;
5. the analysis of the risks; and
6. the quality of the measures to assure cost efficiency.

In principle, the Minister decides on the applications within 13 weeks of the tender period. This time limit can be extended once with another 13 weeks.

¹ Minister/Ministry always refers to the Minister/Ministry of Economic Affairs and Climate Policy

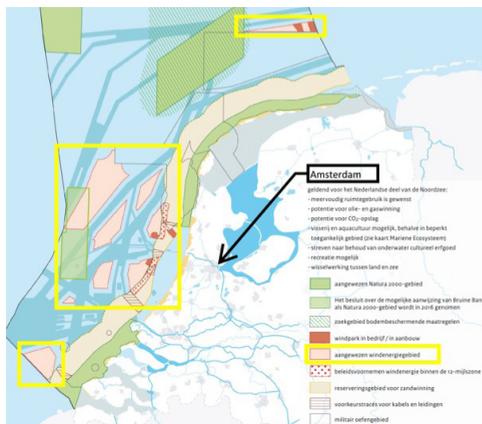
² See paragraphs 3.2 and 3.3 of the Offshore Wind Energy Act

III. Public Law and Regulatory Permits

A. Spatial planning at sea

The spatial planning of OWFs in the Netherlands is mainly subject to the Offshore Wind Energy Act (in Dutch: Wet Windenergie op zee) and the Water Act (in Dutch: Waterwet).

In the National Water Plan (in Dutch: Nationaal Waterplan), which finds its legal basis in the Water Act, the Minister of Economic Affairs and Climate Policy can appoint designated areas which are deemed suitable for OWFs. A so-called Wind Farm Site Decision (in Dutch: kavelbesluit) can be adopted for the development of an OWF in a designated area. So far, the Dutch Minister has allocated several designated areas for OWFs. These areas are indicated below (highlighted with an added yellow marking).³ The areas may be subject to change.



B. Regulatory permits required for the construction and operation of the offshore wind farm and the onshore grid connection

Pursuant to the Offshore Wind Energy Act, it is not allowed to build or operate OWFs in Dutch territorial waters or in the Dutch EEZ without a permit from the Minister.

C. Permitting process

The permit required for building or operating OWFs in Dutch territorial waters or the Dutch EEZ is issued by the Minister. The criteria for the granting of a permit are set out in the Offshore Wind Energy Act. Pursuant to these criteria, a permit can only be obtained if the construction and operation of the OWF are financially, economically and technically feasible. Furthermore, the operation and construction must be started within four years of the date on which the permit has become irrevocable. Finally, the permit application must comply with the Wind Farm Site Decision. Furthermore, additional criteria may be set by ministerial regulation.

Ultimately, a tender process will determine to whom a permit is granted. After winning a tender procedure, the permit holder will submit a project plan which details a construction plan for the OWF. This plan will not be subject to objection (in Dutch: bezwaar) or appeal (in Dutch: beroep). If a subsidy is required for the construction of the OWF, the permit procedure coincides with the subsidy procedure.

3 This image is based on figure 9 of the National Water Plan 2016-2021 (page 50)

IV. Offtake issues

A. Offtake, remuneration and tariff scheme

The development of an OWF involves a lot of costs. The development process takes time and requires many studies, procedures and consultations with local residents and other interested parties. Then there are the construction costs of the OWF, the purchase of the wind turbines, the grid integration and the costs once the wind farm is up and running.

At the same time, a wind farm also generates revenue. During the operation of an OWF, there are revenues in the form of the sale of electricity, green certificates (in Dutch: Garantie van Oorsprong) and SDE+ subsidies.

The use of PPAs (in Dutch: stroomafnameovereenkomsten) is increasing. A PPA is a long-term contract for the purchase or sale of electricity, and is intended to reduce financial risks by providing for a long-term price agreement with a customer. As there is no legislation on these PPAs, no specific stipulations for the content of such PPAs exist. However, in practice, there is a certain established market practice as to the usual and required contents.

B. Consequences of a project delay

The consequences of delayed project completion with regard to the offtake regime may depend on what is agreed upon by the involved parties.

When a PPA is involved, the consequences may depend on the respective provisions in the PPA. Usually a delay of the project would entitle the offtaker to demand a reasonable compensation. Additionally, termination remedies would normally be available for prolonged force majeure events.

Furthermore, the Electricity Act (in Dutch: Elektriciteitswet 1998) and the Ministerial Order Offshore Electricity Grid Compensation Rules (in Dutch: Besluit schadevergoeding net op zee) set out the liability regime applicable to the OWF owner in case of a delay in the completion of the offshore grid or the unavailability of the offshore grid.

In case of a delayed completion of the grid, damages consist of, for example, consequential damages and postponed electricity sales revenues.

V. Grid and Grid Connection

A. Planning and construction of the grid connection system

Based on the Electricity Act, the Dutch government appointed the company TenneT as onshore and offshore TSO. TenneT designs, constructs and operates the onshore grid connection. The planning and co-ordination of the projects takes place according to the National Coordination Plan (in Dutch: Rijkscoördinatieregeling), on the basis of which the Dutch government can co-ordinate decision-making on projects of national interest. Energy infrastructure projects that are of national importance are co-ordinated by the Minister.

TenneT shall enter into a “Realisation Agreement” and a “Connection and Transmission Agreement” with the OWFs. In the Realisation Agreement, the terms and conditions governing the realisation of the connection of the OWF to the Offshore Transformation System are laid down. From the day after the connection has been realised, the Connection and Transmission Agreement will govern the legal relationship between the Parties with respect to the connection.

B. Consequences of delays and disruptions of the grid connection system

An OWF owner shall be entitled to compensation for damage caused by the TSO of the offshore grid if this TSO produces all

or part of the offshore grid necessary to open up the OWF later than scheduled.

There is also a right to compensation when there is a disruption of the onshore grid connection or an unavailability of the network at sea. Consequently, it is important to unambiguously mark this moment in order to prevent unnecessary discussion about the period for which damages can be claimed.

C. Onshore grid congestions, prioritisation of renewable energy resources and compensation mechanisms

First and foremost, the TSO has the legal obligation to prevent transport shortage within all reasonableness by adapting the infrastructure to the transport needs. Congestion management therefore only applies in situations of transport shortage that the network operator has not been able to prevent. Congestion on a network or network surface is of a temporary nature because the TSO has the duty to resolve situations of transport scarcity as quickly as possible by making investments in transport capacity.

However, if congestion occurs, the network operator must give priority to the transport of renewable electricity generated within a congestion area, according to the Electricity Congestion Management Decree (in Dutch: Besluit congestiemanagement elektriciteit). Justification for this priority for sustainable

principle is found in Directive 2009/28/EC. This Directive allows priority over both access to the network and distribution and transmission. The aim is to minimise barriers to sustainably produced electricity.

In the Netherlands, the connection to the grid for both sustainable and non-sustainable production installations is already guaranteed.

VI. Real Estate

A. Rights over land to be secured

A seabed lease (in Dutch: recht van opstal) has to be established between the wind farm operator and the Dutch government. Apart from the seabed lease for the wind turbines, a rental agreement for the infield cabling between the wind turbines and the TenneT platform has to be signed.

In the most recent tenders, the Central Government Real Estate Agency calculated the costs for the right to the seabed lease at the sites in question, based on a rate of EUR 0.98 per MWh every year, using a fixed total capacity of 0.7 GW and 4,000 full-load hours. The payment is fixed and independent of the final actual installed capacity or output from the wind farms and is only required for the part of the wind farm within the 12 miles zone. Annual payments will be required four years after the permits have become irrevocable and will be indexed for the period of operation.

In addition, from the moment the permit is awarded, up to the moment of the full payment, a reservation fee has to be paid for the part of the site within the 12 miles zone. These payments (indexed) will also be required for the period from when the wind farm ceases operation until it has been fully decommissioned and removed.

B. Costs and risks of legal challenges

In general there is no risk regarding possible successful challenges to the right to use the land. As explained above, within the Dutch territory, the right to use the land is included in the planning and tender approval which becomes final and binding upon expiry of the respective objection periods, or the final rejection of any objections.

VII. Other

These links provide further relevant information for the Netherlands:

- > <http://offshorewind.rvo.nl/>
 - > <http://english.rvo.nl/subsidies-programmes/sde/sde-offshore-wind-energ>
 - > <http://www.tennet.eu/our-grid/offshore-projects-netherlands/>
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I. State and future of Offshore Wind Projects

A. Current state of offshore wind development and projects

Poland is an emerging offshore market which investors are looking at with great interest. The traditionally coal-based Polish energy sector has undergone significant technological transformation, and a progressive shift to renewable energy sources has been observed in recent years. There are various reasons for this shift starting with the RES targets set by the EU, the increasing prices for CO₂ emissions, growing climate change awareness, outdated coal-based energy power stations, and the need for greater diversification and energy security for the country.

In 2018, the RES share of the gross final energy consumption in Poland amounted to 11.3 %;¹ therefore below the required 15 % set for 2020, and 23 % set for 2030. As a result of this situation, the Polish government has identified offshore wind power as one of key renewable energy resources that would allow the country to achieve its EU RES share goals, as well as constituting a viable replacement for the coal-based power stations that are now in the process of being decommissioned. Offshore wind was included in the draft Polish Energy Policy 2040 (PEP 2040) as a strategic direction for the development of the Polish energy sector.

No offshore projects have, as yet, been constructed, but key Polish energy companies (subsequently supported by major European offshore wind companies) have already entered the game or have shown increased interest. The first OWF should be completed by 2025, and by 2040 offshore wind will account for the greatest amount of energy produced by renewable energy sources in Poland.

The most advanced projects are the OWF projects of Polenergia - the largest Polish private, vertically integrated energy group, implemented within a 50/50 joint venture with Equinor. Polenergia is the first entity which obtained environmental decisions for two OWFs: Bałtyk II, with a total capacity of up to 600 MW (April 2017), and Bałtyk III, with a total capacity of up to 1,200 MW (July 2016), along with the Grid Connection Conditions (GCC) for Bałtyk II, the Grid Connection Agreement (GCA) for Bałtyk III, as well as a valid environmental decision for the construction of the transmission infrastructure (March 2019). Initial geological tests of the seabed have already been carried out with respect to these projects and a two-year wind measurement campaign with the use of the LIDAR system has also been completed. The third project, Bałtyk I, with a total capacity of up to 1,560 MW, has a location permit and the GCC from the TSO.²

PGE *Baltica*, a subsidiary within PGE – the largest Polish state-owned energy group,

1 Source: Share of energy from renewable sources, 2018 (in % of gross final energy consumption), Eurostat, 23 January 2020, available at <https://ec.europa.eu/Eurostat/web/energy/data/shares>

2 https://www.polenergia.pl/pol/sites/default/files/news/pdf/2019_12_10_polenergia_i_equinor_wspolnie_zrealizuja_mfw_baltyk_i_en.pdf

has obtained location permits for three OWFs: Baltica 2, with a total capacity of up to 1,498 MW, Baltica 3, with a total capacity of up to 1,045 MW, and Baltica 1. The grid connection has been secured for Baltica 2 (GCC), and Baltica 3 (GCA). In January 2020, PGE Baltica was granted environmental permits for these projects. In December 2019, PGE Baltica signed a preliminary cooperation agreement with *Orsted* concerning the acquisition of a 50 % stake in Baltica 2, and Baltica 3.

PKN Orlen – a state-owned fuel and energy company, through its subsidiary *Baltic Power*, has a location permit for an OWF, with a total capacity of 1,200 MW (the GCC obtained) and environmental surveys in the Baltic Sea have already started. PKN Orlen is presently seeking an investor for this project. Two other early stage projects are owned by EDPR (each up to 200 MW). Recently, *RWE Renewables* has also acquired shares in four projects with a total capacity up to 1.5 GW. With costs coming down, a pre-existing supply chain and other sites being developed nearby, Poland is well placed to develop and build a large-scale offshore market.

B. Expectations of future developments in the market until 2030 and beyond

According to the current version of draft PEP 2040, the offshore wind capacity to be available by 2040 is 8 GW (2 GW less compared to the previous version of the policy).³ To date, 13 OWF projects are under consideration. The medium-term forecast for the future development of OWFs according to the draft Offshore Wind Act⁴ (and corresponding to the business cases of the most advanced project) the target is to grant support to OWFs of 4.6 GW by 2022. In subsequent steps, the Offshore Wind Act aims at increasing the total installed capacity of OWFs to be covered by the support scheme by 2.5 GW in 2025, and by a further 2.5 GW in 2027 providing a total of 9.6 GW. A number of other sources are more optimistic: according to the European Wind Energy Association WindEurope, the potential for Poland's wind energy in the Baltic Sea is estimated at 28 GW by 2050 which is one-third of the capacity that could theoretically be generated there.⁵

3 The draft Polish Energy Policy 2040, available at <https://www.gov.pl/web/aktywa-panstwowe/polityka-energetyczna-polski-do-2040-r-zapraszamy-do-konsultacji1> (in Polish only)

4 Available at <https://legislacja.gov.pl/projekt/12329105/katalog/126009#12656009> (in Polish only)

5 Source: Our energy, our future. How offshore wind will help Europe go carbon-neutral, Wind Energy Report, November 2019, available at <https://windeurope.org/wp-content/uploads/files/about-wind/reports/WindEurope-Our-Energy-Our-Future.pdf>

II. The Offshore Wind Promotion system

A. Regulatory framework

Although completely expected, to date there has been no dedicated offshore wind legislation implemented in Poland and the ongoing projects have all been developed based on the current legal framework applicable to energy projects.

In January 2020, the Polish Ministry of State Assets published, and released for public consultation, the long-awaited final draft of the Act on the Promotion of Electricity Generation in Offshore Wind Farms (Offshore Wind Act). The draft was the result of work and consultation with many partners, including sector and business representatives. The Offshore Wind Act is expected to be adopted in the first part of 2020.

The Offshore Wind Act specifically covers a dedicated support scheme for OWFs (quasi-CfDs and auctions) and introduces certain solutions facilitating the development and operation of OWFs, as well as incentives for the development of local supply chains. Permitting process, construction, and operation of an OWF remains subject to general legislation (to be amended under the Offshore Wind Act), in particular the Act on Maritime Areas, the Energy Law, the Renewables Energy Act, the Act on Providing Information on the Environment and its Protection, Public Participation in Environmental Protection, and on Environmental Impact Assessments, and the Building Law.

B. Scheme in relation to exclusivity to construct, own and operate a project, as well as to receive feed in revenues

The construction of an OWF in Poland is only possible in an EEZ, and there is a general prohibition on the development of the OWFs on territorial seas or inside sea basins. The specific places where OWFs can be located are determined in the Maritime Areas Spatial Plan prepared by the local maritime authorities – the director of the relevant maritime office in agreement with the relevant authorities – and adopted in the form of a ministerial ordinance. The Maritime Areas Spatial Plan is presently under preparation and should be expected sometime in late 2020 (the deadline is by 31 March 2021). The Maritime Areas Spatial Plan will consider the existing location permits.

The permit concerning the establishment and use of artificial islands, installations, and structures (OWF location permit), and the permit concerning the establishment and operation of underwater cables and pipelines (cable location permit) (according to the recent draft Offshore Wind Act) are issued by the relevant minister for maritime areas.

After the submission of an application for the OWF location permit for a particular location, the authority announces this fact, allowing other investors to apply for a permit for the same area within 60 days from the announcement. Should more than one investor apply for a particular location, the authority institutes a settlement procedure and decides on the winner based on various

criteria such as conformity with the spatial plan, length of the permit term, financing of the planned development (equity, loans, public funding), human resources, organisational and logistic support allowing for the completion of the investments, and the impact on national and EU sector policies (this is an open catalogue and there is no advance indication as to what importance should be granted to any particular criteria). The winning investor is the one which obtains the highest score. Currently, all pending and new proceedings concerning OWF location permits have been suspended pending the adoption of the Maritime Areas Spatial Plan.

C. Incentives for investments

The draft Offshore Wind Act stipulates a support system in the form of the right to settle a negative balance (quasi-CfD) which is the difference between energy value at the fixed price (arising from the Energy Regulatory Office (ERO) decision or a producer's offer that won an auction – see below) and its market value.

This support will be awarded in two phases:

1. First phase, until the end of 2022 – the support will be granted by way of an individual decision of the ERO for projects with an aggregate capacity up to 4.6 GW (which corresponds to the capacity of the most advanced projects) - in order of applications which need to be submitted by 30 September 2022. A formal confirmation from the ERO that the

investment will not be developed without the support will be required for this phase.

2. Due to no competitive procedure for granting public support, each decision will be notified to the European Commission and will be enforceable only after obtaining approval.
3. Second phase, after 2022 – the support will be granted by way of an auction (similar to the existing support system). The schedule stipulates auctions in 2023 (for any spare capacity of the 4.6 GW assigned for the first phase), 2025 (2.5 GW), 2027 (2.5 GW), and in 2028 – only if the remaining capacity exceeds 500 MW. The Council of Ministers can decide on any further auctions taking place in other years. The auction can only take place if at least three offers have been proposed. The auction support regime is subject to the notification to the European Commission.

To the application for an individual decision, as well as to take part in the auction, the company needs to attach:

1. the GCA (in the case of an auction – the GCC are sufficient);
2. the final environmental decision, and the final OWF location permit;
3. the substantive and financial schedule (confirming the realisation of the OWF within the specified deadline);

4. the local content plan (the plan of the investment's contribution to the local and national economic growth); and
5. the establishment of security in the amount of PLN60 per kW, approximately EUR 15 per kW – in the form of a bank/ insurance guarantee, or a paid deposit.

A negative balance will be settled by the Settlement Operator, a state-owned corporation. The maximum period of benefiting from the support scheme is *25 years from the first power generation and feed into the grid* (according to the current scheme – this is up to 15 years). The quantity of electricity (expressed in MWh) cannot exceed the product of: (i) 100,000 hours; and (ii) the installed capacity of the OWF or its part, as indicated in the power generation licence (but no more than the capacity specified in the decision, or in the auction bid).

The electricity generation and conversion devices installed in the OWF need to have been manufactured no sooner than 72 months before the first electricity generation.

D. Timeframe for the realisation of the project

According to the draft Offshore Wind Act, the successful bidder will be obliged to generate electricity (after obtaining the power generation licence) and feed it into the grid for the first time within seven years of the date of the EROs individual decision, or the bid award.

A failure of the operator to comply with these deadlines is sanctioned with the loss of 100 % of the security amount, unless it can prove that he is not liable for this failure. In the case of an admissible decrease of the declared capacity, 50 % of the security amount corresponding to such a decrease is also lost.



III. Public Law and Regulatory Permits required for the construction and operation of the offshore wind farm and the onshore grid connection

The relevant stages of investments relating to OWFs include obtaining the OWF location permit, and the cable location permit, obtaining the building and occupancy permits, as well as the fulfilment of numerous conditions concerning environmental protection (including obtaining an environmental decision and a water permit).

According to the recent draft Offshore Wind Act, the OWF location permit, and the cable location permit are issued by the relevant minister for maritime areas. The issuance of an OWF location permit is considerably more complex and time-consuming since it requires the cooperation of seven ministries (there are specific technical issues to be agreed, for example concerning environmental protection matters).

An OWF location permit gives its beneficiary the right to use the Polish EEZ for the purposes indicated therein. It is issued for not more than 35 years (it can, however, be extended by up to 20 years). If, within eight years from the date of the permit's issue (which can be extended by up to two years) the entity to which the permit was granted does not obtain a building permit for all or part of the project implemented in stages, the authority will state that it has expired. According to the draft Offshore Wind Act, the latter will not apply to any existing OWF

location permits and the existing OWF location permits will be extended to 43 years (by a further eight years from the issuance date). The cable location permit is issued for more than 35 years (it can, however, be extended by up to 20 years).

Obtaining an OWF location permit and the cable location permit is connected with the obligation to pay a fee (ca. EUR 350) and in case of an OWF location permit – since the construction will be placed within the EEZ, with an additional fee which is the equivalent to 1 % of the value of the planned investment. The 1 % fee is paid in four instalments (the first instalment in the amount of 10 % of the fee is to be paid within 90 days from the date of the permit becoming final and binding). The authority can appoint an expert to evaluate the value of investment.

The draft Offshore Wind Act introduces accelerations for other key permit decisions required for the construction and operation of an OWF: the environmental decisions, water, building, use, and permits will immediately be enforceable and will be (with the exception of the use permits) issued within 90 days.

The administrative decisions can be challenged by the applicant or affected third parties (in general in the first stage of the administrative proceeding, and in the second stage by an action before the administrative court). The draft Offshore Wind Act states that an action against the above decisions can be filed within 14 days from the date of their receipt by the party, or within 30 days

from the date of their announcement or receipt of the announcement (running individually). The appeal is reviewed within 14 days or, in the case of a building permit, within 60 days. A cassation appeal is reviewed within two months.

Based on the draft Offshore Wind Act, the permits may not be revoked or declared invalid in whole for the reason that its particular part is defective. After the lapse of the deadlines to file the actions or the appeal procedures having been exhausted, the decision is final and binding and can be subject to cancellation only in very exceptional cases.

IV. Offtake issues

A. Offtake, remuneration and tariff scheme

As mentioned above, the draft Offshore Wind Act stipulates a (public) incentive support system in the form of the right to settle a negative balance (see above for details). An OWF owner who wishes to receive the market premium must enter into a PPA with an offtaker. The current legislation framework does not contain any specific requirements for these PPAs, but there is a certain established market practice as to the usual and required contents.

B. Consequences of a project delay

See above.

C. Examples of actual and future tariffs

Under the current public support regime, the 2019 reference price (maximum prices to be offered in an auction bid) for offshore wind published by the Ministry of Energy amounted to PLN 450 per MWh, approximately EUR 100 per MWh. Given the very early stage of most of the projects, no auction for offshore wind has taken place to date.

V. Grid and grid connection

A. Legal framework for the connection to the onshore grid and the establishment of the grid connection

The main legal framework for the grid connection for an OWF is the Energy Law, the Renewable Energy Law, and in the near future, the Offshore Wind Act and the Preparation and Development of Strategic Investments in respect of Transmission Network Act.

B. Planning and construction of the grid connection system

In general, the entity responsible of the financing, construction and operation of all grid onshore connection systems in Poland is a public TSO, PSE (*Polskie Sieci Elektroenergetyczne*).

However, according to the draft Offshore Wind Act, the investments in transmission networks and installations used to offtake power from an OWF, along with the performance of necessary construction works, will remain within the responsibilities of the OWF owner. Investors will develop the connection between the OWF and the onshore high-voltage grid. After the development the connection can be sold to the TSO.

Such investments are to be considered 'transmission network strategic investments', which means that for their implementation (in addition to other permits) the investment location decision issued by the governor of province (*wojewoda*) will be required. Based

on this decision, the lands where the investment is located will be expropriated (in case of power station) or rights to them will be limited (in case of other investments within the transmission network). The decision should be issued within one month.

C. Responsibility for the cost of the grid connection system

According to the draft Offshore Wind Act, the construction costs of the onshore grid connection will be borne by the OWF owner. After the development the connection can be sold to the TSO.

In addition to the construction costs, the OWF owner will need to pay the compensation for the expropriation of the lands or limitation of the rights to the lands. The amount of compensation is subject to negotiations between the OWF owner, the land owner and the governor of province. In the case of the failure of negotiation, the amount of compensation is determined by the governor of province based on an appraisal report drawn up by a property appraiser.



VI. Real Estate

A. Rights over land to be secured

The OWF location permit cover the permission to use the respective maritime area of the EEZ for the OWF, whereas the OWF cable permit includes the respective right to use the seabed for cable system installation.

As mentioned above, according to the draft Offshore Wind Act, the rights to the land for transmission networks and installations used to offtake power from an OWF will be secured based on the investment location decision issued by the governor of province (*województwo*).

B. Costs and risk of legal challenges

In general there is no risk regarding possible successful challenges of the rights to use the land. As explained above, the rights to use the specific area are included in the relevant permits which become final and binding upon expiry of the respective remedy periods.

VII. Other

One of the aims of the draft Offshore Wind Act is to stimulate the development of the local supply chain. Although there is no requirement of any specific ratio of *local content* involved in OWF, the investors are expect to conduct and report on a technical dialogue with interested market participants (potential providers and performers). Dialogue is conducted in a way that ensures fair competition and equal treatment of potential suppliers and the solutions they offer. Information on such dialogue needs to be published on its website at least 30 days before.

The draft Offshore Wind Act is also to introduce a new tax on the generation of electricity by the OWF. The tax will be calculated as a ratio of the installed capacity of the OWF (specified in the concession for electricity generation) and the amount of PLN 23,000 (approx. EUR 5,500; subject to annual adjustment by reference to consumer price index).







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I. State and Future of Offshore Wind Projects

The Taiwan government's policy regarding offshore wind has been evolving in recent years. In February 2012, the government announced the Thousand Turbines Programme (the Programme; 千架海陸風力機計畫) which sets to develop 4 GW of offshore wind power by 2030. Under the Programme, the development of offshore wind power is divided into three phases, with a total target of 10 GW.

Later, the Four-Year Offshore Wind Promotion Programme (風力發電4年推動計畫) was announced in August 2017 and the policy goal for offshore wind development became 3 GW by 2025 while the three-phase development scheme remained.

According to the Renewable Energy Development Act (RED Act; 再生能源發展條例) last amended in May 2019, the targeted total renewable energy capacity by 2025 has been lifted from 10 GW to 27 GW. Thereafter, the Ministry of Economic Affairs (MOEA) announced the development objectives for renewable energy, the percentage of each category of renewable energy and the development plan and proposal thereof up to 2025. With respect to offshore wind, the cumulative capacity is targeted to reach 2.67 GW by 2020 and 5.73 GW by 2025.¹

The development goal beyond 2025 is not officially announced yet. The MOEA has revealed that another 5 GW of capacity may be allocated between 2026 and 2030, each year allocating 1 GW. It is expected that the capacity would be allocated by price bidding instead of by selection process with a fixed FiT price.

1 Announcement of the MOEA (No. Jing-Neng-Tze_10804603910) dated 9 September 2019.10804603910

II. The Offshore Wind Promotion System

Phase I of the Programme was implemented in 2012 where the MOEA approved three demonstration projects as the pilot projects of OWF development. However, as of today, only one demonstration project, i.e., Formosa I Project, achieved commercial operation of two pilot units (8 MW) (Phase I) in April 2017 and the remaining part of the wind farm (120 MW) (Phase II) on December 27, 2019.

To implement the aforesaid Phase II of the Programme, the Bureau of Energy (BOE) promulgated the Guidelines for Reservation of Offshore Wind Power Generation Site (Site Guidelines; 離岸風力發電規劃場址申請作業要點) in July 2015 to govern the OWF site planning. The BOE identified 36 potential zones suitable for offshore wind project development near the west coast of Taiwan for site application.

In addition, in early 2018, the MOEA released the Directions for Allocating Installed Capacity of Offshore Wind Potential Zones (Allocation Directions; 離岸風電規劃場址容量分配作業要點) which introduced a selection and a bidding mechanism for the allocation of 5.5 GW of grid capacity. In April 2018, the MOEA awarded approximately 3.8 GW of grid capacity through the selection process, and awarded approximately 1.7 GW through a tariff bidding process in June 2018.

The Phase III of the Programme is yet to be announced. According to public information, the BOE is expected to release the rules for the Phase III developmental round for offshore wind in the beginning of 2020.

With respect to the key regulations, it should be noted that electricity generation business is a regulated business in Taiwan. Special permits/approvals issued by the MOEA/BOE pursuant to the Electricity Business Act (EB Act; 電業法) and/or the RED Act are required for incorporation, construction and operation of a power generation enterprise.

The Electricity Business Registration Regulations (EBRR; 電業登記規則), promulgated pursuant to the EB Act, governs the formation and permitting procedures for electricity enterprises. In addition, the Regulations Governing the Installation of Renewable Energy Power Generation Equipment (Installation Regulations; 再生能源設備設置管理辦法) promulgated pursuant to the RED Act governs the installation of renewable energy facilities.

III. Public Law and Regulatory Permits

A. Spatial planning at sea

Under the Site Guidelines, the BOE designated 36 potential suitable sites for OWF development for the Phase II of the Program. All the applicants that participated in the selection and bidding processes for grid allocation should have obtained the BOE's acknowledgement of receipt of the site application (Site Recordation). An applicant is required to obtain a conclusion by the committee responsible for reviewing the environmental impact assessment (EIA Approval) by 31 December 2017, and obtain an Establishment Permit (EP) by 31 December 2019. After obtaining the EIA Approval, the applicant will be entitled to apply for an establishment permit recordation (EP Recordation) with the MOEA, and, with the EP Recordation, the project company will enjoy exclusive development right over the site. In the event that there are multiple applicants for the same site, only the applicant who first obtains a positive or conditional EIA Approval can secure an effective EP Recordation.

Nevertheless, the rules for the Phase III of the Programme have yet been announced by the MOEA. Taking reference from the rules under Phase II, it is likely that the MOEA may identify potential sites (including those not developed under the Phase II) and also allow the developers to propose other sites.

B. Regulatory permits required for the construction and operation of the offshore wind farm and the onshore grid connection

1. The offshore wind farm
 - The EBRR details the rules and procedures regarding the key electricity business permits and licences in Taiwan. Developing an offshore wind project in Taiwan involves the following five key permits and authorisations (in chronological order):
 - a) the issuance of an EIA Approval;
 - b) the issuance of an EP;
 - c) the issuance of a Recordation Approval;
 - d) the issuance of a Construction Permit; and
 - e) the issuance of an Electricity Business Licence.
2. The onshore grid connection
 - Key procedural requirements for onshore grid connection include the following key authorisations (in chronological order):
 - a) letter of synchronisation evaluation;
 - b) preliminary synchronisation negotiation;
 - c) detailed synchronisation negotiation; and
 - d) execution of the PPA.

In addition, for the OWF project developers who were awarded the grid capacity in Phase II of the Programme, the developers are required to enter into grid allocation contracts (each a GAC) with the MOEA.

C. Permitting process

There are a number of key regulatory authorities governing renewable energy project development. The MOEA and the BOE under the MOEA are the primary regulatory authorities in charge of the electricity industry and the renewable energy generation industry. The BOE is responsible for setting the policies for electricity businesses and the power prices, enacting technical regulations and supervising the administration of electricity facilities. In addition to the BOE, renewable power projects are subject to regulation by certain central and/or local authorities, such as the Environmental Protection Administration (EPA) and the National Property Administration (NPA), in relation to matters such as environmental protection and use of state-owned land.

The major procedures for applying for the key permits are summarised as follows:

1. **EIA Approval:** the OWF developer should submit a draft, full-scale EIA report (including technical studies and consultations with key stakeholders) to the review committee convened by the EPA, and the report has to pass several stages of review meetings.

2. **EP:** the OWF developer should submit an establishment proposal, including financial plan, EIA Approval, local government's approval, consent for the use of land for the power plant and consent letters from other relevant government authorities, for example, from the fishing or mining authorities, to the MOEA.
3. **Recordation Approval:** a copy of the EP is required to obtain the Recordation Approval from the MOEA.
4. **Construction Permit:** the OWF developer should provide supporting documents and permits to the BOE, including, among others, a construction plan, preliminary drawings and specifications, and the approval for the use of the offshore land.
5. **Electricity Business Licence:** issuance of the Electricity Business Licence by the BOE requires a number of documents, including completion of submarine cables, and proof of self-owned capital.

As to the required consent for the grid connection mentioned in section 2.2(b), Taiwan Power Company (Taipower), a state-owned company as elaborated below, is the entity conducting the review and issuing the consent letters. According to Article 8 of the Installation Regulations, in terms of OWF projects, a PPA must be executed within six months of the Recordation Approval being obtained.

IV. Offtake issues

A. Offtake, remuneration and tariff scheme

The offtaker for OWF projects in Taiwan is Taipower, which is a state-owned company under the administration of the MOEA. Renewable energy generators may enter into a PPA for offshore wind projects with Taipower with a guaranteed term of 20 years.

According to the RED Act, Taipower is obliged to connect and purchase power generated by renewable energy facilities at the FiT applicable to the year in which the PPA is executed. FiT in Taiwan is determined, reviewed and adjusted annually by the review committee convened by the MOEA, which comprises relevant governmental agencies, scholars and experts as required by law. The factors that would be taken into consideration include relevant costs and other parameters such as the average installation cost, service life, operation and maintenance fees, annual electricity generation capacity, the fisheries compensation, costs of maintenance and decommissioning, and whether the facilities are installed in remote areas, etc.

Under the Phase II of the Programme, for the OWF projects which are awarded grid capacity in the selection process, Taipower will offtake the power generation thereby at the FiT rate applicable to the year of execution of the PPA. As for the OWF projects which are awarded grid capacity in the bidding process, they may only sell

power to Taipower at the price it offered in the bidding process.

Thanks to the latest amendment to the EB Act on 26 January 2017, OWF projects may also sell the power directly to the private end-users through wheeling arrangement or their own transmission lines. In 2019, several tech giants, including Google and Apple, publicly vowed to purchase renewable energy in Taiwan to fulfil their commitment to operate their businesses on green energy.

B. Consequences of a project delay

Under the template PPA of Taipower (“Template PPA”), there is no specific commercial operation date or any provision explicitly dealing with the delay of completion of the OWF project. Moreover, there is no minimum generation requirement under the Template PPA. However, as mentioned above, the FiT is decreasing year by year, and the current rule provides that the FiT is fixed based on the year in which the PPA is executed. Hence, other than delay of the execution of the PPA which could lead to lower FiT rate, there should generally be no liabilities or negative consequences under the offtake regime.

However, according to the FiT applicable for 2020 announced by the MOEA on 31 December 2019, the FiT for OWF projects is subject to the GAC. Under the GAC, if a project company delays in achieving certain milestones, for each month of delay, a percentage of performance bond may be deducted as damages. In addition, if the

accumulated delay in achieving any of the required synchronization milestones reaches 12 months or 60 % of the performance bond has already been deducted, the FiT for a period equivalent to the delay period in excess of said 12 months or 60 % of the performance bond (“Excessive Delay Period”) should be the lower of (a) the avoided costs; or (b) the FiT applicable to the year when the PPA is executed by the project company, and should be included as part of the 20-year term of the PPA with the Excessive Delay Period being counted toward the expiry of the PPA. Hence,

although there should generally be no liabilities or negative consequences in terms of the delay of completion of OWF projects under the Template PPA, technically, an OWF project company’s delay in meeting certain milestones under the GAC would affect the revenue that it will generate under the Template PPA down the road. Please also refer to Section 4.3 below.

C. Examples of actual and future tariffs

The FiT applicable to OWF projects in the recent three years is as follow:

FIT (NTD per kWh)					
FIT Base		2020	2019	2018	2017
Fixed FiT for 20 years		5.0946	5.5160	5.8498	6.0437
Two-phase FiT For the last 10 years	For the first 10 years	5.8015	6.2795	7.1177	7.4034
		3.8227	4.1422	3.5685	3.5948



OWF developers have the option of a fixed 20-year electricity tariff or a step-down rate with a higher tariff for the first 10 years and a lower tariff for the second 10 years. In addition, for FiT applicable to 2020, the MOEA set down tiered production caps on the 2020 FiT which are summarized as follows:

1. 100 % of FiT for production below 4,200 annual full-load hours;
2. 75 % of FiT (i.e., NTD 3.8210 per kWh based on the fixed FiT) for production from 4,200 to 4,500 annual full-load hours; and
3. 50 % of FiT (i.e., NTD 2.5473 per kWh based on the fixed FiT) for production above 4,500 annual full-load hours.

The FiT variation in recent years shows that the FiT for OWF projects continues to decrease. To our understanding, such downward trend is due to reasons such as the advance of technologies and the influence of a lower bidding price. Also, another reason was reported to be the public's concern that the FiT was set too high that the developer's receive undue profits.

V. Grid and Grid Connection

A. Planning and construction of the grid connection system

According to Article 46 of the EB Act, the power transmission and distribution enterprise shall plan, build and maintain the power grids across the country. Also, pursuant to Article 31 of the EB Act, the power transmission and distribution enterprise shall inspect and maintain its facilities regularly. As the sole state-owned transmission/distribution system operator in Taiwan, Taipower has the responsibility to plan and construct the grid.

On the other hand, pursuant to Article 8 of the RED Act, the developer who installs the renewable energy power generation facility is responsible for constructing and maintaining the circuits connecting its facility to the grid.

B. Responsibility for the cost of the grid connection system

Although it is Taipower that bears the obligation to maintain the grid, under Article 8 of the RED Act and Section 9.3 of the Template PPA, Taipower may require the renewable energy developers to share a portion of the costs of grid enhancement associated with the synchronisation of renewable energy facility. The allocation of the grid enhancement cost is subject to the MOEA's approval and may be, if necessary, reviewed by the MOEA's review committee composed of relevant experts. However, the grid enhancement cost to be borne by OWF project developers, as proposed by Taipower,

has not yet been settled with the developers at the moment.

With respect to constructing and maintaining the circuits connecting the developer's facility to the grid, the renewable energy developer shall bear the costs incurred.

C. Consequences of delays and disruptions of the grid connection system

As explained above, under the current rules (i.e., Phase II of the Program), the OWF projects which are awarded grid capacity in the selection and bidding processes have the obligation to complete construction and start commercial operation by the date specified in the GAC. In the event of a grid connection delay caused by Taipower, the project company may argue that the delay is caused by an event not attributable to the project company, thus it is not liable for the delay in performing its obligation pursuant to the Taiwan Civil Code. Also, the project company is entitled to request an extension of the deadline for up to six months per force majeure event pursuant to the GAC.

D. Onshore grid congestions, prioritisation of renewable energy resources and compensation mechanisms

Under the Template PPA, Taipower is entitled to reduce the operating load when Taipower needs to perform safety dispatching or, in case of power failure during a task, the power system experiences accidents, or the need for repair and

inspection of Taipower's and the project company's equipment. Under the Template PPA, the project company may not request compensation from Taipower for any consequential reduction in the sale of electricity as such. Although there is no exhaustive list of the circumstance entitling Taipower to reduce the operating load, a reasonable interpretation would be that Taipower does not have the right to arbitrarily curtail the project on any grounds that are irrelevant to safety or similar concerns.

Also, the curtailment risk can be mitigated since Taipower should prioritise the grid connection and despatch of renewable energy according to Articles 8 and 18 of the EB Act. While these provisions do not specify the priority among the various types of renewable energy, they serve as a solid basis for the project company to mitigate the curtailment risk.

VI. Real Estate

A. Rights over land to be secured

In general, for developing and operating an OWF project, the project company is required to acquire the rights to use the real estate in respect of the site of the project, submarine cables, onshore transmission cables, substation and/or harbour land/facilities required for the construction and/or O&M activities.

If state-owned land is involved, in practice, the project company will need to obtain a permit from or enter into a lease agreement with the relevant agencies that are in charge of the management of such land. If the land required for the project is owned by private parties, the usual practice is for the parties to enter into a lease or purchase agreement with the private landlords/landowners. For the real estate rights, the following key permits and approvals are commonly seen in practice for OWF projects in Taiwan:

Land	Related Facilities	Key Permit/Agreement
Use of Offshore Land	Project Site	Approval for preliminary use of offshore land issued by the NPA.
		Permit for use of offshore land issued by the NPA.
	Submarine Cables	Approval for the course survey of laying submarine cables issued by the Ministry of Interior (MOI).
		Permit for laying submarine cables issued by the MOI.
Use of Onshore Land	Transmission Cables	Depending on the owner of the land (private or public entity), permit(s) or agreement(s) should be obtained or executed.
		Depending on the owner of the land (private or public entity), permit(s) or agreement(s) should be obtained or executed.
	Substation	For connection with Taipower's onshore connection system, lease agreement(s) with Taipower for the switchboard is required.
	Harbor Facilities	Harbour lease agreement(s) with port authority is required for construction and O&M activities.

In addition to the above, if the NPA has granted the right to use certain offshore areas needed by a project to another government agency/quasi-government agency prior to the development of the project, the project company may also need to apply for a specific usage approval or enter into an agreement for the use of the relevant offshore land with such agency.

B. Costs and risk of legal challenges

In principle, under the Taiwan Civil Code, the term of a lease agreement may not be longer than 20 years; otherwise, the portion of a lease term beyond 20 years is invalid. Consequently, taking into account the time required for the construction and operation of an OWF project, since the Template PPA guarantees Taipower's purchase of electricity for 20 years from the initial paralleling date, a lease agreement of land might not be able to cover the whole life of operation of the OWF project.

That being said, it is worth noting that, where state-owned land would be used, pursuant to the RED Act, the duration of usage of state-owned land by renewable energy electricity generation facilities and cables to be installed thereon should not be shorter than the term of the Electricity Business Licence. Hence, if the term of a permit/agreement granted/entered into by the government agency is less than the term of the Electricity Business Licence, the project company should have a strong statutory ground for an extension of the relevant permit/agreement upon its expiration.

VII. Other

A. Localisation Commitments

Under the GAC, the project company is required to make a number of commitments in respect of local contents, milestones of the project development and construction and so on; among which local content commitment (i.e., the localisation plan) is currently only applicable to the projects awarded grid capacity in the selection process for the grid allocation in 2021 to 2025. Under the GAC, those project companies which are awarded capacity in 2021 to 2025 in the selection process are required to submit their localisation plans to the Industrial Development Bureau, the MOEA for review.

Any deviation from the localisation commitments or any material deviation from other requirements/commitments under the GAC requires MOEA's prior approval. Non-material changes to the GAC should be reported for recordation. Failure to comply with such requirements will trigger damages payable by the project company, including a drawing on performance bond, adjustment of the FiT, liability for damages to the MOEA or, for certain enumerated breaches, rescission of the GAC.

Under the GAC, (1) any change of the promoter(s) of the preparatory office of the project company; (2) any deviation from the localization commitments or other changes deemed material by the MOEA; and (3) any change of area or installed capacity of the wind farm due to a force majeure event or an excusable event, are subject to the approval

of the MOEA, while any changes to matters other than those described above only need to be reported to the MOEA for recordation. As the GAC is silent on what constitutes a “material change”, in practice, this issue would be subject to the MOEA’s discretion on a case-by-case basis.

So far, the MOEA has not officially announced whether the Phase III of the Programme would require localisation commitments from the developers yet.

B. Fishery Right Compensation

According to the EBRR, an agreement with the fishermen association in respect of the fishery right compensation is one of the requisite documents for the application for the Construction Permit.

Under Article 6 of the Fisheries Act, any person to be engaged in the fishery business in the public waters or non-public waters adjacent thereto should obtain a fishing licence issued by the Council of Agriculture, Executive Yuan (COA). Under the Fisheries Act, only fishermen associations or fisheries production co-operatives may apply with the competent authority for an exclusive fishery right. Furthermore, any fisherman who is not a member of a fishermen association or fisheries production co-operative should enter into a contract with the fishermen association or fisheries production co-operative for conducting fishing activities in the exclusive fishery right of such fishermen association or fisheries production co-operative.

As OWF projects may adversely impact fishery rights, the discussion and settlement with fishermen around the site is crucial. On 30 November 2016, the COA promulgated the Standard of the Fishery Right Compensation regarding Offshore Wind Farm (離岸式風力發電廠漁業補償基準). While the Fishery Right Compensation Standards are not compulsory and have no binding effect on the parties, such standards may serve as a reference for the negotiation between the parties.

In practice, the project company will have to reach an agreement with the fishermen association on fishery right compensation before applying for the EP.

C. The Development Assistance Fund

Pursuant to Article 65 of the EB Act, in February 2018, the MOEA announced draft Rules on the Usage, Supervision and Management of Power Development Assistance Funds and its initial proposal on the contributions to the Power Development Assistance Fund. On 16 April 2019, the Draft Usage Rules were finalised and announced by the MOEA (DAF Rules).

According to the DAF Rules, each offshore wind developer is required to set aside an amount annually according to a formula based on the volume of electricity generated by its project in a separate and dedicated bank account after it commences commercial operation. The fund amounts will mainly be used to promote local community development and welfare (DAF).

According to the DAF Rules, the Development Assistance Fund for offshore wind projects should be applied as follows: (i) 70 % of the Development Assistance Fund to be used as a grant-based fund, of which 15 % to be allocated to local government, 50 % to the fishermen association and 35 % to the township (town, city and district) office where the onshore substation is located and (ii) 30 % of the Development Assistance Fund to be used as a project-based fund, which can be drawn upon application by the local government, township office, farmers' association or fishermen's association of the city/county/township where the relevant

facilities (e.g., generation facilities, power lines/cables and substations) are located. However, OWF projects are carved out from the DAF Rules as, according to publicly available information, the interested parties in the OWF sector were not able to reach a consensus on how the DAF was to be allocated (between local government, townships and fishery associations). According to the latest news reports, the MOEA has indicated a fund contribution rate of NTD 0.018 per kWh applicable for OWF projects, yet the final contribution rate is still pending official announcement.





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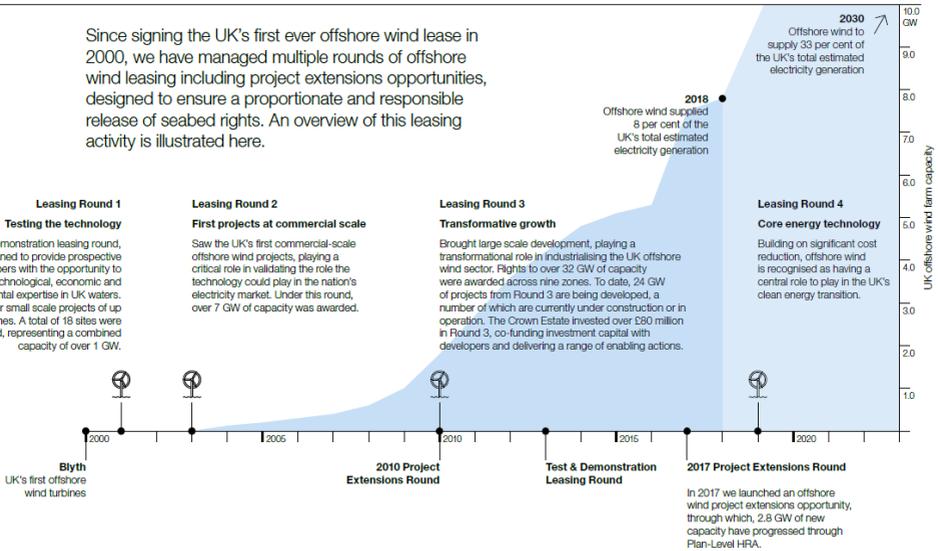
I. State and Future of Offshore Wind Projects

A. Current state of offshore wind development and projects

“The UK is the world’s largest offshore wind market, offering an excellent development opportunity, given established market structures, a stable policy outlook and a clear

route to seabed rights. Foremost though, the UK offers some of the best conditions for offshore wind development, with long coastlines, favourable wind conditions and, in many areas, shallow waters with depths of 50 metres or less. This world-class natural resource has enabled the UK to play an early and crucial role in the development of the global offshore wind sector.”¹

Since signing the UK’s first ever offshore wind lease in 2000, we have managed multiple rounds of offshore wind leasing including project extensions opportunities, designed to ensure a proportionate and responsible release of seabed rights. An overview of this leasing activity is illustrated here.

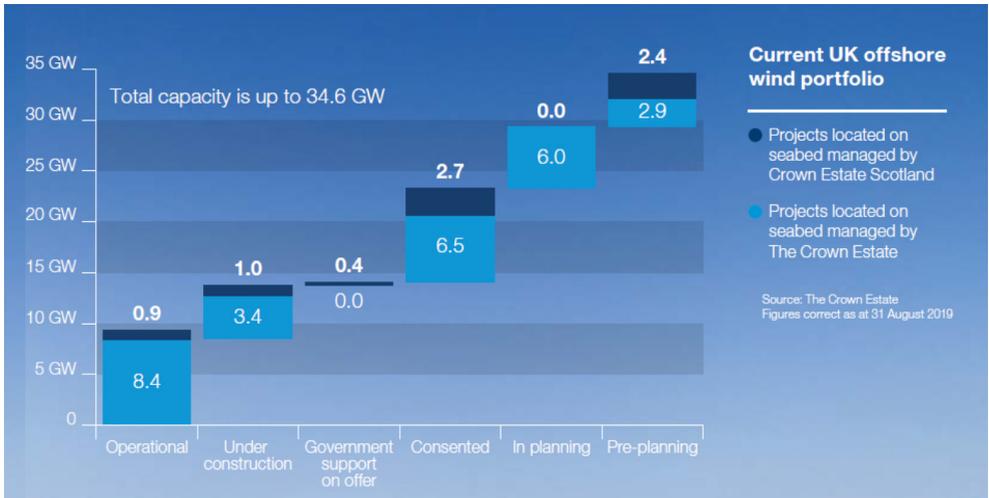


(Source: The Crown Estate – Round 4 Information Memorandum)

Since the first offshore wind lease in the UK was signed in 2000, the industry has grown rapidly and is expanding fast. The UK is now host to the largest existing deployment of

offshore wind energy in the world. Offshore wind energy powers the equivalent of 4.5 million British homes every year and the cost of new offshore wind has halved since 2015.²

1 <https://www.thecrownestate.co.uk/media/3321/tce-r4-information-memorandum.pdf>
2 <https://www.renewableuk.com/page/WindEnergy>



(Source: The Crown Estate – Round 4 Information Memorandum)

Offshore Wind in Numbers:

The UK has 43 % of total European offshore capacity.³

There are more than 30 offshore wind projects with nearly 2000 foundations in UK waters and nearly 1000 under construction.⁴

In 2018, offshore wind generated 14.7 % of total power in the UK.⁵

³ <https://www.thecrownestate.co.uk/media/2950/offshore-wind-operational-report-2018.pdf>

⁴ https://cdnymaws.com/www.renewableuk.com/resource/resmgr/publications/supply_chain_review_31.01.20.pdf

⁵ <https://www2.deloitte.com/content/dam/Deloitte/cn/Documents/energy-resources/deloitte-cn-er-uk-offshore-wind-power-market-update-en-190809.pdf>

B. Expectations as to future developments in the market until 2030 and beyond

1. Offshore Wind Sector Deal

The UK Government published its offshore wind Sector Deal⁶ in March 2019, which:

- a) targets the deployment of 30 GW of UK offshore wind capacity by 2030 (with a cumulative infrastructure investment capex of over GBP40 billion);
- b) provides forward visibility of future CfDs rounds with government support of GBP557 million. CfDs are the principal UK government support mechanism for the deployment of offshore wind projects and CfD round 4 opened in summer 2019 with subsequent auctions expected around two years thereafter;
- c) aims to increase the representation of women in the offshore wind workforce to at least a third by 2030; and
- d) sets the ambition of increasing offshore wind sector exports fivefold to GBP 2.6 billion by 2030.

2. Net-zero

In June 2019, the UK Government passed legislation in the form of The Climate Change Act 2008 (2050 Target Amendment) Order 2019, committing the UK to eradicate its net contribution to climate change by 2050 and making the UK the first G7 country to legislate for net zero emissions. The legislation was built on the recommendation of the Committee on Climate Change in a report published in May 2019.⁷ In that report, the Committee on Climate Change contemplates the future energy mix that would be required to achieve net zero greenhouse gas emissions and concludes that this could require 75 GW of UK offshore wind to be deployed by 2050.

3. Contract for Difference – auction round 3

In September 2019, the UK Government announced the results of the latest CfD auction (auction round 3), in which UK offshore wind projects secured a 15-year CfD contract support at record low auction clearing prices of between GBP39.65 to GBP41.61 per MWh (2012 prices).

4. Offshore wind leasing processes

In September 2019, The Crown Estate launched the UK's first major offshore wind leasing round in a decade (known as Round 4), opening up the opportunity for at least 7 GW of new offshore wind energy, enough to meet the electricity needs of over six million homes.⁸

⁶ <https://www.gov.uk/government/publications/offshore-wind-sector-deal>

⁷ <https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/>

⁸ <https://www.thecrownestate.co.uk/en-gb/media-and-insights/news/2019-the-crown-estate-launches-the-uk-s-first-major-offshore-wind-leasing-round-in-a-decade-opening-up-the-opportunity-for-at-least-7gw-of-new-clean-energy/>

Crown Estate Scotland is also proposing to launch an offshore wind leasing round in Scotland in the near future.⁹

5. Innovation

In October 2019, the UK Offshore Renewable Energy Catapult launched the Floating Offshore Wind Centre of Excellence, backed by funding from the Scottish government, the Catapult's Welsh centre and support from Cornwall and the Isles of Scilly Local Enterprise Partnership.¹⁰ The Centre of Excellence aims to:

- a) reduce the cost of energy from floating wind;
- b) accelerate the build-out of floating farms;
- c) create opportunities for the UK supply chain; and
- d) drive innovations in manufacturing, installation and operations and maintenance.

6. Queen's speech

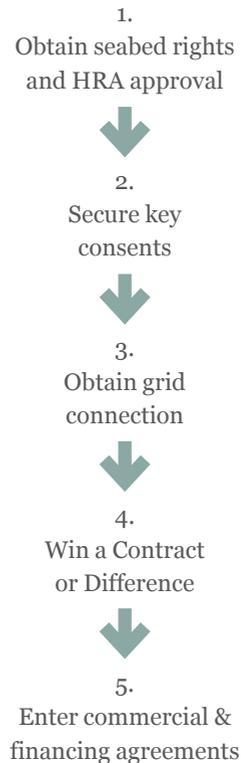
In December 2019, the Queen's Speech announcing the UK Government's new legislative programme for the current five-year parliament increased the UK's ambition for offshore wind to the deployment of 40 GW by 2030 and confirmed that the UK will enable new floating turbines.

II. The Offshore Wind Promotion System

A. Regulatory Framework

The following is a high level outline of the legal and regulatory framework that applies to the development of an offshore wind project in England and Wales. Scotland is subject to its own parallel system.

In overview, the key elements of the process in England and Wales are as follows:



⁹ <https://www.crownestatescotland.com/media-and-notice/news-media-releases-opinion/scotwind-leasing-update>

¹⁰ <https://www.offshorewind.biz/2019/10/31/uk-gets-floating-offshore-wind-centre-of-excellence/>

The key Government and regulatory stakeholders are as follows:

Area	Responsibility
Seabed leasing	The Crown Estate
UK Energy Policy	Department for Business, Energy and Industrial Strategy (BEIS)/Welsh Government
CfD support	Low Carbon Contracts Company (LCCC)
Electricity licensing and market regulation	Ofgem
Environmental policy	Department for Environment, Food and Rural Affairs (DEFRA)/Welsh government
Planning consents	Planning Inspectorate
Grid (Transmission)	National Grid ESO/NGET
Statutory nature conservation bodies	Natural England/Natural Resources Wales (NRW)
Marine Planning and Licensing	Marine Management Organisation (MMO)/NRW/Welsh government
Aviation	NATS Holdings/Civil Aviation Authority
Defence	Ministry of Defence
Navigation	Maritime and Coastguard Agency/Trinity House

B. Scheme in relation to exclusivity to construct, own and operate a project, as well as to receive feed-in revenues

1. The Crown Estate

Exclusivity to construct, own and operate an offshore wind project in England and Wales is secured through the entry by the proposed developer into an Agreement for Lease with The Crown Estate granting the

developer the right to be granted a lease of the relevant seabed site subject to the discharge of various milestone conditions.

As noted above, in September 2019, The Crown Estate launched a major offshore wind leasing round (known as Round 4), opening up the opportunity for at least 7 GW of new offshore wind energy.

The Crown Estate's Round 4 tender process includes:

- a) a three-stage tender process, evaluating both bidders' capability and their proposed projects, before using option fees to determine award;
- b) bidder led site selection within four available Bidding Areas (Dogger Bank Bidding Area, Eastern Regions Bidding Area, South East Bidding Area and Northern Wales and Irish Sea Bidding Area);
- c) a geographically diverse pipeline - Round 4 projects will come forward across at least three Bidding Areas, with a maximum of 3.5 GW within any one area;
- d) extended 60-year lease terms - (up from 50) enough for two full project lifecycles; and
- e) low-cost deployment - Round 4 focuses on water depths out to 60 metres, which are suitable for fixed foundation technology, and will come forward in areas of favourable development resource, helping to enable cost-competitive deployment.

2. Plan-Level Habitats Regulations Assessment (HRA)¹¹

The EU Habitats Directive provides for the establishment and protection of certain habitats known collectively as European sites. These sites include the following which comprise the Natura 2000 network:

- a) Special Areas of Conservation (SACs) designated under the EU Habitats Directive; and
- b) Special Protection Areas (SPAs) sites classified under the EU Birds Directive.

Under the terms of the Directive, where a plan or project is likely to have a significant effect on a European site, a competent authority must assess its implications for the conservation objectives of the relevant sites, before deciding to undertake, consent to or otherwise authorise the plan or project.

In the marine environment, the Habitats Directive is given effect in UK law through The Conservation of Habitats and Species Regulations 2017, The Conservation of Offshore Marine Habitats and Species Regulations 2017 and The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended), collectively referred to as the "Habitats Regulations".

Within the meaning of the Habitats Regulations, The Crown Estate's Round 4 offshore wind leasing round is a plan and

11 Further details can be found at <https://www.thecrownestate.co.uk/media/3378/tce-r4-information-memorandum.pdf>

The Crown Estate is a competent authority. The Crown Estate will, therefore, undertake a Plan-Level HRA of its Round 4 leasing plan, which could result in the following outcomes:

- a) the Round 4 leasing plan not adversely affecting the integrity of the European sites concerned;
 - b) mitigation measures being required to ensure that the Round 4 leasing plan will not adversely affect the integrity of the European sites concerned; and
 - c) the Round 4 leasing plan adversely affecting the integrity of the European sites concerned, even with mitigation measures, in which case one or more projects in the Round 4 leasing plan may not be able to proceed.
3. Contracts for Difference
- New offshore wind projects are currently eligible to compete for UK government support through CfD auctions.

The CfD scheme is the UK government's main mechanism for supporting low-carbon electricity generation. CfDs incentivise investment in renewable energy by providing developers of projects with high upfront costs and long lifetimes with direct protection from volatile wholesale electricity prices, and they protect consumers from paying increased support costs when electricity prices are high.

See section II.C. below for further details of the UK's CfD scheme.

C. Incentives for investments

1. Contracts for Difference

As noted above, the CfD scheme is the UK government's main mechanism for supporting low-carbon electricity generation. CfDs are awarded to prospective developers through CfD auction/allocation rounds.

Offshore wind and other renewable generators located in the UK that meet the eligibility requirements can apply for a CfD by submitting what is a form of "sealed bid". There have been three CfD auctions to date (in 2015, 2017 and 2019), which have seen a range of different renewable technologies competing directly against each other for a contract.

Successful developers of renewable projects enter into a private law contract with the Low Carbon Contracts Company (LCCC), a government-owned company. Developers are paid a flat (indexed) rate for the electricity they produce over a 15-year period; the difference between the "strike price" (a price for electricity reflecting the cost of investing in a particular low carbon technology) and the "reference price" (a measure of the average market price for electricity in the GB market).

CfDs provide price stability by converting the risk of the variable price of the wind project's energy output to a fixed price ("strike price"). A payment is made to the generator by the counterparty when the market price becomes lower than the agreed strike price and the generator pays the counterparty when the market prices goes above the agreed strike price.

2. Investment Contracts

Investment Contracts are an early form of bespoke and bilaterally negotiated CfD support awarded by the UK Government to five OWFs and three other renewable electricity projects in 2014.

3. Renewable Obligation Certificates (ROCs)

The Renewables Obligation (RO) was the main support mechanism for large-scale renewable electricity projects, including offshore wind in the UK prior to the CfD and Investment Contracts.

The RO came into effect in 2002 in England and Wales, and Scotland, followed by Northern Ireland in 2005, but closed to new generating capacity on 31 March 2017, subject to certain specified grace periods. It places an obligation on UK electricity suppliers to source an increasing proportion of the electricity they supply from renewable sources.

Under the RO scheme, operators of accredited renewable generating stations are issued with ROCs for the eligible renewable electricity they generate.

Accredited offshore wind generating stations receive 20 years of ROC support (known as ROC banding) as follows:

- a) 1.5 ROCs for projects accredited from July 2006 to March 2010
- b) 2.0 ROCs for projects accredited from April 2010 to March 2015
- c) 1.9 ROCs for projects accredited from April 2015 to March 2016
- d) 1.8 ROCs for projects accredited from April 2016

ROCs have a market value and operators can trade ROCs with other parties. ROCs are ultimately used by suppliers to demonstrate that they have met their obligation.

D. Timeframe for the realisation of the project

There are various time limits that apply to the realisation of an offshore wind project in England and Wales, including:

1. a 10-year option period that applies under the Agreement for Lease entered into by a prospective offshore wind developer with The Crown Estate in which the prospective developer must satisfy the milestone conditions to proceed to the grant of a Lease;
2. time limits that apply in relation to participation of the prospective offshore wind developer in CfD auctions; and

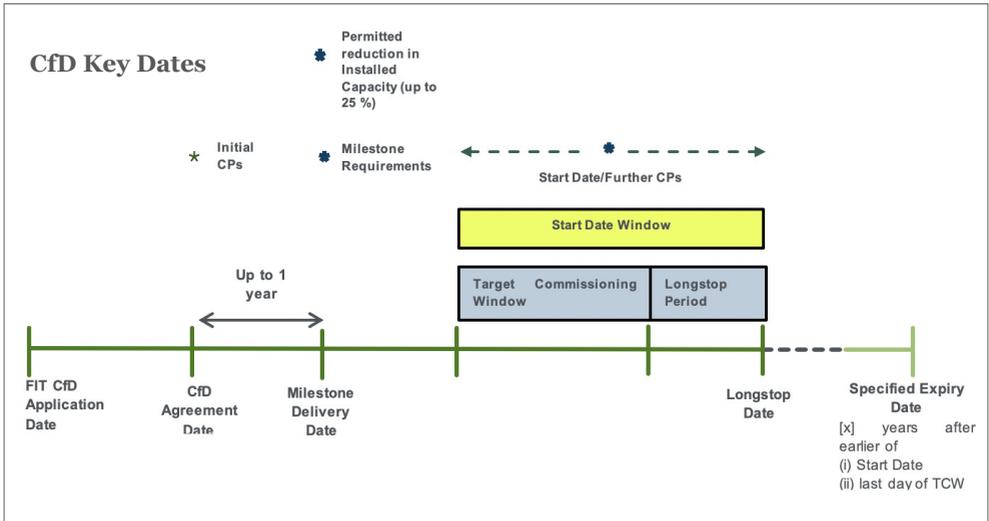
3. time limits that apply under the CfD contract itself, which can result in a reduction in the level of financial support received by a project or the termination of the CfD.

The graphic on the next page shows the “key dates” as they apply in the CfD.

The CfD comes into effect when it is signed and dated by the parties, subject to certain initial conditions precedent and further conditions precedent. The generator is

required to trigger the start date by a prescribed longstop date set out in the CfD; provided that the generator achieves the start date during a prescribed target commissioning window, the agreed term of the CfD is preserved.

For each day of the longstop period (between the end of the target commissioning window and the longstop date), during which the start date has not occurred, the CfD term is reduced. Following the longstop date, LCCC is entitled to terminate the CfD.



III. Public Law and Regulatory Permits

A. Planning

If a proposed offshore plant has a capacity of more than 100 MW, it will be classed as a nationally significant infrastructure project (NSIP) under Planning Act 2008 and will need a development consent order (DCO) from the Secretary of State for BEIS.

If the proposed plant has a capacity of between one and 100 MW, it will need a section 36 consent under the Electricity Act 1989 from the MMO.

The Wales Act 2017 devolved approval for offshore wind projects (of any size) to the Welsh Assembly.

B. Generation

A generation licence will be needed by any new offshore wind project under section

6(1)(a) of the Electricity Act 1989 and is granted by Ofgem. Applications should be made to Ofgem and the licence will include standard conditions and occasionally special conditions.

C. Environmental

Where there may be a significant environmental impact, an EIA may be required and any DCO or planning consents cannot be issued until it has been taken into account. Applicants for an EIA should submit environmental statements with any planning applications, ask for a screening opinion (from the local authority) or ask for a screening decision (from the Secretary of State for BEIS).

There may be other consents required, for example, a marine licence may be issued by the MMO under the Marine and Coastal Access Act 2009. An applicant for a DCO can request this as part of a DCO.



IV. Offtake issues

A. Offtake, remuneration and tariff scheme

The UK electricity market is liberalised and there are many different market participants. Pricing support has varied over the course of the UK's development of offshore wind. Background to the CfD, Investment Contract and ROC support mechanism in the UK is set out in section II.C. above.

Under the CfD and Investment Contract structure:

1. offshore wind generators sell their power under a long-term PPA;
2. the generators are treated as having captured a defined market reference for that power under their CfD/Investment Contract;
3. the generator will receive a "top up" payment under their CfD/Investment Contract if the market reference price captured is less than the strike price at which the CfD/Investment Contract was awarded; and
4. the generator will be required to make a payment to LCCC under their CfD/Investment Contract if the market reference price captured is greater than the strike price at which the CfD/Investment Contract was awarded.

Under the ROC structure:

1. offshore wind generators sell their power under a long-term PPA; and
2. the generators will sell the ROCs they receive for the generation of accredited renewable power to suppliers or ROC traders.

B. Consequences of a project delay

See section II.D. above for an overview of the consequences of delay under the CfD regime.

C. Examples of actual and future tariffs

The level of support offered to offshore wind contracts under the Investment Contracts and CfDs awarded to date are as follows:

1. bilaterally negotiated Investment Contracts (April 2014): GBP140 GBP155 per MWh (2012 prices)
2. CfD auction 1 (February 2015): GBP114.39 to GBP119.89 per MWh (2012 prices)
3. CfD auction 2 (September 2017): GBP57.50 to GBP74.75 per MWh (2012 prices)
4. CfD auction 3 (September 2019): GBP39.65 to GBP41.61 per MWh (2012 prices)

V. Grid and Grid Connection

A. Legal framework for the connection to the onshore grid and the establishment of the grid connection

An OWF in England and Wales will most likely connect to the Great Britain electricity transmission system operated by National Grid. The National Grid is required to make a connection offer to anyone wishing to connect to its transmission system, but the developer must apply for the connection. The developer must then enter into a bilateral connection agreement (“BCA”) with the National Grid and a construction agreement (“CONSAG”).

Offshore transmission owners (OFTOs)

EU requirements under the so-called Third Energy Directive require that ownership of transmission and generation assets be unbundled. The UK has established an OFTO regime, run by Ofgem, which creates a competitive tender process through which offshore transmission licences are granted to ensure that offshore wind projects are economically and efficiently connected to Britain’s electricity grid.

To date OFTO tenders have been run under the “generator build” model, where the generator finances and constructs the offshore wind transmission assets (alongside the construction of the wind farm) before transferring (“unbundling”) those assets to an OFTO for the operational period. Ofgem is also developing an “OFTO built” model, where Ofgem runs a tender to appoint an OFTO with responsibility for constructing and operating the OWFs transmission assets.

B. Planning and construction of the grid connection system

The developer bears the costs of planning and constructing the offshore and onshore transmission cable and grid connection.

C. Consequences of delays and disruptions of the grid connection system

The CfD contains some limited protections against the consequences of delays and disruptions to the GCS. For example, the generator is entitled to an extension of its milestone delivery date or the longstop date if the National Grid fails to carry out any required system reinforcement or connection works as specified in the construction agreement attributable to the wind farm. The owner is not, however, entitled to any compensation or extension of the CfD term.

D. Onshore grid congestions, prioritisation of renewable energy resources and compensation mechanisms

Renewable sources do not have priority dispatch over energy from other sources and may be constrained in times of surplus power supply. Generators can bid in National Grid’s “Balancing Mechanism” to offer flexibility by altering the generation and/or consumption of their assets, or those that they manage on behalf of other parties. In the event there is grid congestion, National Grid may accept the Generator’s bid and the Generator would receive the revenue from being curtailed in these circumstances.

VI. Real Estate

A. Rights over land to be secured

An offshore wind developer in England and Wales will need to secure the following land rights:

1. seabed rights for the site of the OWF in the form of an Agreement for Lease and then Lease granted by The Crown Estate;
2. seabed rights for the corridor of the OWF transmission cable in the form of a Transmission Agreement for Lease and then Transmission Lease granted by The Crown Estate; and
3. land rights for the onshore corridor of the transmission cable and the substation connection of the transmission cable to the Great Britain transmission network, typically in the form of a lease granted by the freeholder or leaseholder of the relevant land.

See section II.B. above for a summary of The Crown Estate's Round 4 offshore wind leasing round, through which seabed rights for the wind farm and transmission connection are granted, and the related HRA process.

B. Costs and risk of legal challenges

The rent payable in respect of an operational OWF in England and Wales is typically equal to 2 % of gross developer turnover, subject to a floor, if the wind farm is generating below a minimum output level.

Once awarded, a lease of seabed rights granted by The Crown Estate may only be terminated in accordance with its terms.



VII. Other: Decommissioning a wind farm

Under sections 105 to 114 of the Energy Act 2004, the Secretary of State will require a person responsible for an OWF to submit and carry out a “costed” decommissioning programme. That person may have to provide financial security to reduce the costs to the taxpayer. This section has been in force since 1 October 2005.

Draft decommissioning programmes are required to be approved by the Secretary of State prior to the installation’s construction and should be informed by an EIA.

Any decision to allow some or all of an installation or structure to remain on or in the sea-bed will be based on a case-by-case evaluation of a range of matters, including, where appropriate, the:

1. potential effect on the safety of surface or subsurface navigation;
2. potential impact on other uses of the sea;
3. potential effect on the marine environment, including living resources;
4. costs of removal; and
5. risks of injury to personnel associated with removal.

The developer must confirm that, after decommissioning, the site has been cleared, in accordance with the approved decommissioning programme, and to evidence that this has been achieved.



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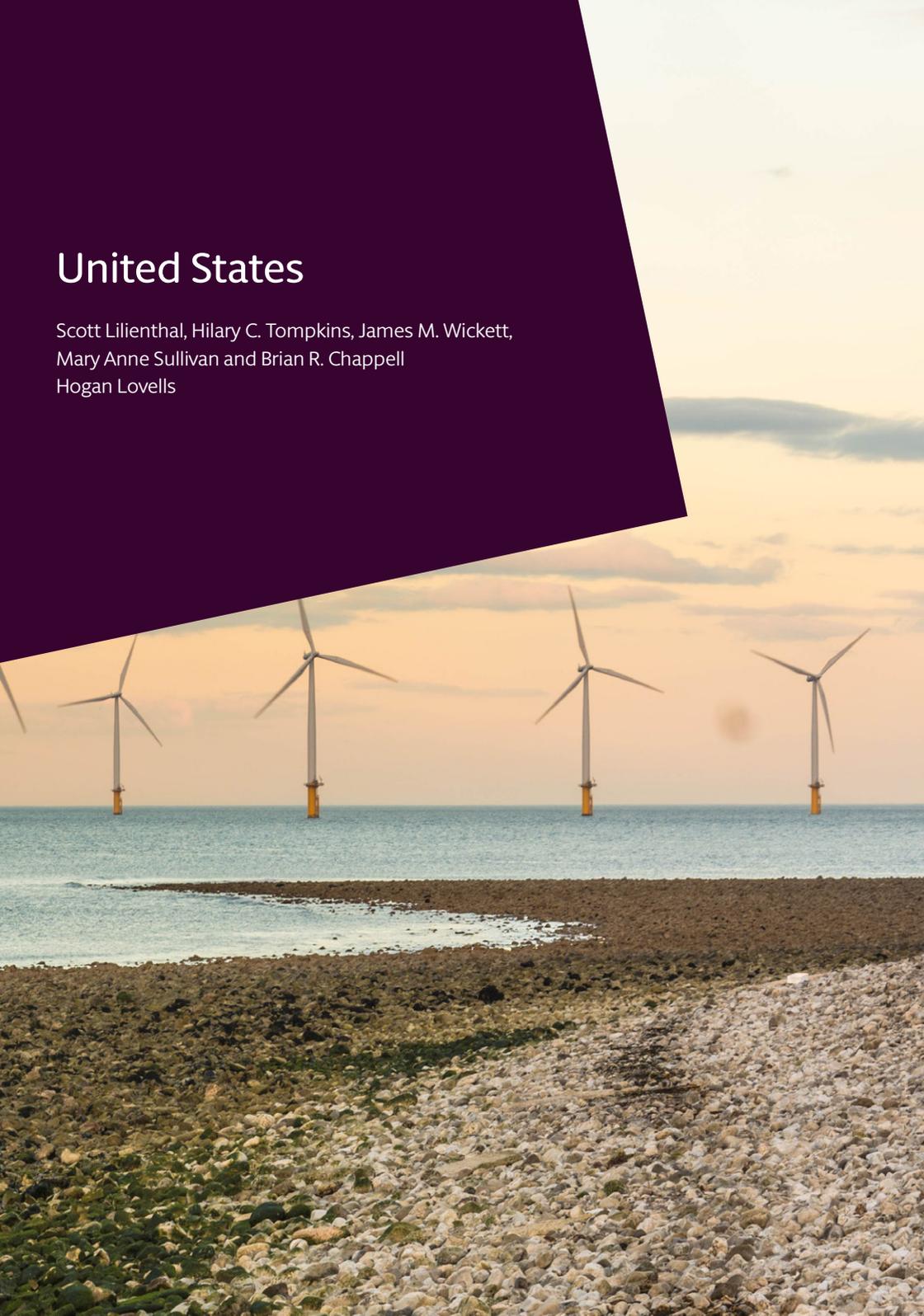
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I. State and Future of Offshore Wind Projects

In the United States, offshore wind energy is an emerging market. Federal leases have been issued offshore in the Atlantic Ocean, and several large projects have been announced. However, to date, leaseholders have not either constructed or begun operating any large, utility scale project.¹ Carbon-free electricity near large, coastal population centres and the associated jobs and economic development represent the significant attractions of offshore wind. Concerns about the visual impacts of the very large wind turbines on coastal viewsheds, the higher cost of offshore wind compared to other renewables and potential impairment of fisheries and shipping lanes are the countervailing concerns. On balance, U.S. offshore wind development appears ready for a near-term boom.

The majority of offshore wind leasing activity is in the relatively shallow federal waters in the Outer Continental Shelf (OCS) of the Atlantic Ocean, although the deeper waters of the Pacific continental shelf are beginning to attract floating offshore wind proposals. The OCS is regulated by the U.S. Department of the Interior (DOI), and DOI's Bureau of Ocean Energy Management (BOEM) is the agency authorised to issue leases for offshore

wind developments. BOEM has 15 active commercial leases for offshore wind development.² The most advanced project is Vineyard Wind, an 800 MW development off the shore of Massachusetts. This USD 2.8 billion 84-turbine project would be the first large-scale offshore wind development in the country. While the developers intended to commence operation this year, the project was delayed, when BOEM announced that it would conduct additional review under the National Environmental Policy Act of “cumulative impacts,” with a particular focus on Atlantic wind development impacts on the fishing industry.³

It is anticipated that BOEM will issue its supplemental analysis in 2020.⁴ BOEM leadership has insisted that the additional environmental analysis is indicative of the growing significance of the renewables industry and that the analysis “will serve as both a base and a model for future projects”.⁵

Technology innovation in this field is promising, and there is increased market interest, especially at the state level. Coastal states, from New England to California to New York, have committed to increase offshore wind capacity in the coming decades,⁶ with some states creating specific requirements for offshore wind purchases and others creating specific offshore wind

1 In 2016, the five-turbine project Block Island Wind Farm, the first commercial offshore wind project in state waters, was built off the coast of Rhode Island. <https://www.nytimes.com/2016/12/14/science/wind-power-block-island.html>

2 <https://www.awea.org/Awea/media/Resources/Fact%20Sheets/Offshore-Fact-Sheet-Oct-2019.pdf>

3 <https://www.reuters.com/article/us-usa-wind-fishing-exclusive/exclusive-first-big-us-offshore-wind-project-hits-snap-due-to-fishing-industry-concerns-idUSKCN1U00EK>

4 <https://www.boem.gov/renewable-energy/state-activities/vineyard-wind>

5 <https://www.eenews.net/stories/1061349647>

6 <https://www.eia.gov/todayinenergy/detail.php?id=38492>

incentive payments.⁷ In response, the competition for offshore leases has grown markedly. By way of example, a 2018 lease bid of a single lease area off Massachusetts was triple the amount of a bid in 2016 for an offshore lease in New York.⁸ A report by the Department of Energy (**DOE**) estimates that offshore wind capacity could increase to as much as 16 GW by 2030.⁹

II. The Regulatory Framework of the Offshore Wind System

The Energy Policy Act of 2005 (EPAct) authorises BOEM to issue leases for renewable energy developments on the OCS.¹⁰ In issuing leases, BOEM oversees a competitive or non-competitive process that includes a variety of environmental and technical assessments.¹¹ To engage states and obtain public input on projects, BOEM has established Intergovernmental Renewable Energy Task Forces in several states.¹²

At the heart of the regulatory framework is a concern for protecting the environment. BOEM must ensure that projects comply with a variety of environmental and natural resources laws, including the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Migratory Bird Treaty Act (MBTA), and the Coastal Zone Management Act (CZMA).¹³ BOEM must also work in concert with the National Oceanic and Atmospheric Association (NOAA) to ensure compliance with the Marine Mammal Protection Act (MMPA) and co-ordinate with the National Marine Fisheries Service (NMFS).¹⁴



7 <https://www.nrel.gov/docs/fy17osti/67675.pdf>; Lawrence Berkeley National Laboratory, U.S. Renewables Portfolio Standards 2019 Annual Status Update (cost cap information) (available at http://eta-publications.lbl.gov/sites/default/files/rps_annual_status_update-2019_edition.pdf)

8 <https://www.energy.gov/sites/prod/files/2019/09/f66/2018%20Offshore%20Wind%20Technologies%20Market%20Report.pdf>

9 Id.

10 Energy Policy Act of 2005, 42 USC § 15801 (2005)

11 <https://www.boem.gov/sites/default/files/boem-newsroom/Wind-Energy-Comm-Leasing-Process-FS-01242017-%281%29.pdf>

12 <https://www.boem.gov/renewable-energy/regulatory-framework-and-guidelines>

13 <https://www.boem.gov/environment/environmental-assessment/environmental-assessment>

14 <https://www.boem.gov/about-boem/noaa-role>

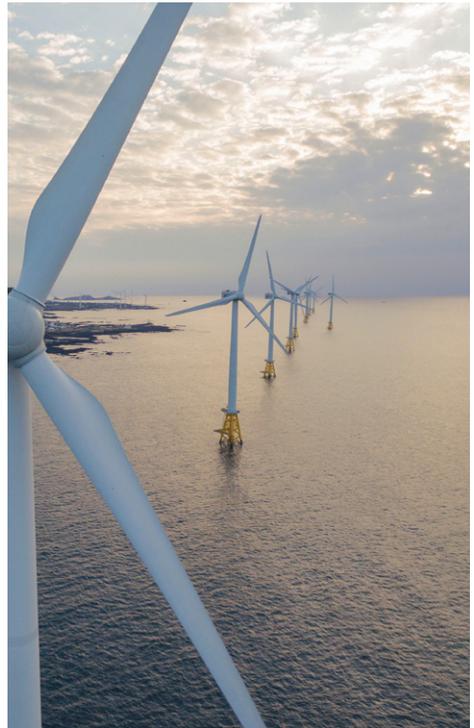
Another kind of regulation that affects offshore wind projects is the Jones Act, which is designed to protect the U.S. shipbuilding industry. The Act is more than 100 years old, and it requires that coastwise trade in the United States, that is waterborne trade between any two points in the U.S., including on the offshore, occur on vessels owned, operated and crewed by U.S. citizens.¹⁵

The lack of availability of Jones Act-qualified vessels to support all aspects of offshore wind development can represent a significant obstacle to offshore development. To overcome this issue, it is sometimes possible to move construction materials and work crews originating abroad from foreign vessels to U.S.- qualified vessels once they arrive in territorial waters to allow transportation of materials and work crews to project development sites.

Recently, the Office of Customs and Border Protection, the agency tasked with interpreting coastwise law, modified two key provisions of rulings under the Jones Act.¹⁶ The first provided that certain lateral movements do not constitute “transportation” under the Act and therefore would not be subject to Jones Act compliance. The second modified the interpretation of “vessel equipment” under the Act. The long-standing rule has been that “vessel equipment” can be transported by foreign vessels, while “merchandise” cannot.

Under this new ruling, subject to a case-by-case determination, tools and items used by installation vessels for offshore wind developments may be “vessel equipment” rather than “merchandise,” and thus avoid triggering the Jones Act.

While changes such as these may facilitate offshore wind project development, greater relief is likely to come from commitments to build additional Jones Act-qualified vessels that can meet the needs of the offshore wind industry.



15 46 U.S.C. § 50501

16 https://www.cbp.gov/sites/default/files/assets/documents/2019-Dec/Vol_53_No_45_Title.pdf

III. Regulatory Permits and Revenues

A. What is the federal role in permitting?

EPAct 2005 amended the Outer Continental Shelf Lands Act (OCSLA), to vest the Secretary of Interior with the authority to grant easements, leases and rights-of-way for renewable energy-related activities offshore. The Secretary implements these responsibilities through BOEM. Other permits are required from, for example, the Army Corps of Engineers, the National Marine Fisheries Service, the Fish and Wildlife Service and the Federal Aviation Administration.¹⁷ To ensure a cohesive permitting process, the Secretary of the Interior is directed to consult with other agencies when granting permits to perform activities under the OCSLA.

B. What is the regulatory process under BOEM?

The regulatory process is divided into four phases: Planning and Analysis, Leasing, Site Assessment and Construction and Operations.¹⁸ In the first phase, BOEM solicits information through a “Call for Information and Nominations”. It then identifies areas offshore that would best suit wind energy development, or Wind Energy Areas (WEAs), and processes applications for lease issuance. In this phase, BOEM conducts a programmatic level environmental review of the WEAs, which contemplates the issuance of leases.

In the second phase, a lease can be issued through either a competitive and non-competitive process, depending on whether there is competitive interest. In the competitive lease process, BOEM conducts a lease sale for potential lessees to bid against one another. Once the winning bidder obtains a lease, it can begin developing plans for the project. The third phase requires that a lessee completes a Site Assessment Plan (SAP), which must be approved by BOEM. The SAP includes information on how the lessee intends to “conduct resource assessment activities, such as the installation of meteorological towers or buoys, and technology testing during the site assessment phase”. Once the lessee submits a SAP, BOEM conducts an evaluation of potential environmental issues.

Finally, the lessee must submit a Construction and Operations Plan (COP). The COP is a document that “describes how the lessee will construct and operate a commercial wind project on a commercial lease”. It includes descriptions of construction activities and decommissioning plans. At that point, BOEM conducts a final environmental review and approves the lessee to build the facility, potentially subject to specific conditions designed to mitigate environmental impacts. Because this final phase usually involves the most significant environmental impacts, BOEM typically issues a comprehensive evaluation of environmental impacts in an Environmental Impact Statement (EIS) under NEPA.

¹⁷ 43 U.S.C. §1337(p)(9)

¹⁸ <https://www.boem.gov/sites/default/files/boem-newsroom/Wind-Energy-Comm-Leasing-Process-FS-01242017-%281%29.pdf>

C. What rights do coastal states have to protect their interests?

The permitting requirements for offshore wind developments depend on whether the facility will be located in state or federal waters.¹⁹ State waters extend three nm²⁰ off the coast. Waters beyond that point, up to 200nm seaward, are under federal jurisdiction.²¹

The CZMA of 1972 was enacted to “preserve, protect, develop and, where possible, to restore or enhance the resources of the nation’s coastal zone”.²² Federal permitting with reasonably foreseeable coastal effects must be consistent with state management plans.²³ States can choose between three acceptable options for land and water use control: (i) a state may establish “criteria and standards for local implementation”, (ii) it may “direct state land and water use planning and regulation” or (iii) facilitate an “administrative review of all development plans, projects or land and water use regulations proposed by any state, local or private developer.”²⁴ A state can either implement one or a combination of these options. States often delegate this responsibility to a local environmental protection agency, which then must facilitate the state’s permitting process in accordance with the coastal zone management plan.

When a wind project lessee develops plans for a project, it must prepare a “consistency certification” that demonstrates federal consistency with state coastal zone management plans.²⁵ BOEM then submits this certification to the state’s coastal agency for review. BOEM will not issue a permit if the plans do not receive state approval. If a plan is denied, the lessee can appeal or amend it for resubmission.²⁶ A state also has the authority to review the BOEM permit once it is issued, following a similar procedure.

D. What payments to the Government are required for an offshore wind project?

Section 388 of the EPA Act requires that the Secretary of Interior “establish payments to ensure a fair return to the United States for any lease, easement or right-of-way granted”.²⁷ An offshore wind project’s lease will dictate the payment structure between the lessee and lessor, pursuant to the Renewable Energy Programme Regulations.²⁸ For example, the Vineyard Wind’s lease provides that, for rent payments prior to the Commercial Operations Date,²⁹ or the lease end date, whichever is sooner, the lessee must pay an annual rental rate of

19 https://www.everycrsreport.com/files/20150113_R40175_4a86263083ea515ffdf7e0b7ed69f1f23f9a1f590.pdf

20 State waters for Texas and the Gulf coast of Florida extend 9 nm

21 <https://www.boem.gov/oil-gas-energy/leasing/outer-continental-shelf>

22 16 U.S.C. 1451 et seq.

23 16 U.S.C. § 1456

24 16 U.S.C. § 1455(d)

25 <https://coast.noaa.gov/czm/consistency/>

26 <https://www.boem.gov/environment/environmental-assessment/coastal-zone-management-act>

27 43 U.S.C. § 1337(p)(2)(B)

28 30 CFR 585

29 The Commercial Operations Date is the date on which the lessee first begins Commercial Operations, which is the “generation of electricity or other energy product for commercial use, sale or distribution”. <https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/MA/Lease-OCS-A-0501.pdf>

USD 3.00 per acre, which results in a USD 500,658 rent payment per year.³⁰ For rent outside of that period, the lease dictates a formula, which takes into account generating capacity of the project, as well as portions of

the lease not authorised for commercial operations. In addition to rent, a lessee also pays an initial, annual and final operating fee, as provided for in the lease.³¹



30 Id.

31 Id.

IV. Safeguarding the Environment

A. The National Environmental Policy Act

NEPA requires that environmental consequences be considered when a major federal action may have an impact on the environment.³² Under NEPA, any new project with potential environmental impact must undergo an EA and/or an EIS.³³ These assessments consider both the adverse impacts and socio-economic benefits of an action.³⁴

If an action is unlikely to have a significant impact, an EA is prepared, which can then result in a finding of no significant impact (FONSI).³⁵ If a FONSI is issued, an EIS is not necessary. However, if it is clear from the outset that the action will result in a significant impact, or if an EA does not yield a FONSI, then an EIS must be prepared.³⁶ An EIS involves a multi-step process that includes more rigorous analysis of environmental impacts and the opportunity for public comment. It is reasonable to expect that BOEM will require an EIS for the Construction and Operations planning phase of an offshore wind project,³⁷ although a less rigorous EA proved sufficient for Project Icebreaker, an offshore wind project in Lake Erie.

B. Endangered Species Act

The Endangered Species Act (ESA) was enacted to ensure conservation of the ecosystems on which “endangered species and threatened species depend” and to “provide a programme for the conservation” of these species.³⁸ BOEM works with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) to determine whether an offshore wind project may have an adverse effect on any of the nearly 2,000 species listed as endangered or threatened.

First, BOEM engages in an informal, initial consultation with USFWS and NMFS to determine what effect the project may have on the listed species and their habitat. During this stage, BOEM evaluates the proposed project and information regarding effects on the species and issues a Biological Assessment (BA). If there are no anticipated effects, the project continues without further evaluation. If there are anticipated adverse effects, the agencies engage in a formal consultation, which is designed to last up to 90 days.³⁹ Within 45 days of formal consultation, NMFS or USFWS is to issue a biological opinion, which indicates whether an action would potentially harm any listed species or adversely modify their habitat. The opinion also can list exemptions for listed species or determine harm mitigation measures.

32 42 USC § 4321

33 <https://www.epa.gov/nepa/national-environmental-policy-act-review-process>

34 <https://www.boem.gov/sites/default/files/environmental-stewardship/Environmental-Studies/Renewable-Energy/Final-Version-Offshore-Benefits-White-Paper.pdf>

35 <https://www.epa.gov/nepa/national-environmental-policy-act-review-process>

36 <https://www.epa.gov/nepa/national-environmental-policy-act-review-process>

37 <https://www.boem.gov/renewable-energy/state-activities/vineyard-wind>

38 16 U.S.C. 1531 et seq. <https://www.fws.gov/endangered/esa-library/pdf/ESAall.pdf>

39 Id. at Sec. 7 (a)(2). See also <https://www.boem.gov/environment/environmental-assessment/endangered-species-act-esa>; <https://www.fws.gov/midwest/endangered/section7/section7.html>

In its BA for Vineyard Wind, BOEM found nine ESA-listed species that could be affected by the project, including the North Atlantic right whale, which is one of the most endangered large whale species. In January 2019, Vineyard Wind entered into an agreement with the National Wildlife Federation, the Natural Resources Defense Council and the Conservation Law Foundation to help ensure the safety of this whale.⁴⁰ Vineyard Wind agreed to implement certain protective measures, including adhering to restrictions on pile driving, geophysical surveys during and post-construction and vessel speed.⁴¹

This type of agreement may become the model for future offshore wind developments. In 2019, New York entered into large contracts with Equinor and Sunrise Wind for offshore wind developments on the OCS.⁴² The National Wildlife Federation supports the wind projects, but it is also encouraging these companies to sign agreements similar to the one signed by Vineyard Wind.⁴³

C. Marine Mammal Protection Act

The MMPA was enacted to protect marine mammals in U.S. waters. Subject to certain exceptions, the MMPA prohibits the “take”

of marine mammals by U.S. citizens. Under the statute, to “take” means to either attempt to or to actually “harass, hunt, capture or kill”.⁴⁴ Both NOAA and USFWS oversee compliance with MMPA.⁴⁵

Offshore wind developments include a number of activities that can affect marine mammals, during both development and operation of a facility.⁴⁶ Noise and vessel traffic can both adversely affect animal behaviour.⁴⁷ The U.S. Coast Guard and BOEM are responsible for navigational safety and for mitigating vessel-strikes.⁴⁸ Other threats to marine animals include direct or indirect effects of marine debris, proliferation of non-native species, displacement and degradation of water quality.⁴⁹

An offshore wind facility can apply for an “incidental take” authorisation, under Section 101(a)(5) of the MMPA. If NOAA finds that the offshore wind activity will have a negligible impact on marine animals, it will issue an authorisation within certain limits, considering the impact and duration of the activity.⁵⁰ By way of example, Vineyard Wind applied for an Incidental Harassment Authorisation (IHA) for 15 species of marine animals for impacts ranging from minimal to

40 [cf.org/wp-content/uploads/2019/01/Final_VW-NGO-NARW-Agreement-012219-NGO-fully-executed.pdf](https://www.fws.gov/international/pdf/legislation-marine-mammal-protection-act.pdf)

41 Id.

42 <https://www.offshore-mag.com/field-development/article/14036507/new-york-selects-two-offshore-wind-projects>

43 <https://www.npr.org/2019/12/05/782694371/offshore-wind-may-help-the-planet-but-will-it-hurt-whales>

44 <https://www.fws.gov/international/pdf/legislation-marine-mammal-protection-act.pdf>

45 <https://www.fws.gov/international/laws-treaties-agreements/us-conservation-laws/marine-mammal-protection-act.html>

46 Conducting surveys, installing a foundation and cables, and decommissioning units, are all activities that could cause underwater noise that harms marine species. <https://www.boem.gov/sites/default/files/renewable-energy-program/Final-Summary-Report-for-BMP-Workshop-BOEM-2018-015-%281%29.pdf>

47 Id.

48 Id.

49 Id.

50 https://www.boem.gov/sites/default/files/renewable-energy-program/Day-1_Morning_Carduner_-MMPA-ITA-presentation_BOEM-workshop_3.07.17.pdf

moderate.⁵¹ Impacts that will last for more than a year and serious impacts require a Letter of Authorisation, which can extend for up to five years.⁵²

D. Migratory Bird Treaty Act

The MBTA makes it illegal “to take, possess, import, export, transport, sell, purchase, barter or offer for sale, purchase or barter any migratory bird, or the parts, nests or eggs” of a migratory bird species, without a valid permit.⁵³ In 2009, BOEM entered into a Memorandum of Understanding with USFWS to “strengthen migratory bird conservation through enhanced collaboration between” BOEM and USFWS.⁵⁴ The Memorandum identifies ways that the agencies can collaborate to protect migratory bird species, and BOEM conducts studies to determine the effects of particular wind projects on migratory birds.

In 2011, BOEM and USFWS published a report that analysed a variety of studies and documented shorebird behaviour with wind facilities.⁵⁵ The report looked at the effects of birds’ flight altitude on collision, their ability to avoid turbines and general flight behaviour patterns in varying weather conditions. The report concluded that, while the data set was limited, only a few shorebirds have been observed in the OCS

zone. It also concluded that birds tend to fly at altitudes that are optimal to avoid turbines and, in instances when this is not the case, birds tend to adapt behaviours to fly past turbines.

The Cape Wind’s EIS, which was published after the aforementioned 2011 report, provided some additional insight on effects on migratory birds.⁵⁶ As stated in the EIS, “it must be recognised that some birds may be killed at structures such as wind turbines, even if all reasonable measures to avoid it are taken.”⁵⁷ The EIS concluded that minor long-term impacts on birds in general, and that “some level of bird-strike impacts”, are expected with migratory birds specifically.⁵⁸ In light of this determination, the USFWS recommended that the project engages in a “feathering” measure, which temporarily stops turbine movement during certain birds’ migration periods”.⁵⁹

Project developers must consider effects on birds not only for purposes of environmental stewardship, but also because threats to birds could open the doors to costly litigation. Bird fatalities have been interpreted by courts and DOI as a violation of the MBTA “incidental takings” clause.⁶⁰ In 2017, DOI reversed a prior determination that the MBTA provided for strict criminal

51 file:///C:/Users/1087622/Downloads/VineyardWind_2019IHA_App_OPR1.pdf

52 <https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-other-energy-activities-renewable>

53 <https://www.fws.gov/migratorybirds/mbpermits/ActSummaries.html>

54 https://www.boem.gov/sites/default/files/renewable-energy-program/MMS-FWS_MBTA_MOU_6-4-09.pdf

55 <https://espis.boem.gov/final%20reports/5193.pdf>

56 https://www.energy.gov/sites/prod/files/DOE-EIS-0470-Cape_Wind_FEIS_2012.pdf

57 https://www.energy.gov/sites/prod/files/DOE-EIS-0470-Cape_Wind_FEIS_2012.pdf

58 Id.

59 <https://www.capecodtimes.com/news/20170910/agency-turbines-could-spin-during-bird-migrations>

60 https://www.eenews.net/assets/2017/02/21/document_ew_01.pdf

liability for incidental take.⁶¹ Certain organisations have challenged this reversal in position in court, and it remains to be seen whether it will remain in effect.⁶²

E. National Marine Fisheries Services

The NMFS, also known as “NOAA Fisheries,” oversees the protection of U.S. ocean resources, helping to ensure safe and sustainable fishery practices and the conservation of ocean ecosystems. For offshore wind developments, local fishery agencies, councils and commissions work with NOAA to manage the fish population. NOAA must identify the fish species that would be affected by an offshore wind project.

In the Vineyard Wind project, NOAA identified four ESA-listed species and 15 candidate species⁶³ that could be impacted. BOEM determined that direct impacts of the project include both short-term and long-term effects due to “habitat alteration, increased turbidity, sediment deposition, entrainment, increased noise and [electromagnetic field]”.⁶⁴ While most

impacts would be negligible or minor, temporary and long-term habitat alteration was found to be moderate, and an “unavoidable consequence of construction and installation”.⁶⁵

More than 20 % of substantive comments during Vineyard Wind’s public scoping period pertained to the fishing industry,⁶⁶ which provides hundreds of millions of dollars of revenue to the New England region.⁶⁷ Commercial fishing is a major source of job growth and affords stable income to harvesters, wholesalers and distributors.⁶⁸ BOEM determined that impacts on the fisheries could include reduction in catch or loss of access to fishing areas, reduction of fishing revenues and abandonment of fishing locations.⁶⁹ NMFS did not sign off on the project, due to these concerns.⁷⁰ However, local fishermen are working with NOAA to ensure that impacts to the fishing industry are well understood,⁷¹ and BOEM recently assured the public that it is “committed to getting this right and taking a long-term view on how best to manage offshore wind activities”.⁷²

61 Executive Order 13795, Implementing an America-First Offshore Energy Strategy (Apr. 28, 2017), https://www.eenews.net/assets/2017/04/28/document_gw_04.pdf

62 Id. See *United States v. FMC Corporation*, 572 F.2d 902 (2d Cir. 1978) and *United States v. Apollo Energies*, 611 F.3d 679 (10th Cir. 2010). Certain claims can also be filed against DOI if the agency authorises actions that result in an incidental take. *Am. Bird Conservancy v. FCC*, 516 F.3d 1027, 1031 (D.C. Cir. 2008) (noting that the MBTA applies to federal agencies); *Defenders of Wildlife v. Jackson*, 791 F.Supp.2d 96, 119 (D.D.C. 2011)

63 A candidate species is one that FWS “has sufficient information on their biological status and threats to propose them as endangered or threatened under the Endangered Species Act (ESA), but for which development of a proposed listing regulation is precluded by other higher priority listing activities”. There is no statutory protection under the ESA for candidate species. https://nctc.fws.gov/Pubs9/esa_cand01.pdf

64 https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/MA/Vineyard-Wind/Vineyard_Wind_Draft_EIS.pdf

65 Id.

66 Public Comments, <https://www.fisheries.noaa.gov/action/incidental-take-authorization-vineyard-wind-llc-construction-vineyard-wind-offshore-wind>

67 https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/MA/Vineyard-Wind/Vineyard_Wind_Draft_EIS.pdf

68 Id.

69 Id.

70 Id.

71 <https://www.eenews.net/stories/1061368297>

72 [eenews.net/stories/1061349647](https://www.eenews.net/stories/1061349647)

V. Incentives for Investment

Federal tax credits provide owners and developers incentives for offshore wind project development. There are currently two federal tax credit options available for such projects: the Production Tax Credit (PTC) and the Investment Tax Credit (ITC). A taxpayer may only use one of these two types of credits for a particular project. Both of these tax credits have been on a phase-down schedule since 2016, reducing the amount of the credits depending on the year



budget bill, projects that begin construction in 2019 are eligible for an ITC of 12 % of project cost, and projects that begin construction in 2020 are eligible for an ITC of 18 % of project cost.

If the federal tax subsidies expire, as scheduled, projects will need to raise prices or lower costs to remain competitive, although Congress has a long history of extending these credits, so it is entirely possible that they will be extended again in the future.

VI. Grid Connection for Offshore Wind

The Department of Energy's 2014 National Offshore Wind Energy Grid Interconnection Study⁷⁴ determined that, by 2030, at least 54 GW of offshore wind could be integrated onto the U.S. electric grid. Under a recent proposal, Anbaric Development Partners would develop a transmission line to transfer offshore energy from multiple New York and New Jersey Wind projects to the onshore grid.⁷⁵ Anbaric proposes to instal several offshore collector platforms, with each platform collecting 800 to 1,200 MW of offshore energy.⁷⁶ In response, BOEM posted a "Request for Competitive Interest" and solicited public comments. Some of the comments demonstrated support for the project, while others, such as those from the fishing industry, voiced concerns.⁷⁷ BOEM is currently reviewing comments and determining whether a competitive interest exists. More commonly, however, projects develop their own project-specific grid connection plans.

74 <https://www.energy.gov/sites/prod/files/2014/08/f18/NOWEGIS%20Full%20Report.pdf>

75 <https://www.boem.gov/sites/default/files/regulations/Federal-Register-Notices/2019/84-FR-28582.pdf>

76 <https://www.boem.gov/sites/default/files/regulations/Federal-Register-Notices/2019/84-FR-28582.pdf>

77 <https://www.regulations.gov/docketBrowser?rpp=25&so=DESC&sb=commentDueDate&po=0&dct=PS&D=BOEM-2018-0067>



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I. State and Future of Offshore Wind Projects

Vietnam has enormous potential for developing wind energy projects, having a coastal line of 3,400 kilometres with an average wind speed of six metres per second. As announced by the World Bank in March 2019, the technical potential for fixed and floating offshore wind in Vietnam is 309 GW.¹

As of today, the first and only operating nearshore wind farm in Vietnam is the 99 MW wind power project in Bac Lieu province of the Mekong Delta region developed by a domestic investor.

However, there is growing industry appetite to develop offshore wind power in Vietnam. Recently, a foreign offshore wind developer was granted a site survey licence² for the Ke Ga Cape offshore wind power project. This project will have a total capacity of 3,400 MW and is to be developed offshore in the Binh Thuan province, 20 to 50 km off the coast.

According to the Revised Power Development Master Plan VII (Revised PDMP VII) issued by the Prime Minister in 2016, the Government aims to increase energy generated by wind power (regardless of onshore or offshore projects). The Government has targets to reach 800 MW by 2020, 2,000 MW by 2025 and 6,000 MW

by 2030. If achieved, such targets would account for 0.8 % of the total power generation capacity in 2020, 1 % in 2025 and 2.1 % in 2030. However, the Revised PDMP VII does not contain specific goals on how many MW should be operative and by when with respect to offshore wind power projects. On the other hand, the Renewable Energy Development Strategy 2016 to 2030 states that Vietnam will continue to promote onshore wind energy until 2030 and, subsequently, assess the potential for offshore wind energy.

As of the end of 2018, 4,800 MW of wind power was included in the Revised PMDP VII with an additional 7,400 MW proposed. Investors are waiting to see how the Government defines its renewable ambitions with new targets in the Power Development Master Plan VIII which is anticipated to be issued soon.³

1 <https://www.worldbank.org/en/news/press-release/2019/03/06/new-program-to-accelerate-expansion-of-offshore-wind-power-in-developing-countries>

2 <https://www.offshorewind.biz/2019/06/14/3-4gw-vietnamese-offshore-wind-project-granted-survey-licence/>

3 http://ieefa.org/wp-content/uploads/2019/09/Vietnam-Solar-FIT-Program-Delivers_September-2019.pdf

II. The Offshore Wind Promotion System

In respect of offshore wind power projects, there is no particular promotion system at the moment except that the feed-in tariff is slightly higher than that for onshore projects due to the higher associated costs of development, construction and operation. The tariff is currently set at VND 1,928 per kWh (or 8.5 US cts per kWh) for onshore projects and VND 2,223 per kWh (or 9.8 US cts per kWh) for offshore projects. However, such tariff will only apply to projects which are “partially or fully operational” before 1 November 2021. This deadline is a critical issue for large-scale offshore wind power projects.

Other than the incentive on tariff, offshore wind power projects will generally enjoy the investment incentives applicable to wind projects, including:

1. Corporate income tax preferences – Income from new investment projects will be subject to corporate income tax at the rate of 10 % for the first 15 years.⁴ By comparison, the lowest corporate income tax rate available to regular companies is 20 %.⁵
2. Import duty preferences – There is an exemption from import duty in respect of goods imported in order to construct or form fixed assets, such as raw materials, manufactured materials and other components.

Current wind power regulations do not provide exclusivity of a marine space to an investor for the purpose of conducting a site survey for a potential offshore wind power project. As a technical legal matter, a specific site for developing and operating offshore facilities of a project can only be fully secured upon obtaining a marine space assignment decision from the competent State body as further described in VI.A. below.

4 Article 15, Decree No. 218/2013/ND-CP dated 26 December 2013 of the Prime Minister detailing and guiding the implementation of the Law on Corporate Income Tax (as amended)

5 Article 13.3, Law No. 32/2013/QH13 adopted by the National Assembly on 19 June 2013 on the amendments to the Law on Corporate Income Tax

III. Public Law and Regulatory Permits

A. Spatial planning at sea

The Ministry of Natural Resources and Environment (MONRE) has been delegated by the Government to prepare a national marine space plan. A draft plan is currently under consideration but there is no indicative timeline on when such plan will be completed. Further, the proposed draft plan is not publicly available.

It is a requirement under the Law on Planning 2017 that any national sectoral master plan must conform to the national overall master plan, national marine space master plan or national land use master plan. In summary, the national marine space master plan will determine functional zoning and arrange, allocate and organize the space of sectors and fields in coastal areas, on islands and archipelagos, and in marine and air space under Vietnam's sovereignty, sovereign rights and jurisdiction.

B. Regulatory permits required for the construction and operation of the offshore wind farm and the onshore grid connection

There are a number of key permits and authorisations required to develop an offshore wind project in Vietnam.

First, if the offshore wind project was not originally included in the power development master plan, the investor must obtain an approval from the Ministry of Industry and Trade (MIT) or the Prime Minister for the project to be supplemented into such plan.

Secondly, an investor, depending on the characteristics and investment capital of the project, must obtain an in-principle investment approval from either the National Assembly, the Prime Minister or the provincial People's Committee. Such approval will include, among other things, the investor, objectives, capacity, investment capital and term of the project.

Thirdly, a foreign investor, alone or with a Vietnamese partner, must obtain an investment registration certificate from the provincial Department of Planning and Investment, which evidences the authorities' approval of the foreign investment project.

Fourthly, the law requires an enterprise registration certificate to be obtained by the project company after issuance of the investment registration certificate. This document constitutes the project company's incorporation document and is also issued by the provincial Department of Planning and Investment. Unlike the investment registration certificate (which involves some assessment of the foreign investor's "investment project" by the authorities), the enterprise registration certificate is typically granted without delay.

The project company of an offshore wind power project would also need to obtain, among other things, the following:

1. A marine space assignment decision from the competent State body (as set out below in VI.A.) with respect to the marine space for the construction and operation of the OWF.

2. A land lease decision and certificate of land use rights with respect to the onshore land from the relevant provincial People's Committee for the construction and operation of onshore grid connection.
3. An approval of the environment impact assessment report from MONRE (for projects which must obtain in-principle investment approval from the National Assembly, the Government or the Prime Minister) or the relevant provincial People's Committee.
4. A construction permit from the provincial Department of Construction.
5. An electricity operating licence from MIT (for electricity generation of large plants, with special socio-economic, national defence and security importance; electricity transmission activities) or the Electricity Regulatory Authority.

The project company will need to sign the PPA with Vietnam Electricity (EVN) and the grid-connection agreement with the power distribution company (if connected to the power distribution system) or the power transmission company (if connected to the power transmission system) under EVN. In general, the above permits are binding from their issuance date, unless the permit clearly provides for a different effective date.

IV. Offtake issues

A. Offtake, remuneration and tariff scheme

Under the PPA template, EVN has an offtake obligation to purchase all on-grid wind power produced for a period of 20 years from the date of commencement of commercial operation of the plant (provisions are included by which this term may be extended). The current fixed electricity tariff for offshore wind projects is VND 2,223 per kWh (or 9.8 US cts per kWh). This tariff applies to projects which are “partially or fully operational” before 1 November 2021, and is adjusted in line with the VND/USD exchange rate so as to protect offshore wind power developers from the depreciation of VND.

It should be noted that there is no “take or pay” commitment under the PPA.

B. Consequences of a project delay

Under the PPA template, in the event that the commercial operation date is delayed, the seller must inform the buyer of the revised COD at least six to 12 months prior to the estimated COD. The buyer may not refuse to accept the revised COD without legitimate reason.

The seller will be in breach of the terms of the PPA if it fails to achieve COD within three months of the date of the estimated COD (except for *force majeure* events, change of COD as mentioned above or approval by the competent authority for extension of the project schedule). In such

case, the seller is liable for damages to the buyer, including actual and direct loss suffered and the direct benefits lost due to the breach. If the breach cannot be resolved, the buyer has the right to terminate the PPA.

C. Examples of actual and future tariffs

As mentioned above, the current feed in tariff for offshore wind power projects is not determined by auctions but is governed under the wind regulations. The current tariff applies to projects which are “partially or fully operational” before 1 November 2021, and is adjusted in line with the VND/USD exchange rate. Although investors will prefer the Government to issue another feed-in tariff mechanism (such as the one under the new draft solar regulations) after the deadline, an auction scheme might be implemented instead.

V. Grid and Grid Connection

A. Planning and construction of the grid connection system

Currently, a connection point between the wind power project to the national power grid must be agreed between the seller and the buyer. However, the seller must be responsible for investing, operating and maintaining the transmission lines and step-up transformer stations (if any) from its power plant to the connection point to the national power grid which currently exists and is the nearest in accordance with the provincial planning on power development. Depending on the level of connected voltage, the power distribution company or the power transmission company under EVN is responsible for investing in power transmission lines from the connection point to the national power grid in accordance with the approved planning of power development.

If the connection point belongs to a new power grid project which has not yet been completed, the seller must agree with the buyer in order to synchronise the progress of the wind power project and the power grid development project. If the seller and the buyer cannot agree on the connection point, the seller must make a submission to MIT to consider and decide upon the best solution.

B. Responsibility for the cost of the grid connection system

The seller is responsible for the construction costs of the power transmission lines and step-up transformer stations (if any) from its

power plant to the connection point.

The power distribution company or the power transmission company under EVN is responsible for the construction costs of the power transmission lines from the connection point to the national power grid.

C. Consequences of delays and disruptions of the grid connection system

There is no remedy under the current wind power regulations or the PPA template to protect the OWF owner against delays and disruptions relating to the grid connection.

D. Onshore grid congestions, prioritisation of renewable energy resources and compensation mechanisms

Concerns have been raised as to the potential overloading of the power transmission system. This is particularly so in regions with high solar irradiance where large number of solar projects are to be connected to the grid. Therefore, there will be a risk if an OWF has a connection point in these regions. There is no safeguard such as compensation payable to the seller in case of being forced to curtail production to prevent overloading of the transmission grid. Further, there is no priority in purchasing of energy from renewable sources over conventional sources.

VI. Real Estate

A. Rights over land to be secured

For the feasibility study of the project, the offshore wind developer must obtain a site survey licence from the competent State body.

For the construction of the offshore turbines and operation of the OWF, the project company, once established in Vietnam by the foreign investor, needs to obtain a marine space assignment decision from the competent State body.

The competent State body is:

1. The Prime Minister with respect to investment projects which are subject to approval by the National Assembly, the Government or the Prime Minister.
2. MONRE with respect to the marine space outside three-nm sea regions, the inter-regional sea areas.
3. The People's Committee of coastal provinces with respect to the marine space within the scope of the three-nm-sea regions.

For the construction and operation of onshore facilities (for example, transformers), the project company needs to obtain a land lease decision with respect to onshore land from the relevant provincial People's Committee.

B. Costs and risk of legal challenges

The main costs to secure the land use rights and marine space use rights are land rents (for onshore) and marine space use fees (for nearshore and offshore) to be paid to the relevant State authority (i.e., the local People's Committee or the Vietnam Administration of Seas and Islands). Such costs will be determined depending on the location of the project.

In addition, the project company may have to compensate individual land users for land clearance and any other associated fees.

Once the project company has obtained the land lease decision and certificate of land use rights (for onshore) and the marine space assignment decision (for offshore) and has paid the related fees to the State authority, it is reasonably well protected and secured during the operation of the project. In case of nationalisation or revocation of land use rights or marine space use rights for national security reasons, the investors will be compensated by the Government.



VII. Other

The current wind regulations do not set out any other special permitting/investment permit requirements for offshore wind projects. There are currently no foreign ownership restrictions in the renewable power sector. Offshore wind projects are developed by local and foreign electricity generation companies based on the generally applicable Law on Investment, the regulations applicable for project licensing and the mandatory PPA, which is based on a statutory template attached to the wind regulations. There are a few noteworthy bankability challenges related to the non-negotiable PPA. In particular, there does not appear to be lender step-in rights in the PPA template. It should also be noted that, for offshore projects, once assigned a given marine space, the individual or organisation that is the assignee cannot transfer the right to use that marine space to other individuals or organisations.⁶ This may be problematic for lenders step-in rights.

The south-eastern region of Vietnam has the highest wind speeds in the world and the seabed along the same coast is relatively shallow and consistent.⁷ Therefore, this coastline is a high potential zone for offshore wind energy. However, there are a number of oil and gas platforms in this area which could prove to be a major obstacle to the development of offshore wind power projects.

Since the developers and sellers have to bear the costs and risks associated with the grid connection, it would be even more onerous to develop offshore wind energy further away from the coastline as it requires more capital investment in terms of logistics and grid connection.

Furthermore, due to the country's inexperience with offshore wind, there are currently no specific regulations which serve to mitigate potential project risks such as damage to infrastructure (e.g., subsea transmission cables) and natural disasters.

6 Article 12.2(a) of Decree No. 51/2014/ND-CP dated 21 May 2014 of the Government on the assignment of specific sea areas to organisations and individuals for marine resource exploitation and use

7 <https://www.evwind.es/2017/07/13/vietnam-has-large-wind-power-potential/60444>



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Non-profit organisation founded in 2018



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