WORLD FORUM OFFSHORE WIND

Hogan Lovells

Offshore Wind Worldwide

Regulatory Framework in Selected Countries

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Regulatory Framework in Selected Countries

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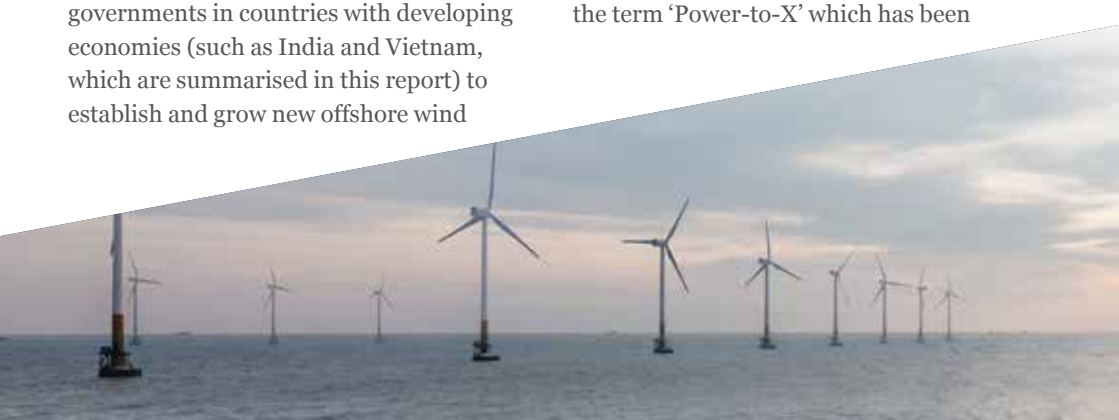
Foreword

Despite a period of global turmoil since the publication of this report's first edition, the offshore wind industry has continued to flourish. 2020 was a record-breaking year for new offshore wind installations, resulting in a total of over 35 GW operating across the globe by the end of the year. This accelerating pace will need to continue through this decade as it is widely expected that in 2030, well over 200 GW of offshore wind will be generating worldwide. Looking further to the future, the Ocean Renewable Energy Action Coalition (OREAC) has established a vision of 1,400 GW by 2050, which will require a huge, global roll-out of offshore wind and a much higher pace of deployment.

The global growth of offshore wind has resulted from the maturing of the technology and faster-than-anticipated reduction of costs. This has piqued the interest of energy policymakers and politicians worldwide, leading to the emergence of many new markets. To help accelerate this global growth, the World Bank Group is supporting governments in countries with developing economies (such as India and Vietnam, which are summarised in this report) to establish and grow new offshore wind markets. Many of these emerging markets can be characterised by a rapidly growing energy demand and high potential to reduce generation-based emissions; GW-scale offshore wind deployment could play an important part in their energy transition. The demand and fierce competition for new offshore wind concessions, especially in markets with strong regulatory frameworks, has continued to exceed expectations and astound regulators. This demand will provide further encouragement to early stage and emerging offshore wind markets and should help to fuel this industry's accelerating growth.

Although this report addresses each country's regulatory framework in turn, it is important to appreciate the regional and global context of each market. Cooperation, coordination, and trade with other countries can be mutually beneficial, particularly in promoting the reduction of costs and supply chain stability.

Readers of this report will be familiar with the term 'Power-to-X' which has been



trending in the energy industry, and especially so in offshore wind where X has ranged from green hydrogen to whisky. The production of green hydrogen from offshore wind is represented by a pipeline of proposed projects exceeding 17 GW, despite the fact that no offshore wind power has yet produced a molecule of green hydrogen. This, along with the regular announcements of new and bigger turbine models, clearly demonstrates the innovation of this industry and its confidence to deliver. As technology matures, the new commercial models associated with the introduction of power-to-X will require further advances in the breadth and complexity of the regulatory frameworks needed to deliver bankable projects.

As existing markets continue to mature and new markets begin to emerge, this report provides a valuable, informative reference to track these continual regulatory developments. I hope this report also helps regulators to be more aware of the regulatory frameworks in other markets and inspire the design and improvement of their own. As our work in the World Bank Group continues to support governments looking to establish offshore wind, I look forward to seeing an increasing number of these developing economy, emerging markets featuring in subsequent editions of this report.

Mark Leybourne

Senior Energy Specialist – Offshore Wind, Energy Sector Management Assistance Program (ESMAP)

WORLD BANK GROUP
Energy & Extractives

Foreword

The World Forum Offshore Wind (WFO) is delighted to see the publication of the second edition of the Offshore Wind Worldwide handbook by our WFO member Hogan Lovells. The immense interest in understanding the regulatory details for offshore wind energy in existing and emerging markets has made the first edition of this handbook an instant success. However, given the dynamic nature of regulation, it is essential to keep track of the changes in these offshore wind markets. This second edition of the handbook is therefore hugely beneficial to the global offshore wind community as it captures all regulatory updates made by governments throughout the past year.

Given the extraordinary events seen during 2020, it is noteworthy to state that unlike many other industries which have struggled with the economic implications of COVID-19, the offshore wind industry has shown remarkable robustness. This past year has proven to be another record for the global offshore wind industry: with more than 5.2 GW of added capacity in 2020, offshore wind has continued to grow strongly despite the challenging circumstances. Worldwide, 162 offshore wind farms are now in operation across Europe, Asia and North America.

In addition to seeing more and more operational offshore wind farms, governments from around the world have shown great interest in developing their respective offshore wind industries. Major offshore wind nations such as the United Kingdom and Germany as well as new markets like Japan have significantly increased their offshore wind targets. It is therefore of paramount importance to have a clear understanding of each individual regulatory framework for offshore wind around the world.

Some of the latest industry developments further reveal the importance of thoroughly understanding offshore wind regulatory frameworks in detail. The regulation of floating offshore wind, which will have its commercial breakthrough within this decade, will soon be an integral part of the

offshore wind industry. Even more complex from a regulatory point of view is the much-discussed use of offshore wind electricity to produce green hydrogen. Understanding the regulatory details of such new and exciting areas of the industry means that there will be more than enough content to cover for future editions of this handbook. In the meantime, this second edition serves as the perfect guide to navigate the industry across the seas of today's regulatory frameworks for offshore wind.

Gunnar Herzig

Managing Director,
World Forum Offshore Wind
(WFO)

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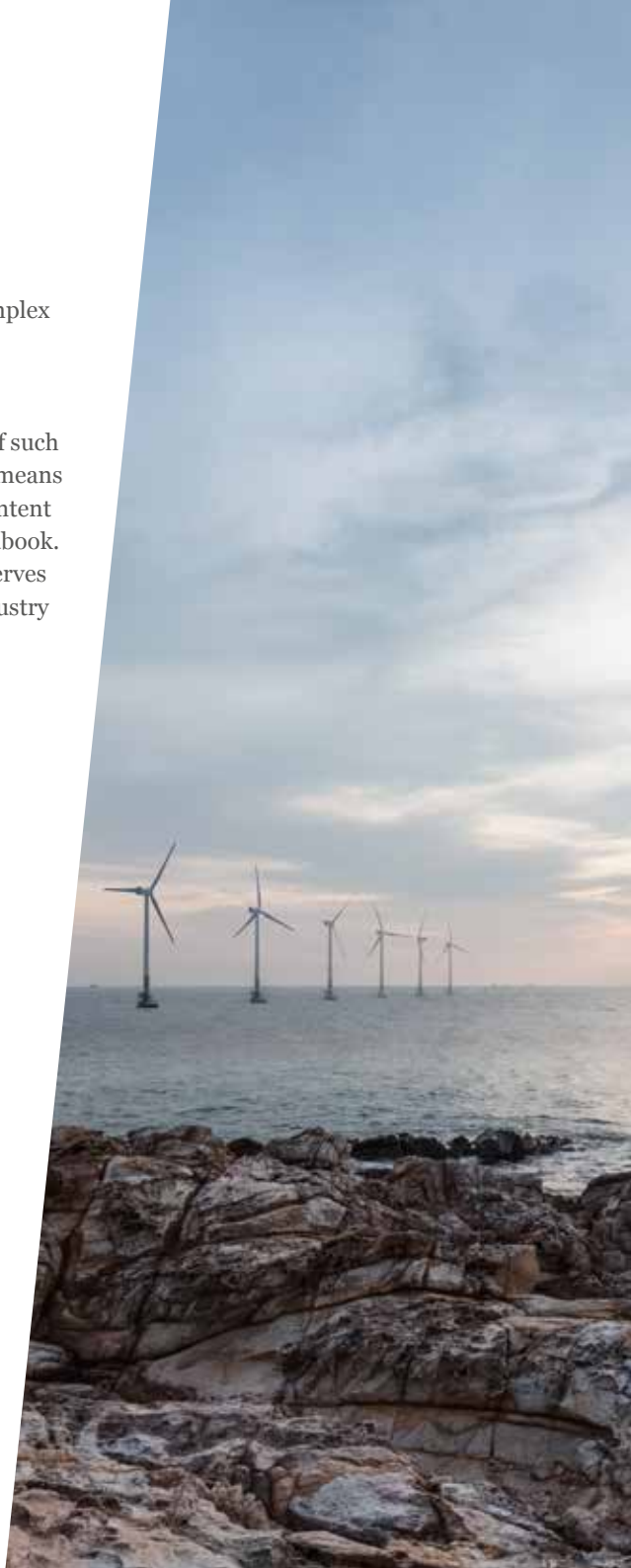

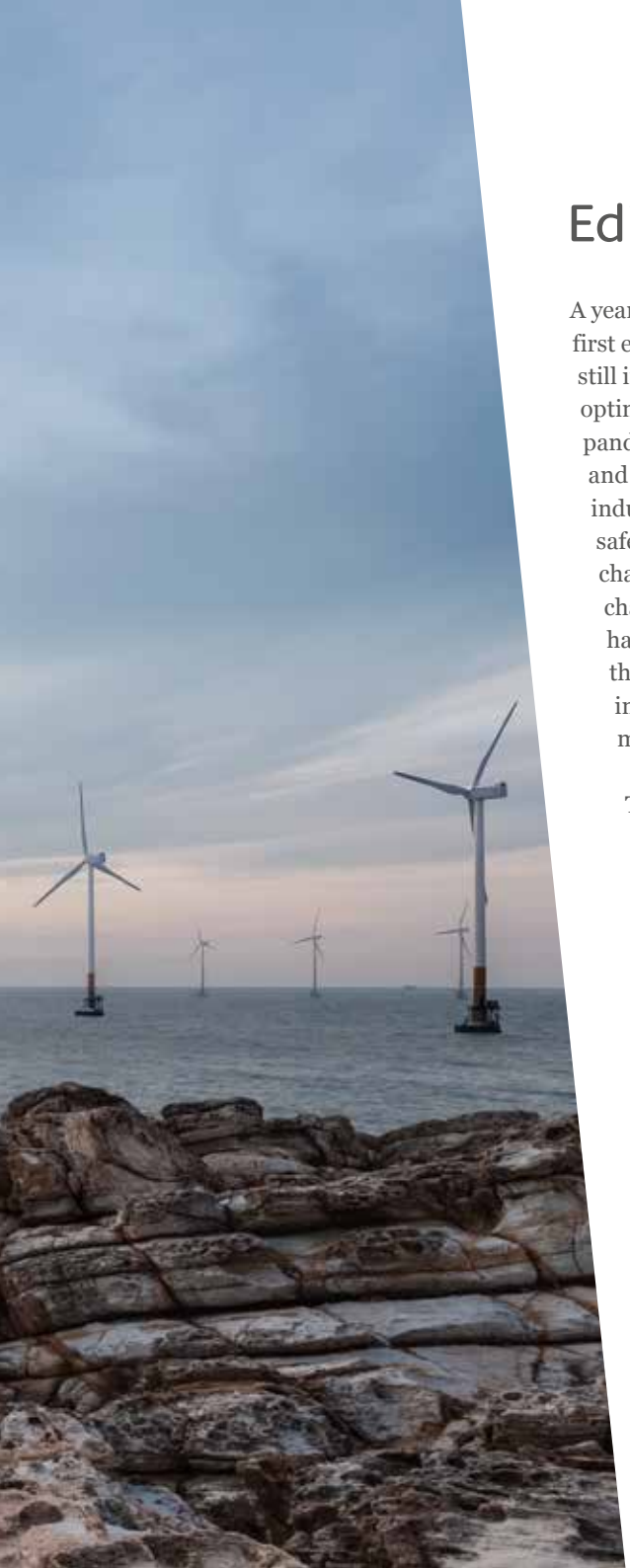

Editor's Preface

A year ago, this book was presented in its first edition. At that time, COVID-19 was still in its infancy and we made an optimistic forecast for 2020. But the pandemic was shaped the rest of the year and did not spare the offshore wind industry. Trade and mobility restrictions, safety regulations, disrupted supply chains, new project management challenges - all these and much more have led to temporary delays. As such, the pandemic has hampered the industry's steady growth and postponed many investment decisions.

The struggle is certainly not over yet. But as much as the current events require some degree of caution, there is also plenty of reason to be confident about making a leap forward this year. Many experts seem to agree that the industry has come through the crisis better and is more resilient than one might have expected a year ago. Europe added nearly 15 GW of wind power capacity in 2020, out of which 3 GW are offshore capacity.[1] While this fell short of forecasts, it still represents a respectable increase. In Germany, even though the industry slowed down during the first pandemic

lockdown, wind energy's output in 2020 exceeded the year 2019 by more than twelve percent, according to data from the German grid operator TenneT.[2] Across the Atlantic, the US also saw a rush forward by wind developers despite the pandemic, with capacity additions doubling in the first half of 2020 compared to 2019.[3]

So there is reason enough to adopt an optimistic outlook on the post-pandemic era and we are contributing to this with the second edition of this book. The structure remains the same as in the previous edition, but all contributions have been updated and supplemented, taking into account that regulatory policy frameworks are subject to constant change not only in times of crisis. New key laws and legislative amendments in Vietnam and Germany, as well as Denmark's new climate act, South Korea's New Green Deal and ensuing policy and regulatory enactments, the creation of a new investment tax credit exclusively for offshore wind in the US, substantial governmental actions in further strengthening the competitiveness of Japan's offshore wind industry, and further developments in the national offshore wind energy plans and targets of the contributing jurisdictions are discussed in the revised chapters. This book provides readers again with up-to-date insights and assists them in assessing the opportunities and risks of the most important global offshore wind markets. We hope that it will entail a deeper understanding of the similarities and differences across various national regimes, as outlined by the authors of the respective chapters, who are all recognized experts in their fields and who happily share their first-hand knowledge with you.

In this edition, again, I would like to conclude with the advice to contact the respective authors if you have any questions or comments. They look forward to exchanging ideas with you.

Gusty greetings,
Yours

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1 WindEurope's report Wind energy in Europe 2020 Statistics and the outlook for 2021-2025, p. 7.

2 https://www.tennet.eu/news/detail/the-north-sea-is-becoming-the-powerhouse-of-northwest-europe-offshore-wind-energy-as-a-central-lev/

3 See eg International Energy Agency's report Covid-19 and the resilience of renewables.

Contents

Belgium

Tom Geudens, Caroline Hoste and Jens Debièvre
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 eight operational wind farms with a 2,262 MW production capacity.

This 2,262 MW production capacity implies that these wind farms will produce 8.0 TWh of electricity, which represents about 10 % of Belgium's total electricity consumption. During the second half of 2020, two new wind farms were constructed and have begun to produce energy, which increased the total production capacity from 1,556 MW to 2,262 MW.

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. There is no clear view yet on the timing, and new tendering procedures are expected not to occur before the end of 2023. There is also a delay as 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 has been 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 by 2025-2026.

The wind developing sector was pushing for completion of this second offshore wind phase by 2024 but, given the political situation during the period 2019-2020 (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 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 has entered 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.

Every offshore energy park shall also be surrounded by a safety zone of at least 75m around each wind turbine and 500 meters around the park according to a recent Royal Decree (of 4 February 2020), as from the moment of construction until the dismantlement.

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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

According to statistics released by the National Energy Administration (NEA), China's renewable energy installation capacity had reached 934 GW at the end of 2020, with year-on-year growth of 17.5%. This breaks down into 370 GW (up 3.4%) for hydropower (including 31.49 GW for pump storage power); 281 GW (up 34.6%) for wind power; 253 GW (up 24.1%) for photovoltaic power (PV Power); and 29.52 GW (up around 30.9%) for biomass power. Renewable energy accounted for 42.44% of the national total installed power capacity, which is an increase of around 3% compared to 2019.[1]

The global offshore wind industry hit a record in 2019 with 6.1 GW of new installed capacity, in large part due to a sharp increase by 45% in installed capacity year-on-year in China.[2] The total offshore wind power cumulative installed capacity worldwide has exceeded 29 GW in 2019 (with China accounting for 23%), representing 4.5% of the total cumulative wind power installed capacity worldwide.

The offshore wind power market in China is growing at a faster pace than any other country's market in the world. China is now the world's third largest market in terms of total installed offshore wind power capacity (6.7 GW in 2019), ranking behind the U.K. (9.7 GW in 2019) and Germany (7.5 GW in 2019), and is set to become the world's largest, considering its growth rate and the ambitious goals set by the Chinese government.[3] In 2019, China installed more offshore wind power capacity (2.4 GW) than any other markets, followed by the United Kingdom (1.8 GW) and Germany (1.1 GW). Most of China's new offshore wind power installed capacity in 2019 was added in Jiangsu, Guangdong, and Fujian Provinces, with Jiangsu accounting for the lion's share – 1.6 GW, 64% of the overall newly added capacity in 2019. The installed capacity in Guangdong and Fujian increased 0.35 GW and 0.2 GW respectively. As of June 2020, eight Chinese turbine original equipment manufacturers have released offshore turbines greater than 5 MW. Six of them were listed among the world's top ten offshore wind turbine suppliers in 2019. Although offshore wind capital expenditure has been reduced by 40-50% in China over the past decade, the current LCOE for the Chinese offshore market is still priced at

1 First Quarter 2021 Online Press Briefing by National Energy Administration, published by National Energy Administration on 30 January 2021 (http://www.nea.gov.cn/2021-01/30/c_139708580.htm); First Quarter 2020 Online Press Briefing by National Energy Administration, published by National Energy Administration on 6 March 2020 (http://www.nea.gov.cn/2020-03/06/c_138850234.htm); 2020 Electricity & Other Energy statistics, published by China Electricity Council on 20 January 2021 (https://www.cec.org.cn/detail/index.html?3-292820).

2 'The 15th flagship Global Wind Report 2019', published by the Global Wind Energy Council on 25 March 2020 (https://gwec.net/global-wind-report-2019/).

3 'Offshore wind takes off in China', published by China Dialogue on 9 October 2020 (https://chinadialogue.net/en/energy/china-offshore-wind-power-growth/).

RMB 0.64/kWh (EUR 0.08/kWh), according to State Grid Energy Research Institute.[4]

The Chinese government is committed to increase China's wind power installed capacity. The 13th Five-Year Plan for Wind Power Development applicable from 2016 to 2020 (13th Five-Year Plan) sets out the following goals by the end of 2020: (i) the cumulative installed capacity of wind power (including onshore and offshore) connected to the grid reaches 210 GW, among which 5 GW is from offshore wind power; and (ii) the total capacity of offshore wind power projects under construction reaches 10 GW.[5] Encouragingly, these goals have been achieved and even exceeded. China is in the process of issuing a 14th Five-Year Plan for Renewable Energy Development that will also cover wind power.

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 easily affected by changes to regulations and government policies. Pursuant to the Special Administrative Measures (Negative List) for Foreign Investment Market Access (2020 Version) (Nationwide Negative List) and the Special Administrative Measures (Negative List) for Foreign Investment Market Access in Pilot Free Trade Zones (2020 Version) (FTZ Negative List) jointly released by the National Development and Reform Commission (NDRC) and the Ministry of Commerce (MOFCOM) on 23 June 2020 and effective on 23 July 2020, together with the Encouraged Foreign Investment Industry Catalogue (2020 Version) (Encouraged Catalogue) jointly released by the NDRC and the MOFCOM on 27 December 2020 and effective on 27 January 2021, 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[6]

The China Renewable Energy Outlook 2019, released by the Energy Reform Institute of the NDRC and the China National Renewable Energy Centre in February 2020, sets out China's intermediate and long-term renewable energy goals based on two scenarios 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 governmental policies for the

4 'China's Offshore Wind Energy Industry Post-2021', published by REVE on 22 October 2020 (https://www.evwind.es/2020/10/22/chinas-offshore-wind-energy-industry-post-2021/77839).

5 'The 13th Five-Year Plan for Wind Power Development', published by National Energy Administration on 16 November 2016 (http://www.gov.cn/xinwen/2016-11/30/content_5140637.htm).

6 The information in this section is primarily quoted from China Renewable Energy Outlook 2019, published by Energy Research Institute of Academy of Macroeconomic Research and NDRC China National Renewable Energy Centre on 18 October 2019 (https://www.thinkchina.ku.dk/documents/CREO-2019-EN-Final-0316.pdf).

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.

Scenario	Stated Policies Scenario			Below 2°C Scenario		
Year	2025	2035	2050	2025	2035	2050
Total Capacity (GW)	2539	4027	5395	2717	5124	6730
Coal	950	691	420	1037	730	445
Oil	1	0	0	1	0	0
Natural gas	165	263	214	132	197	152
Nuclear	70	95	110	66	87	100
Total Renewable Energy Capacity (GW)	1352	2979	4651	1482	4110	6033
Hydro	386	455	533	347	386	455
Wind	425	1121	1922	507	1763	2636
Solar	485	1346	2135	536	1836	2803
Bio	56	55	57	51	54	55
Geothermal	0.1	0.45	2	0.12	0.60	5.00
Ocean	0.28	0.88	2	0.28	0.87	2.00
Fossil fuels (%)	44%	24%	12%	43%	18%	9%
Non-fossil fuels (%)	56%	76%	88%	57%	82%	91%
Renewable (%)	53%	74%	86%	55%	80%	90%

As illustrated in the abovementioned China Renewable Energy Outlook 2019, the capacity of offshore wind reaches 23 GW in 2025, 97 GW in 2035 and 86 GW in 2050 in the Below 2°C Scenario, while it is 22 GW in 2025, 58.2 GW in 2035 and 57.7 GW in 2050 in the Stated Policies Scenario.

C. Summary of key aspects

To support the growth of electricity demand and to accelerate its energy transition process, China's power supply has witnessed a significant trend on integrating renewable energy to replace fossil fuel, especially coal. Offshore wind power projects are expected to witness a stable growth in the next years.

The regulatory framework for offshore wind power projects in China is particularly challenging because it is comprised of a complex set of rules at the national and local level (sometimes inconsistent with each other) and requires the developers to go through many formalities with multiple authorities at different stages of development. One important point to note is that there is a two-year deadline within which construction of the project must be commenced after having obtained the project approval, otherwise the authorities can revoke the project approval and the right of use of the sea areas. Additionally, there is a mandated purchase system whereby the power grid company is required to purchase the entire output of the offshore wind power plants connected to its grid.

The Chinese government is reducing the tariff and subsidies for offshore wind power projects. The Renewable Energy Development Fund set up by the Ministry of Finance (MOF) provides subsidies for offshore wind power projects but such central government's subsidies are in the process of being faded out. The MOF, the NDRC and the NEA issued the Several Opinions to Promote the Healthy Development of Non-Aqueous Renewable Energy Power Generation on 20 January 2020, and a supplemental notice on 29 September 2020 (Healthy Development Opinions), stipulating that the central government does not make subsidies available to newly installed offshore wind power projects, except for the existing offshore wind power projects which have obtained the required project approvals and for which grid connection has been completed prior to 31 December 2021, which will make developers rush to get their wind farms connected to the grid before the cut-off point for subsidies at the end of 2021.

The participation of foreign developers in the Chinese market has been quite limited to date but it is expected that China will encourage foreign developers to participate in this market to make offshore wind power projects to become more sustainable and competitive and allow the Chinese government to reach its ambitious goal of achieving carbon neutrality by 2060. As the location of offshore wind farms is moving increasingly far from shore, foreign developers with a good track record in the development of projects in deep water and far into the sea may have a significant competitive advantage compared to local players.

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), the latest version of which was issued on 26 December 2009, 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) issued on 25 August 2011 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) issued on 29 December 2016 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.

On 3 April 2020, the Energy Law of People's Republic of China was published in draft form. It provides guidelines and imposes high standards on the energy development, and emphasises the role of the market in allocating energy resources and giving priority to renewable energy development. When issued in final form, the Energy Law will serve as the overall framework legislation governing the entire energy sector, including renewable energy.

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

1. the NEA (a bureau administered by the 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. he MOF is responsible for controlling and distributing subsidies and funds for offshore wind power projects;

5. the Ministry of Science and Technology (MOST) 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 that is 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. It is also in charge of business registration of Chinese companies.

Main Authorities	Role
NEA	• Issuing Offshore Wind Power Plan • Administration of planning, development and construction • Selection of projects through competitive bidding • Issuing Project Approvals • Issuing business license for electricity generation
SOA	• Approving sea areas and providing use right • Approving installation of submarine cables • Approving navigation and environmental safety
NDRC	• Determining tariff
MOF	• Distributing subsidies and funds
MOST	• Promoting technology in energy sector
MOHURD	• Land construction approvals and permits
SAMR	• Issuing national technical standards • Registration of project company

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, among the coastal provinces/cities where the offshore wind power projects are mainly located in China, Shanghai Municipality, Guangdong Province, Shandong Province, Zhejiang Province, Fujian Province and Dalian city have already published their local Competitive Allocation Schemes for offshore wind power projects, either through specific rules for offshore projects or a single set of rules covering both onshore and offshore projects.[7]

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 bidding procedure to determine the developers of those projects; they are assigned to the entity that carried out the Preliminary Works; and

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.

7 'Measures for Shanghai Competitive Allocation for Wind Power Projects' published on 25 December 2018 by Shanghai Provincial Development and Reform Commission;
'Measures of Guangdong Provincial Energy Administration for Guangdong Competitive Allocation for Offshore Wind Power Projects (for trial implementation)' published on 3 December 2018 by Guangdong Provincial Development and Reform Commission;
'Measures for Shandong Competitive Allocation for Offshore Wind Power Projects' was published on 17 December 2019 by Shandong Provincial Development and Reform Commission and Shandong Provincial Energy Administration;
'Measures for Zhejiang Competitive Allocation for Offshore Wind Power Projects' published on 18 September 2019 by Zhejiang Provincial Development and Reform Commission and Zhejiang Provincial Energy Administration;
'Measures for Fujian Offshore Wind Power Projects (for trial implementation)' published on 25 December 2019 by Fujian Provincial Development and Reform Commission; and
'Interim Measures for Dalian Offshore Wind Power Projects' published on 15 November 2019 by Dalian Provincial Development and Reform Commission.

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 (technicalcapabilities 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, the China Southern Power Grid, and certain local independent grid companies) are required to purchase the entire output of the offshore wind power plant. This is different from onshore wind power projects in which (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). The 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 the NRDC 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.

As to the 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 Power 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 will be applicable to all these newly-approved projects.

The Renewable Energy Development Fund set up by the MOF provides central government’s subsidies for offshore wind power projects. However, the Healthy Development Opinions provide that the central government does not make subsidies available to newly installed offshore wind power projects, except for the existing offshore wind power projects which have obtained the required project approvals and

for which grid connection has been completed prior to 31 December 2021. The central government's subsidies will be granted based on the reasonable utilisation hours, which are estimated at 52,000 hours for the full life cycle of offshore wind power projects. The subsidised electricity amount of one offshore wind power project for the full life cycle (Subsidised Amount) should be equal to the project capacity multiplied by 52,000. When the reasonable utilisation hours for the full life cycle are not exceeded, subsidies will be provided based on the actual power generation capacity. However, if the power generated exceeds the Subsidised Amount, the amount in excess of the Subsidised Amount will not receive central government's subsidies. It is worth noting that for all the offshore wind power projects eligible for central government's subsidies, the central government's subsidies will no longer be applicable after 20 years from the date on which the project was connected to the grid, regardless of whether the Subsidised Amount has been used up.

The amount of the subsidies is equal to an amount (Premium) calculated as below: (On-Grid Tariff the Grid Company pays to purchase the electricity generated by the plant - benchmark tariff applicable to electricity generated by coal-fired power plants) / (1 + applicable rate of value-added tax). The benchmark tariff applicable to electricity generated by coal-fired power plants 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.

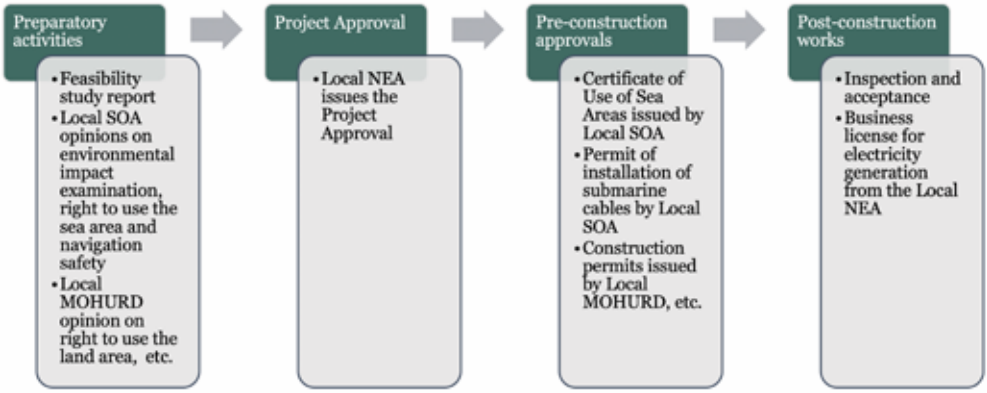
D. Timeframe for the realisation of the project

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 III. below.
If the developer fails to commence the 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, such as 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. In accordance with the Notice on Implementing the Reform of "Streamlining the Government, Delegating Power and

Improving Government Services" and Optimizing the Administration of Electric Power Business License issued by the NEA on 23 March 2020, the wind power projects with installed capacity of less than 6MW will be exempted from obtaining such license.

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. 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 the 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 Fengxian site, Shanghai Municipality on 12 September 2019 is RMB 0.7388/kWh,[8] 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

8 'The Results of Competitive Allocation for Fengxian Offshore Wind Power', published by Shanghai Development and Reform Commission on 28 August 2019 (http://fgw.sh.gov.cn/gqgg/20190828/0025-36568.html).

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 five 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 two 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 four 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.[9]

On 24 November 2020, the Local NDRC in Shanghai Municipality announced that the Bid Tariff for the offshore wind power project at Donghai Bridge awarded under the Competitive Allocation Scheme was RMB 0.727/kWh and the Guiding Wind Power Tariff for near-shore wind power projects approved in 2020 is RMB 0.75/kWh as provided in the Circular on Improving the On-grid Price Policy for Wind Power, issued by the NDRC on 21 May 2019. On 8 January 2021, the Local NDRC in Fujian Province announced the evaluation results of five Pre-identified Developer Projects but has not publish the Bid Tariffs yet.

9 'The Results of 2019 Competitive Allocation for Offshore Wind Power Projects by Wenzhou Development and Reform Commission', published by Wenzhou Development and Reform Commission on 13 October 2019 (http://wzfgw.wenzhou.gov.cn/art/2019/11/13/art_1229203933_2091484.html);
'The Results of 2019 Competitive Allocation for Offshore Wind Power by Ningbo Energy Administration', published by Ningbo Development and Reform Commission on 28 August 2019 (http://fgw.ningbo.gov.cn/art/2019/11/13/art_1229019928_43966199.html);
'The Results of 2019 Competitive Allocation for Offshore Wind Power Projects by Shandong Province', published by Shandong Energy Administration on 25 December 2019 (http://www.chinawindnews.com/10476.html);
'The Results of Competitive Allocation for Donghai Bridge Offshore Wind Power Projects', published by Shanghai Development and Reform Commission on 24 December 2020 (http://fgw.sh.gov.cn/zgjjl/20201126/e5850c3c6df647f4ad24628404a0311e.html);
'The Disclosure of 2020 Competitive Allocation for Fujian Offshore Wind Power Projects by Fujian Development and Reform Commission', published by Fujian Development and Reform Commission on 24 December 2020 (https://baijiahao.baidu.com/s?id=1686953746133580346&wfr=spider&for=pc); and
'The Results of 2020 Competitive Allocation for Fujian Offshore Wind Power Projects', published by Fujian Development and Reform Commission on 8 January 2021 (http://news.bjx.com.cn/html/20210108/1128289.shtml).

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 Regulation on the Fair Opening of Power Grid (Draft for Comments) (Draft Grid Opening Measures), issued by the NEA on 6 December 2020: which provide, among others, the regulatory requirements imposed by the NEA on matters and procedures relating to the grid connection; and

4. 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 Draft Grid Opening 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 Draft Grid Opening Measures require the Grid Companies to provide grid connection services in a fair and non-discriminatory manner, prohibiting the Grid Companies from: (i) refusing the applications of grid connection or delaying the grid connection without legitimate reasons; (ii) refusing to provide the necessary information for the grid connection to the developer; (iii) for power generation facilities constructed in compliance with national requirements, in addition to the necessary technical requirements to ensure the safe operation of power grid and equipment, imposing grid connection requirements higher than the national and industry technical standards and specifications; and (iv) charging unreasonable service fees in violation of regulations. The Draft Grid Opening

Measures additionally provide that if the Grid Companies fail to provide grid connection services as required, the NEA and its local counterparts shall order the Grid Companies to take corrective actions within a time limit; if they refuse to take corrective actions, an administrative fine from RMB 100,000 to RMB 1,000,000 shall be imposed and penalties might be imposed on the directly in-charge person and other directly responsible persons.

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.[10]

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 near shore 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

10 'Fixing Wind Curtailment with Electric Power System Reform in China', published by Brookings-Tsinghua Center for Public Policy on 9 April 2018 (https://www.brookings.edu/wp-content/uploads/2018/04/fixing-wind-curtailment-with-electric-power-system-reform-in-china.pdf).

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 MOF and the SOA set a national standard for the collection of such fee. The local counterpart of the MOF 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

A. Local rules and policies

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.

B. Local content requirement

There are no localisation requirements with respect to the investment in offshore wind power projects as well as the procurement of wind power equipment in China.

As illustrated above in section I.A., 100% foreign ownership of wind power projects is permitted. With respect to the utilisation of wind power equipment, China used to implement in the past a local content requirement which imposed a minimum local content of 70% in terms of domestically manufactured equipment, according to a document issued in 2005 by the NDRC, specifying that a wind power plant failing to fulfil this requirement was not allowed to be constructed. However, this restriction was finally cancelled by the NDRC in 2009. On 23 December 2010, the NDRC issued the Circular on Promoting the Healthy and Orderly Development of the Wind Power Equipment Industry, explicitly providing that the bidding and procurement of wind power equipment must be carried out in strict accordance with the Tendering and Bidding Law of the People's Republic of China and related regulations and exclusive conditions cannot be set.

C. EHS requirement

In addition to the laws and regulations specifically applicable to wind power projects (such as the Wind Power Interim Measures, Offshore Wind Power Measures, etc.), the general regulations on environmental protection and safety (such as the Regulations on Administration of Construction Safety and the Marine Environmental Protection Law), applicable to any construction projects, should also be paid attention to.

D. Potential market risks for offshore wind power project development

The installation of offshore wind power projects is expected to experience an increase in 2021 and a decline in 2022. Since the Healthy Development Opinions provide that the central government does not make subsidies available to newly installed offshore wind power projects, except for the existing offshore wind power projects which have obtained the required project approvals and for which grid connection has been completed prior to 31 December 2021, project developers and investors are rushing to commission their projects before the end of 2021 and new installations are expected to decline from 2022.

On the procurement side, the COVID-19 pandemic is expected to cause a shortage of key parts such as blades and main bearings that rely on overseas supply, creating possible delays to the project timeline. Project developers in China are facing a profit margin pressure as they struggle to reduce development costs while the Chinese

government reduces the tariff and subsidies. With the continuous development of offshore wind power in China, the location of offshore wind farms will be increasingly far from shore, increasing complexities and costs. Against this background, foreign developers with a good track record in the development of projects in deep water and far into the sea may have a significant competitive advantage compared to local players.

Further reading

'Wind Energy Magazine of 2020', published by the Chinese Wind Energy Association on a monthly basis (http://www.cwea.org.cn/magazine_down_2020.html);

'Trends and Contradictions in China's Renewable Energy Policy', published by Anders Hove on 28 August 2020 (https://www.energypolicy.columbia.edu/research/commentary/trends-and-contradictions-china-s-renewable-energy-policy);

'Special Report on Offshore Wind Power Industry', published by Caitong Securities on 10 September 2020 (https://pdf.dfcfw.com/pdf/H3_AP202010081419939709_1.pdf?1602175323000.pdf)

'Global Climate Governance Regime and China's Carbon Neutrality Outlook', published by Center for Energy and Environmental Policy Research of Beijing Institute of Technology on 10 January 2021 (https://ceep.bit.edu.cn/docs//2021-01/d714a0f1049d-4ed79c881150abfbdc83.pdf);

'Evolution of Price Policy for Offshore Wind Energy in China: Trilemma of Capacity, Price and Subsidy', published by Youzhou Wei, Qing-Ping Zou and Xianghong Lin in February 2021 (https://www.sciencedirect.com/science/article/pii/S1364032120306547);

'Research on the Development Approach and Policy Recommendations of Guangdong Offshore Wind Power Industry', published by Zhaoying Zheng and Yimin Feng on 30 December 2020 (https://www.energychina.press/cn/article/doi/10.16516/j.gedi.issn2095-8676.2020.04.003);

'Analysis on Investment Strategy of Chinese Mainland's Offshore Wind Power: A Case Study of Jiangsu Province', published by Wensen Hu, Yanchun Fu, Xiaoya Guo, Gengda Li and Xiongwei Li in August 2020 (https://m.hanspub.org/journal/paper/37124).

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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 its first wind farm in 1991. Currently, the total capacity of the OWFs constitutes 1699 MW, with several projects in the pipeline over the coming years.

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 with a total of 2400 MW capacity will be constructed by 2027 and 2030. The tender for Thor OWF, one of the first of three large OWFs to be built, was launched in 2020, and the two additional OWFs will be tendered in 2021 and 2023. The Thor OWF will consist of 80-100 OWTGs with a total capacity of 800 MW-1000 MW.

In June 2020, the Danish Government and parties of the Parliament agreed on a Climate Agreement, where one of the main topics is the development of more OWFs. The parties to the agreement have agreed to develop the second wind farm from the Climate Agreement 2018 at Hesselø at the island of Bornholm with a capacity of 800-1.200 MW. In addition, the agreement introduces an initiative to establish two energy islands. One of the energy islands will be Bornholm to which the Hesselø project and an additional 2 GW capacity will be connected. The second energy island will be located in the North Sea with a capacity of 3 GW by 2030 and the possibility of a minimum of 10 GW in the future. Further, the Danish Parliament adopted a Climate Act in June 2020, which entails that Denmark shall reduce greenhouse gas emissions by 70 per cent by 2030. In order to fulfill this objective, the Danish Government will work towards introducing more green energy projects in the near future.

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 an open-door procedure or a tender procedure.

The OWFs established through an open-door procedure can cover areas which have not been designated for future farms in a 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. A screening was conducted in 2020. The Danish state has reserved two of the areas for the construction of energy islands, which means that it is no longer possible to apply for a licence for OWFs in these areas through the open-door procedure.

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 tenders;
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 the signing of the concession agreement for the OWF's construction of and connection to the grid. The guarantee needs to be from a financial institution, an insurance company, or a similar institution. The concession agreement will specify the date for when a guarantee must be posted, which is typically 10-15 years after grid connection. The size of the guarantee varies depending on the size of the OWF but is typically set at 10 % of the estimated value of the project.[1]

1 *Information from the model concession agreement for the Thor Tender*

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 with a total capacity of approx. 4200 MW, 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. A large-scale screening of waters was finalized in May 2020, which identified locations for up to 10 GW of offshore wind capacity in Danish waters.

The Thor OWF 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 is covered by the preliminary investigations conducted, covers 440 km2.

The second OWF mentioned in the Energy Agreement from 2018 will be located at Hesselø and will be established in connection with the energy island at Bornholm. Originally, the OWF was supposed to be operational by 2030, but the Danish Government and Parliament has planned for an earlier launch in 2027.

The location of the third OWF 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 under the Danish Renewable Energy Act are required to establish and operate an OWF in Danish waters, 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, while the developer is responsible for the construction and operation of the offshore GCS.

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. Energinet will conduct the preliminary investigations if the OWF is part of a tender. In practice, 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.

2. Construction licence
   A construction licence is necessary in order to establish the OWTG. 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. If the environmental assessment in relation to the preliminary investigations are not sufficiently specific concerning the project, a supplementary EIA will be required in order to obtain the construction permit.

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 the possibility of extension.

4. Licence to produce electricity
   A production licence is necessary for all electricity producing facilities above 25 MW. Several connected facilities, such as for example OWFs, are considered to be one facility in this regard. The licence is given for a 20-year period with the possibility of extension.

It is generally possible for anyone with an individual and significant interest in the licences to appeal the DEA's decisions to the Danish Energy Board of Appeal within four weeks after the licences have been granted. With respect to the construction licence, environmental organization may under certain condition also be entitled to appeal. The construction licence and the licence for utilisation of energy 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

OWF	Tender date	Feed in tariff
Horns Rev 2	7 July 2004	DKK 0.518 per kWh (approx. EUR 0.07)
Rødsand 2	7 February 2008	DKK 0.629 per kWh (approx. EUR 0.08)
Anholt	30 April 2009	DKK 1.051 per kWh (approx. EUR 0.14)
Horns Rev 3	6 December 2013	DKK 0.77 per kWh (approx. EUR 0.10)
Kriegers Flak	22 December 2016	DKK 0.372 per kWh (approx. EUR 0.05)

Offshore wind farms 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 / kWh (approx. EUR 0.033).

2 Danish Climate Agreement of 22 June 2020

pay provision. However, reference is made to section V.D. below concerning entitlement for compensation in connection with certain curtailments of production.

A special contract for difference-model (CfD-model) has been developed for the subsidiary scheme for the Thor OWF. According to the CfD-model, the concession owner will receive a premium during the years when the offered bid price is higher than the reference price but will pay the Danish State during the years when the reference price is higher than the offered bid price. The same CfD-model is to be used in future OWF tenders and future technology neutral tenders, where open-door OWF projects as well as onshore wind farms, solar-, wave-, and hydropower projects can apply.2

B. Consequences of a project delay

If the developer does not meet the deadline in the concession agreement for connecting to the grid (tender process OWF), it may incur a significant amount of liquidated damages. 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.

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 Energinet's costs for the construction 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.

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. Key aspects of Offshore Wind Projects

The development of offshore wind farms in France during the 10 last years has been slow and not very successful – no OWF is currently operated. This is owing in particular to the insufficiency of the preliminary studies and the complexity of the permitting process, paired with numerous and long legal challenges of the authorisations, once allocated.

Since few years however, several laws have clarified and simplified the permitting process and the handling of the potential litigations and have globally reduced the weight of studies and processes previously shouldered by the OWF operators. Simultaneously, the Government has launched a series of significative tender procedures in order to award 1 GW per year as of 2023. The strong and steady green energy policy, materialized by structured tenders, constitutes a reliable basis for a successful development of the OWF in the coming years.

B. 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 four 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

1 According to www.conaissancedesenergies.org and www.ecologique-solidaire.gouv.dr

2 According to the French multi annual energy plan ("MAEP" - "Programmation pluriannuelle de l'énergie" in French) adopted on 21 April 2020 and to the English version of the project of the MAEP edited in 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". No English version of the final MAEP is available to date.

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.

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 2028.

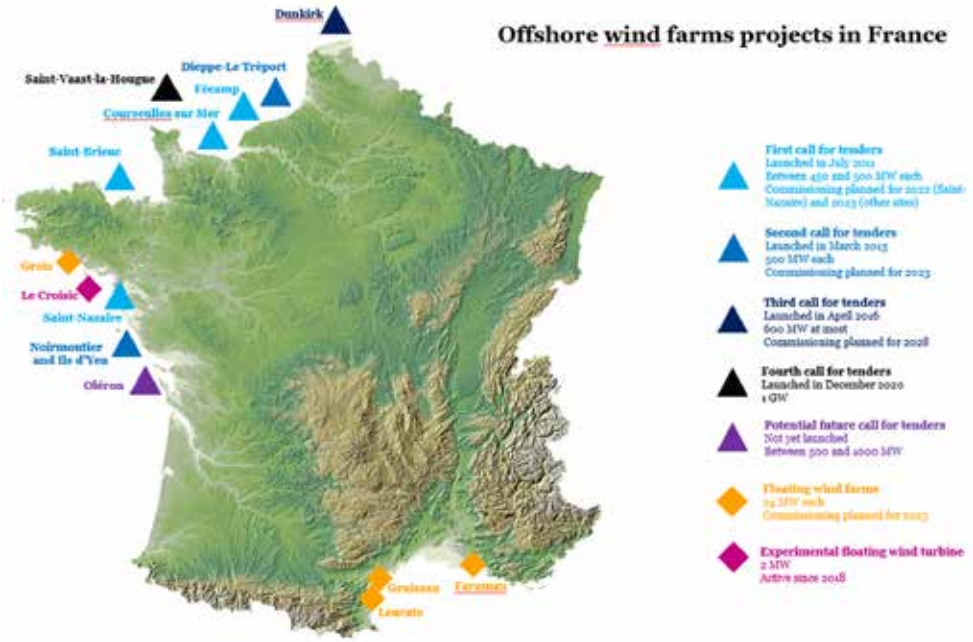
Another competitive dialogue (4th round) began in December 2020 in order to attribute 1 GW in the site of Saint-Vaast-La-Hougue (Normandy)[3]. The selected operator should be known in 2022.
In addition, the Government had previously decided to build an OWF with a capacity of 500 to 1000 MW in South West France's Atlantic coast. The initial idea, dated 2016, was to implement it near Oléron island (French Atlantic coast) but as this is a protected area, this project is highly controversial and no tender has been published to date. Therefore, to date, a total capacity of around 3.5 GW has been awarded to different operators on seven sites, and an additional 1 GW should be awarded next year on an eighth site.

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 2023.[4]

3 Announcement of the Minister of the environmental transition dated 5 December 2020.

4 According to www.revolution-ernergetique.com

All these projects are summarised in the graphic below:



C. 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.[5]

The law relating to energy and climate dated November 2019[6] 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".[7]

A multi-annual energy plan (MAEP – in French, the programmation pluriannuelle de l'énergie – PPE), establishes the priorities

5 Article L.100-4 of the Energy Code.

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

7 Article L.100-4 4°ter of the Energy Code.

for government action regarding energy policy for the metropolitan part of the country for the next decade, shared in two 5-year periods.[8]

The MAEP for the 2019-2023 and 2024-2028 periods adopted on 21 April 2020stipulates a calendar of call for tenders for the award of offshore wind capacities taking into account the aims of the above-mentioned law.[9]

This calendar states, concerning fixed OWF projects, that between 500 and 1000 MW of new projects will be attributed in 2021 or 2022 (with a maximum of 60 Euro per MWh), and one project of 1 GW will be attributed per year as of 2023 (fixed or floating OWF, depending on prices and fields).

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).

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.

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

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

9 Decree n°2020-456 dated 21 April 2020.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

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 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.

In overview, the key elements of the development of an OWF project are as follows:

1. Public debate and preliminary studies led by the State

2. Win a tender procedure

3. Obtain an authorisation to use the public domain and an environmental authorisation

4. Conclude the grid connection contract

5. Enter commercial and financing agreements

The key Government and regulatory stakeholders are as follows:	
Area	Responsibility
Seabed leasing	The relevant Prefect
Energy Policy	Ministry of ecological transition
CfD co-contractor	Electricité de France (EDF)
Electricity licensing	Minister in charge of energy
Market regulation	Commission de régulation de l'énergie (CRE)
Environmental policy	Ministry of ecological transition
Planning consents	No planning consent needed
Grid (Transmission)	Réseau de transport d'électricité (RTE)
Aviation	Ministry of ecological transition
Defence	Ministry of Defence
Navigation	Ministry of sea

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.

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:

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

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

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.311-1 and following of the Energy Code.

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 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 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.

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

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 II.A.. 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.

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

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

15 Article L.311-15 of the Energy Code.

16 Article R.311-13 of the Energy Code.

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: Reseau 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.

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

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

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 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

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.

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 "envelope permit" ("permis enveloppe" in French).

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] The legislator has recently gone further by adding a new provision stating that the Council of State will directly rule in the first and last instance for actions against decisions regarding offshore wind farms, their related works, the works of the related public electricity networks and some related port infrastructures.[28] The detailed list of the concerned decisions should be fixed by decree.

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

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

28 Article L. 311-13 of the Code of administrative justice created by law n°2020-1525 dated 7 December 2020.

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 ("complement 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,[29] 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.[30] 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

29 Article L.311-12 of the Energy Code.

30 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.[31] 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 rémuneration").[32]

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 installation's life, within the duration stated in the tender specifications.[33]

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

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

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

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

delay's duration, or postponed in a number 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.[34] This has allowed a cut in purchase tariffs by 30 %[35] 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.[36]

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.[37]

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.[38]

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

34 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.

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

36 According to the European Commission (https://ec.europa.eu/competition/state_aid/cases1/201933/269222_2088484_174_2.pdf).

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

38 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).

get an authorisation to use the maritime, public domain[39], and environmental authorisation.[40] 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.[41] 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.[42]

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.[43] 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.[44] 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 RTEs expenses that an "effective" network operator would have been exposed to in the same conditions.

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

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

41 Article L.342-4 of the Energy Code.

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

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

44 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.[45]

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.[46] 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).[47] 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.

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.

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

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

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

VI. 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.

Further reading

"Offshore wind in Europe – Key trends and statistics 2020", published by Wind Europe on February 2021
(https://windeurope.org/data-and-analysis/product/offshore-wind-in-europe-key-trends-and-statistics-2020/)

"Wind energy and economic recovery in Europe – How wind energy will put communities at the heart of the green recovery", published by Wind Europe on October 2020
(https://windeurope.org/data-and-analysis/product/wind-energy and-economic-recovery-in-europe/)

"Fostering a blue economy: Offshore renewable energy", published by the International Renewable Energy Agency on 2020
(https://www.connaissancedesenergies.org/sites/default/files/pdf-pt-vue/IRENA_Fostering_Blue_Economy_2020.pdf)

"Les énergies de la mer : la dynamique est lancée", published by the Observatoire des énergies de la mer on June 2020, in French
(https://merenergies.fr/media/Rapport-OEM-2020.pdf; summary available in English here: https://merenergies.fr/media/Synthe%CC%80se-OEM-EN-2020-A4.pdf)

"Panorama de l'électricité renouvelable", published by RTE on 30 June 2020, in French
(https://assets.rte-france.com/prod/public/2020-09/Panorama%20des%20ENR%20.pdf)

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I. State and future of Offshore Wind Projects

A. Current state of offshore wind development and projects

2020 was a year of contrasts for offshore wind in Germany.

One the one hand, wind energy continued to be the largest energy source for the production of electrical power in Germany during 2020. A total of 27% of the electrical power was generated by wind (of this, 21.49% was generated by onshore wind and approximately 5.52% by offshore wind). Wind energy was followed by brown coal, nuclear power, coal, solar, and natural gas. Offshore wind power production increased from 24.5 TWh in 2019 to 27 TWh in 2020. The net renewable energy production actually coming out of the socket is ca. 50.5%, an increase of 4,6% compared to the production in 2019.[1]

One the other hand, the offshore wind market in Germany continued to struggle to regain momentum during the same year.

The number of newly commissioned offshore wind turbines immensely decreased. In 2020, OWTGs with a capacity of only 219 MW were installed and put into operation.[2] This equals only 15% of the 2017 level of expansion.[3] By the end of 2020, a total of 1,501 offshore wind turbines with a capacity of 7,770 MW were connected to the grid,[4] compared to 7,516 MW in 2019.[5]

For 2021, no further OWPs are scheduled for realisation and completion in Germany and the growth in the following years is expected to be rather low. According to the conditions of the past tender procedures, the installation of 342 MW is expected for 2022 (OWP Kaskasi).[6]

Stakeholders argued that the previous political environment was slowing down the pace of the offshore wind market in Germany and urged the government and lawmakers to improve the regulatory framework.

The next tenders for offshore wind are scheduled to start in 2021 and are to continue yearly on a recurring basis.[7]

1 Frauenhofer ISE, Öffentliche Nettostromerzeugung in Deutschland im Jahr 2020, page 2, available at: https://www.ise.fraunhofer.de/content/dam/ise/de/documents/news/2020/Stromerzeugung_2020_1.pdf.

2 Frauenhofer ISE, Öffentliche Nettostromerzeugung in Deutschland im Jahr 2020, page 57, cf. note 1 above.

3 Trotz Klimakrise: Offshore-Windkraft wird lahmgelegt, available at: https://www.erneuerbareenergien.de/trotz-klimakrise-offshore-windkraft-wird-lahmgelegt.

4 Status des Offshore-Windenergieausbaus in Deutschland, Jahr 2020, Deutsche Windguard, page 3, available at: https://www.windguard.de/veroeffentlichungen.html?file=files/cto_layout/img/unternehmen/veroeffentlichungen/2021/Status%20des%20Offshore-Windenergieausbaus%20-%20Jahr%202020.pdf.

5 Status des Offshore-Windenergieausbaus in Deutschland, Jahr 2019, Deutsche Windguard, page 3, available at: https://www.windguard.de/jahr-2019.html?file=files/cto_layout/img/unternehmen/windenergiestatistik/2019/Status%20des%20Offshore-Windenergieausbaus%20%E2%80%93%20Jahr%202019.pdf.

6 Status des Offshore-Windenergieausbaus in Deutschland, Jahr 2020, Deutsche Windguard, page 3, available , see fn. 5 above.

7 Status des Offshore-Windenergieausbaus in Deutschland, Jahr 2020, Deutsche Windguard, page 3, available at: https://www.windguard.de/jahr-2020.html?file=files/cto_layout/img/unternehmen/windenergiestatistik/2020/Status%20des%20Offshore-Windenergieausbaus%20-%20Jahr%202020.pdf

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

While the current political commitment of the current Federal Government foresees a 65% share of renewable energy in the power production by 2030, the statutory target and development cap for offshore wind was set at 6.5 GW by 2020 and 15 GW by 2030. Offshore wind development had reached the said interim expansion cap of 6.5 GW, which was targeted for 2020 already ahead of time. This led to some criticism, with many stakeholders arguing that the political environment and in particular the statutory caps were slowing down the pace of the offshore wind market in Germany and proposing that the lawmaker improves the political framework. Stakeholders argued 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.

Against this background, the development targets have been adjusted in December 2020 together with an overall reform of the Offshore Wind Energy Act.

The 2020 reform of the Offshore Wind Act has increased the cap from 15 GW to 20 GW, as targeted for 2030, and the character of this instrument has been changed from an expansion cap to an expansion target without cap, i.e. the installed capacity may exceed 20GW by 2030.

The 2020 revision of the Offshore Wind Act also introduced a long-term expansion target of 40 GW for 2040.

The Offshore Wind Energy Act provides for a “continuous” expansion and foresaw expansion volumes of 700 to 900 MW per year. Considering the long lead times for the site examinations, it is anticipated that the bid volumes can only be materially increased as from 2023 so that the value of installed capacity will increase strongly in the years 2028 to 2030. Accordingly, the previously applicable bid volume range of 700 MW to 900 MW per year has been deleted. The lawmaker now anticipates bid volumes from approximately 950 MW in the years 2021 and 2020 up to presumably about 3,500 MW in 2025.

II. The Offshore wind promotion system

A. Regulatory framework

On the federal government level, the competent authority is the federal ministry for economy and energy (Bundesministerium für Wirtschaft und Energie – BMWi).[8]

The main legal instruments setting the regulatory environment for offshore wind energy are the Offshore Wind Energy Act (Windenergie-auf-See-Gesetz), the Renewable Energies Act (Erneuerbare Energien Gesetz); and the Energy Industry Act (Energiewirtschaftsgesetz)

1. Offshore Wind Energy Act

The Offshore Wind Energy Act[9] primarily includes the legal regimes for (i) the sectoral planning and pre-investigation of the "sites" for offshore wind energy (see section II.B), (ii) the tender process for OWTGs commissioned as of 2021 (see section II.B), (iii) the construction and operation permission for OWTGs, GCSs, and other energy generating facilities (see section III), and (iv) the tender process for "other energy generation areas" (see section VII).

2. Renewable Energies Act

The overall development of renewable energy of all sources, applicable feed-in tariffs, and market premiums (see section II.C), grid connection, transmission, and distribution issues are subject to the Renewable Energies Act (Erneuerbare Energien Gesetz).[10]

3. Energy Industry Act

The Energy Industry Act[11] primarily regulates issues regarding the operation and access to the electricity grids. With respect to offshore wind energy, the act includes rules on the duty of the transmission system operators to construct and operate the grid connection systems for OWTGs (see section V).

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

1. Exclusivity

The successful bidder receiving the award for a specific site under the mandatory tender process conducted under the Offshore Wind Energy Act has the exclusive right to take part in the procedure for the planning approval (Planfeststellungsbeschluss), which is the type of permit required for the

8 The ministry's information site on offshore wind energy is available at: https://www.erneuerbare-energien.de/EE/Navigation/DE/Technologien/Windenergie-auf-See/windenergie-auf-see.html.

9 Available at: http://www.gesetze-im-internet.de/windseeg/; English translation available at: https://www.bmwi.de/Redaktion/DE/Downloads/E/windseeg-gesetz-en.pdf?__blob=publicationFile&v=9

10 Available at: http://www.gesetze-im-internet.de/eeg_2014/inhalts_bersicht.html; English translation available at: https://www.bmwi.de/Redaktion/DE/Downloads/E/eeg-2017-gesetz-en.pdf?__blob=publicationFile&v=8

11 Available at: https://www.gesetze-im-internet.de/enwg_2005/EnWG.pdf.

construction and operation of OWTGs. Thus, only the bidder receiving the award will be able to realize its project on a specific site.

2. Central Model

The receipt of feed-in revenues in the form of public benefits is subject to the provisions of the Renewable Energies Act (Erneuerbare Energien Gesetz), in particular section 19 of the Renewable Energies Act. The entitlement to receive payments under this regime is conditional upon the acceptance of the bid under the tender and therefore exclusive to the successful bidder.

As part of the Offshore Wind Energy Act, Germany has introduced a "central" model under which the federal state is responsible not only for the spatial planning but also for the pre-examination of possible installation sites. The central model is a stepped planning and tender process characterised by the following features:

3. Site Development Plan

In a first step, the Federal Maritime and Hydrographic Agency (Bundesamt für Seeschifffahrt und Hydrographie – BSH) sets up a "Site Development Plan" (Flächenentwicklungsplan) for the German EEZ for the years 2026 to at least 2030. This Site Development Plan determines the zoning regulations mainly with respect to OWTGs and GCSs, including zones (Gebiete) for offshore wind and particular sites (Flächen) within a zone, sequence of participation of sites in the tender; target installation years for the OWTGs in particular sites/GCSs, locations of converter platforms etc. The Site Development Plan can also include determinations for "other energy generation areas" (see VII below).

According to the Offshore Wind Energy Act, the Site Development Plan shall allow for a tender volume of approx. 1 GW in the years 2021 to 2023, 3 GW in 2024 and 4 GW in 2025. The first Site Development Plan was published for 2019;[12] the update (in particular with respect to the increased development targets) was completed in December 2020.[13]

4. Site pre-examination

In the next step, a pre-examination of the sites is performed in order to determine the suitability of the sites and to provide bidders with all information required in order to allow for a competitive determination of the market premium in the following tender process. The competent authority for the pre-examination is the Federal Grid Agency (Bundesnetzagentur – BNetzA); however, the responsibility can be delegated to the Federal Maritime and Hydrographic Agency for the EEZ and to state authorities for sites within the coastal waters.

12 The current Site Development Plan, published 28 June 2019, is available at: https://www.bsh.de/DE/PUBLIKATIONEN/_Anlagen/Downloads/Offshore/FEP/Flaechenentwicklungsplan_2019.pdf?__blob=publicationFile&v=9.

13 Information regarding updates of the Site Development Plan are available at: https://www.bsh.de/DE/THEMEN/Offshore/Meeresfachplanung/Fortschreibung/fortschreibung-flaechenentwicklungsplan_node.html.

5. Tender process

As a last step, a competitive tender process is conducted in order to determine the entitlement to claim payments under the Renewable Energies Act and the applicable value for the respective OWTGs. The German Federal Grid Agency (Bundesnetzagentur) is the competent authority for the tender process. In principle, the tender process is designed in a way that the bidder offering the lowest bid value receives the award.

The maximum bid value for the tenders in the year 2021 and later was capped at the lowest bid value for which a bid has been successful in the 2018 tender. Since in the 2018 tender, zero cent bids were successful, only zero cent bids would have been eligible for the future tenders. Since the Offshore Wind Energy Act has not provided for any bid evaluation criteria other than the bid value an amendment of the tendering rules was necessary. The first bill for the 2020 reform of the Offshore Wind Energy Act included a "dynamic" tendering/auction for the determination of the successful bid out of more than one zero cent bids. It was foreseen that the bidder offering the highest amount per MW, i.e. a "payback", would win. However, this concept of an "offshore grid connection fee" was subject to a lot of criticism and has not been implemented in the final bill. Instead, if there are now more than one zero cent bids for a project the successful bidder will be chosen by lot.

For the upcoming tenders, the caps on bid values as shown in the table apply. The table likewise shows additional details that are expected to apply (based on the current Site Development Plan) for the respective tender rounds:

Tender date	No. of sites (North/ Baltic Sea)	Expected capacity (MW per site)	Scheduled COD	Bid value cap (cents/kWh)
1 Sep 2021	2/1	225/433/300	2026	7.3
1 Sep 2022	1/0	930	2027	6.4
1 Sep 2023	2/0	420/480	2028	6.2
1 Sep 2024	4/0	630/270/1,000/1,000	2029	6.2
1 Sep 2025	4/0	1,000 each	2030	6.2

The bid with the lowest value receives the award. 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.

6. Further details

a) Delays and effects of delays
In case of delays with the realization of the project against the mandatory realisation timeline, the bidder is subject to penalties payable to the competent TSO (cf. sections 60 et seq. Offshore Wind Energy Act). Furthermore, in case of certain material delays, the Federal Grid Agency is obliged to revoke the award.

b) Security
Besides rather technical conditions for the participation in the tender one material precondition for making bids in the tender is the provision of a security in the amount of EUR 200 per kilowatt 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. The security has to be provided until the tender date.

c) Bid volume
The bid volume must correspond to the share of the tender volume attributable to the specific site.
The tender regime described herein applies to OWFs to be commissioned as from 2026. Further tenders will be held as from 2021. For OWFs with a scheduled commissioning in 2021-2026, tenders were already held in 2017 and 2018.

C. Incentives for investments

The principles of the incentive scheme for sources of renewable energy including OWTGs is provided for in the Renewable Energies Act (cf. sections 19-27). The main incentives are financial support via market premium or feed-in tariff payments. Other instruments, for example the issuance of certificates of origin, may likewise be regarded as investment incentives.

1. Market premium / feed-in tariff payments

The Renewable Energies Act provides for two basic incentives/payments schemes: a market premium ("MP") payment on the basis of a (one sided) contract for difference concept, and a feed-in tariff ("FiT") payment. For OWTGs commissioned after 31 December 2020, these incentives only apply in case the respective OWTG successfully participated in the tender process.

The main support scheme applicable for OWTGs is the MP payment since the FiT

payment only serves as a backup/default payment (Ausfallvergütung) for OWTGs.

The MP support scheme requires, inter alia, that the operator of the OWTG itself sells the produced power to a third party via "direct marketing". The third party would typically be a direct marketer, but may also be an end consumer. By definition, direct marketing is not given if the electricity is consumed in the immediate vicinity of the OWTG and is not transmitted through a grid.

The calculation of payments in both schemes, MP and FiT, is based on a specific "applicable value" (anzulegender Wert – "AW") for the OWTG.

For OWTGs to be commissioned as from 2021, the applicable value AW is determined by the Federal Network Agency (Bundesnetzagentur) in a competitive tender process (see section II.B). For each site advertised the bid with the lowest value wins the tender. The successful bid value then is the AW value.[14]

The MP per kWh 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 cents per kilowatt-hour.

The amount of FiT per kWh basically equals the AW value minus 0.4 ct/kWh. However, the full FiT as a regular payment incentive only applies for small generating facilities. For larger facilities (more than 100kW installed capacity), the FiT only serves as a backup/default payment (Ausfallvergütung) for up to three continuous months and up to six calendar months per year in total; in case operators claim this default payment the FiT equals the AW value minus by 20%. In case the aforementioned time limits are exceeded the FiT equals the market value.

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

2. Guarantees of Origin

The operator of an OWTG is entitled to receive guarantees of origin ("GoO") according to the Renewable Energies Act, however, only to the extent the operator does not make use of the MP or FiT support scheme.

3. Balancing power

In general, multiple sale of the produced electrical power is prohibited. However, an exception applies for balancing power. The operator of OWTG may market the electricity as balancing power without omitting the payments under the MP support scheme

14 For OWTGs which are not yet subject to the new tender 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/kWh and an initial rate of 13.9 ct/kWh (example for commissioning in 2020).

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 OWTG's technical readiness for operation need to be met. Such milestones are determined based on the date of the bid award and the binding completion date for the completion of the relevant grid connection system (as determined under sec. 17d para. 2 Energy Industry Act) as follows:

1. within 12 months after the bid award: submittal of necessary permitting documents to the Federal Maritime and Hydrographic Agency;

2. at the latest 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. at the latest 6 months prior to binding completion date for the GCS: proof of commencement of offshore installation;

4. at the latest by the binding completion date for the GCS: submission of proof of achieving actual readiness for operation for at least one OWTG including the corresponding inter array cabling; and

5. within 6 months after binding completion date for the GCS: submission of proof of achieving actual readiness for operation for all OWTGs.

The failure of the bidder to comply with such deadlines is sanctioned with penalty payments and, as ultima ratio, the withdrawal of the bid award. The amount of the penalties for failures to comply with the above mentioned realisation times is as follows: for (1) above: 100% of the security amount; for (2) above: 100% of the security amount; for (3) above: 70% of the security amount; for (4) above: 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 (5) above: 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 for (1) above, (2) above or (5) above, the Federal Network Agency is bound to withdraw the bid award irrespective of the penalties.

Penalties and withdrawal can only be avoided if the delay was not attributable to the bidder including contractors and sub-contractors for the construction of the OWF, and if it is predominantly likely that upon cessation of the impediment the bidder is willing and commercially and technically able to realise the project without undue delay.

III. Public law and Regulatory Permits

The approval, construction, and operation of OWTGs, GCSs, and other energy generating facilities are subject to the permission regime provided under the Offshore Wind Energy Act if they are to be installed within the German EEZ.

Previously, only grid-connected OWTGs were subject to the permission regime under the Offshore Wind Energy Act.[15] Under the 2020 reform this has been changed. Now, OWTGs are covered regardless of whether they are to be connected to the (onshore) grid or not.

The competent authority for applications and procedures under the Offshore Wind Energy Act is the Federal Maritime and Hydrographic Agency (Bundesamt für Seeschifffahrt und Hydrographie - BSH). The type of permit required is a planning approval (Planfeststellungsbeschluss). A planning approval has, in contrast to other types of public permits, a concentration effect, i.e. in principle all required public permits are concentrated in and granted by the planning approval.

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

Prerequisite for the application for and determination of the planning approval for a (grid-connected) OWTG is the receipt of bid award under the tender procedure.

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 is 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.

15 OWTGs not to be connected to the onshore grid were subject to the Offshore Installations Act, see fn. 8.

IV. Offtake / PPA

A. Offtake, remuneration and tariff scheme

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 an FiT. The OWF owner who wishes to receive the market premium must enter into a PPA with an offtaker. MP payments are only made for calendar months during which the electricity is directly sold under a PPA (mandatory direct marketing).

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.

Operators of OWTGs may also choose to refrain from claiming MP payments and sell the electricity under a PPA (other direct marketing).

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 OWTGs 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.

With regard to the entitlement to receive incentive payments under the Renewable Energies Act, such entitlement is conditional upon the commissioning of the respective OWTG and is valid for 20 years from that date. Project delays against the statutory project realisation timeline are subject to the penalties and consequences described above under section II.D.

C. Examples of actual and future tariffs

In the second tender round which took place in April 2018, the average value of successful bids was 4.66 ct/kWh with a maximum of 9.83 ct. Several successful bids offered 0 ct/kWh. In the first round, the average value of successful bids was 0.44ct/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

According to the Offshore Wind Energy Act (sec. 24) , by way of the acceptance of the bid, the successful bidder receives (i) the entitlement to get a physical connection of the OWTGs with a particular GCS and (ii) the connection capacity, both limited to the amount of capacity accepted with the bid. The GCS must be ready and the OWP connected to the onshore grid by the 'binding completion deadline' for the grid connection as determined in accordance with sec. 17d of the Energy Industry Act.

The Energy Industry Act provides the legal framework for the operation of energy grids and in particular of electricity grids including the obligation to establish the grid connections for OWTGs by the relevant dates. Under the current market structure, three private TSOs, TenneT and Amprion (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 month prior to the published completion date.

D. 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.

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

Under the Energy Industry Act (sec. 17e), the operator of an OWTG is protected (i) against a delay in completion of the GCS, (ii) against the unavailability of the GCS the due to failures and (iii) against the unavailability of the GCS due to maintenance works, further specified as follows:
Delay in completion: In case the construction/completion of the GCS is delayed, the operator of an OWTG is entitled to receive a compensation in the amount of 90% of the lost feed-in income as from the time when the OWTG has reached the status of operational readiness, however at the earliest as from the 91st day of delay against the binding completion date.

Interruptions (failures): In case the feed-in from an operational OWTG is prevented during more than 10 consecutive days due to

a failure of the GCS, the operator of an OWTG is entitled to a compensation of 90% of the lost feed-in income as from the 11th day of the failure and in case of interruptions on more than 18 days per calendar year as from the 19th day.

Interruptions (maintenance): In case the feed-in from an operational OWTG is prevented on more than 10 days in a calendar year, the operator of an OWTG is entitled to a compensation of 90% of the lost feed-in income as from the 11th day on which the GCS is unavailable due to the maintenance works.

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 comparable WTGs and wind data. The applicable compensation rate per kWh equals the applicable value AW, however, at least the monthly market value. This means that in practice operator will receive 90% of the monthly market value, unless the AW value is higher.
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.

F. 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) a capacity shortage in the relevant grid area would be caused otherwise, (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 have been obtained. In general, feed-in from renewable energies is prioritized 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 the lost feed-in revenues less saved expenditure (cf. 15 Renewable Energies Act). The grid operator is entitled to consider the costs for the compensation for feed-in management measures in the grid fees.

VI. Real estate

G. Rights over land to be secured

In the German Exclusive Economic Zone, 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 is technically a land plot or consists of multiple land plots 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.

H. 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 energy generation areas

As part of the 2020 reform of the Offshore Wind Energy Act, the act has also been amended with a view to "other energy generation areas". By definition, "zones", and "sites" are areas reserved for OWTGs, which are (to be) connected to the onshore electricity grid.

In comparison, "other energy generation areas" are designated for OWTGs and "other energy generating facilities" which are not to be connected to the onshore grid.

"Other energy generation areas" are defined as facilities for the generation of energy offshore (i) from renewable sources other than wind or (ii) generating other forms of energy (than electricity).

This allows, for example, the generation of hydrogen.

Currently, the Site Development Plan 2020 has introduced determinations for two other energy generation areas, one in the North Sea and one in the Baltic Sea. For the area in the North Sea the construction of cables or pipelines for the transmission of energy is excluded. The area in the Baltic Sea may be connected to onshore (however by definition not to the onshore electricity grid) via a cable system (to be constructed by the operator of the area).

The entitlement to apply for a planning approval is exclusive to the successful bidder in a tender process. The applicable criteria for the tender are not yet determined and will be regulated in an ordinance.

In February, the German federal government has also concluded a draft bill amending the Energy Industry Act with provisions on the planning, approval, operation of hydrogen grids.

VIII. UXO

When planning and constructing offshore installations in Germany, special consideration needs to be given to the existence of unexploded ordinances (UXO) WWI and WW2 in the North Sea and the Baltic Sea and onshore.

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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 coastline[1] and has the 4th highest installed capacity for wind power in the world.[2] The Government had set a target for achieving offshore wind capacity of 5 GW by 2022 and 30 GW by 2030[3]. While implementation delays compounded by the impact of COVID-19 may make achievement of the immediate target of 5 GW offshore wind capacity by 2022 difficult, continued Governmental commitment on tapping India's offshore wind capability as part of its thrust on renewable generation of power would help India meet its long term target. The Indian Government has leveraged European expertise in its initial steps in the sector through initiatives such as Facilitating Offshore Wind in India Project (FOWIND) and the First Offshore Wind Project of India (FOWPI) project[4] and 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. India has also entered into a bilateral cooperation agreement with Denmark which is particularly focused on developing offshore wind capabilities in India.[5] On 28 September 2020, India and Denmark convened on a virtual summit where cooperation between the two nations was underscored, including on strategic sector cooperation on offshore wind and renewable energy.[6]

The Indian Government has released the National Offshore Wind Energy Policy (Offshore Wind Policy) which sets out the overall policy framework for development of offshore wind[7] and has also released a draft of the offshore wind energy lease rules (which is yet to be adopted)[8] detailing the terms on which offshore leases would be granted to offshore wind developers.

In order to provide accurate data that is essential for identifying suitable project sites, NIWE is proposing to install Light Detection and Ranging (LiDARs) at identified zones in two States with potential for offshore wind – Gujarat and Tamil Nadu, with the latter in particular emerging as

1 National Portal of India (Government of India), 'India at a Glance',< https://www.india.gov.in/india-glance/profile> accessed on 16 January 2021.

2 Ministry of New and Renewable Energy, Government of India, <https://mnre.gov.in/wind/current-status/> accessed on 16 January 2021.

3 Ministry of New Renewable Energy, Government of India, Office Memorandum dated 20 June 2018 < https://mnre.gov.in/img/documents/uploads/42f765854e204d72bb36b46c9e0c4cfa.pdf > accessed on 16 January 2021.

4 India-EU Clean Energy and Climate Partnership, https://www.cecp-eu.in/resource-center/post/fowind-website/home and https://www.cecp-eu.in/resource-center/post/fowpi-website/home, accessed on 16 January 2021.

5 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 16 January 2021.

6 Joint Statement for India-Denmark Green Strategic Partnership (28 September 2020) < https://www.pmindia.gov.in/en/news_updates/joint-statement-for-india-denmark-green-strategic-partnership/> accessed on 16 January 2021.

7 Ministry of New and Renewable Energy, Government of India 'National Offshore Wind Energy Policy' published in the Gazette of India as Notification G. S. R. 765(E) dated 6 October 2015.

8 Ministry of New and Renewable Energy, Government of India 'Draft Offshore Wind Energy Lease Rules, 2019' issued through Office Memorandum F. No. 225/8/2018 -WE dated 25 January 2019.

hosting attractive sites for offshore wind power development.[9]

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] At the RE-Invest 2020 conference held in December 2020, it has been reported that the MNRE is looking to set up structures for PPAs and offshore wind auctions, which may result in further detailing of the process broadly identified under the Offshore Wind Policy.[11]

In the case of projects that 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.[12]

9 Anjali Lathigara, 'Offshore Wind Power in India: Key policy advances can lead to rapid gains for sector', published in REVE (9 December 2020) < https://www.evwind.es/2020/12/09/offshore-wind-power-in-india-key-policy-advances-can-lead-to-rapid-gains-for-sector/78461> as accessed on 16 January 2021.

10 Supra note 9.

11 Supra note 11.

12 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).

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 licensees to mandatorily offtake a specified percentage of total power from renewable sources.

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.[13]

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

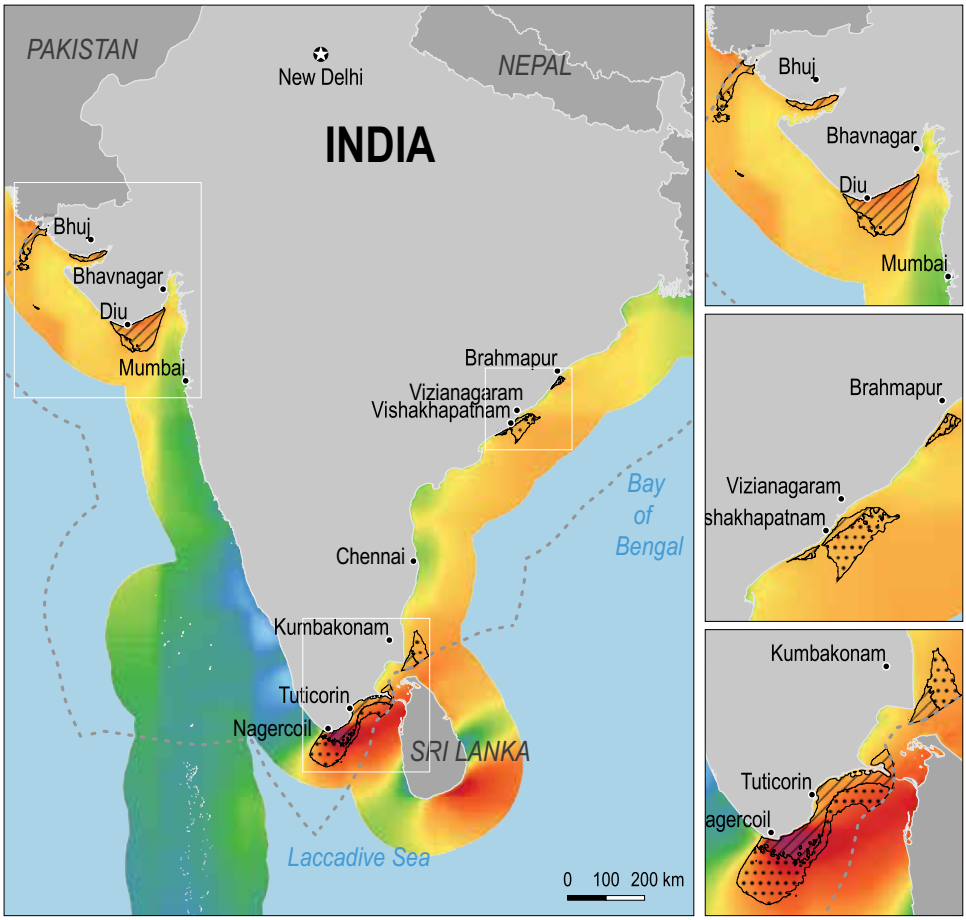
While the offshore wind sector is currently at a nascent stage in India, the potential for development of offshore wind in India is substantial. With appropriate policy interventions, particularly those geared towards correct site identification, mechanism for cost reduction, provision of single window clearance for required regulatory permits and appropriate mitigation for off-taker risks, the long-term target of the Indian Government of 30 GW by 2030 in offshore wind can indeed be achieved.

13 Supra note 9.

Offshore Wind Technical Potential
in India

RISE score: 87

Fixed: 91 GW || Floating: 83 GW || **Total:** 174 GW



This map shows the estimated technical potential for fixed and floating offshore wind in India in terms of installed power capacity in megawatts (MW) within 200 kilometers of the shoreline. It is provided under a World Bank Group (WBG) initiative on offshore wind that is funded and led by the Energy Sector Management Assistance Program (ESMAP). For more information and to obtain maps for other WBG client countries please visit: **https://esmap.org/offshore-wind.** For further details on the RISE score provided please visit: **https://rise.esmap.org/.**

The methodology used to create this map is described in the WBG report published in October 2019 titled ***Going Global: Expanding Offshore Wind to Emerging Markets.*** The wind resource data is from the Global Wind Atlas (version 3.0), a free, web-based application that provides data with a 250 m resolution based on the latest input datasets and modeling methodologies. For more information: **https://globalwindatlas.info.**

The World Bank and ESMAP do not guarantee the accuracy of this data and accept no responsibility whatsoever for any consequences of their use. The boundaries, colors, denominations, and other information shown on any map in this series do not imply on the part of the World Bank any judgement on the legal status of any territory or the endorsement or acceptance of such boundaries.

Source: http://documents.worldbank.org/curated/en/116871586892855375/pdf/Technical-Potential-for-Offshore-Wind-in-India-Map.pdf

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,[14] matters relating to new and renewable sources of energy are guided by the MNRE which is the Indian Government's nodal ministry dedicated to the development of renewable energy in India, including offshore wind.[15] 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 coordination with planning agencies to optimize resource utilization 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.[16] 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 licenses 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.[17]

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

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

16 Section 73, Electricity Act.

17 Ministry of Power, Government of India, 'Statutory Bodies', <https://powermin.nic.in/en/statutory-bodies> accessed on 16 January 2021.

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.[18]

5. The Forum of Regulators has been established by a notification issued under the Electricity Act[19] and is comprised of the chairpersons of the CERC and the SERCs, with the primary role of analyzing the tariff and other orders issued by the CERC and the SERCs to compile data and highlight efficiency improvements by utilities, harmonizing 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 licensees 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 focusing on the wind energy sector in India.[20] 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

18 Id.

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

20 National Institute of Wind Energy, Ministry of New and Renewable Energy, Government of India, 'About NIWE' < https://niwe.res.in/about.php > accessed on 16 January 2021.

(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 licensees 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 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. Key regulatory stakeholders identified in the Offshore Wind Policy are set out in the table below[21].

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 licenses 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

21 Supra note 9.

Regulator	Clearances prior to notifying the offshore wind energy blocks for ICB	Clearances/ No- Objection Certificates (NOCs) post allocation of offshore wind energy block to the successful bidder
Ministry of Environment, Forests and Climate Change	In principle clearance	Environmental impact assessment and coastal regulatory zone clearance to be obtained
Ministry of Defence	In principle clearance	Clearances relating to defence and secrurity aspects to be obtained from the relevant authorities, that is, the Indian Army, Navy, Air Force, Defence Research and Development Organisation and such other institutions organized under the Ministry of Defence as applicable
Ministry of External Affairs	In principle clearance	Clearance for development of offshore wind projects in maritime zones of India
Ministry of Home Affairs	In principle clearance	Clearance for deployment of foreign nationals in offshore wind blocks
Ministry of Civil Aviation	Not applicable	Clearance for construction if such contraction is near aviation/radar/ aerodrome facilities
Ministry of Petroleum & Natural Gas	Not applicable	Clearance for offshore wind projects in identified oil & gas blocks. NOC required in case of developments outside oil & gas block
Ministry of Shipping	Not applicable	Clearance for projects located near major ports. NOC required for operating away from shipping lanes
Department of Space	In principle clearance	Clearance from security perspective with respect to installations of the Department of Space and for ensuring minimum safety distance from such installations
Department of Telecommunication	Not applicable	NOC for operating outside of subsea communication cable zones
Ministry of Mines	Not applicable	NOC for operating outside mining zones

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). No specific employment, health, and safety regulations have been separately notified for offshore wind at this stage . While sector specific laws and regulations may be notified in the future, until then the applicable conditions under existing legislations for onshore wind and the offshore oil and gas sector may be expected to apply to offshore wind installations.

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.[22] 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 MNRE 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 section II.B. above. 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 realization 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.

22 Central Pollution Control Board, Ministry of Environment, Forest and Climate Change, Circular dated 7 March 2016.

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 STU 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."[23] 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.[24] 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.

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

As indicated above, wind power projects have been accorded 'must run' status and as such would be prioritized 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.

23 Supra note 9.

24 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).

V. Real estate

A. Rights over land to be secured

With respect to offshore/seabed rights, the MNRE has released its draft rules for offshore wind energy leases but the same is yet to be finalised and notified.[25] 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.[26] 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 section IV.A. above, the Offshore Wind Policy 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 section VI below, proceedings challenging validity of disruption of fishing grounds if any or the compensation paid out may be possible at the initial stages.

25 Supra note 10.

26 Id

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.

Further reading:

'Global Wind Report 2020' published on 5 August 2020 by Global Wind Energy Council (http://www.greenbr.org.cn/cmsfiles/1/editorfiles/files/6484a20699b340e8b16d2da0451de83a.pdf)

Renewables 2020- Analysis and forecast to 2025 published in November 2020 by International Energy Agency (https://www.iea.org/reports/renewables-2020/wind)

'From Zero to Five GW- Offshore Wind Outlook for Gujarat and Tamil Nadu 2018-2032' published in December 2017 by Facilitating Offshore Wind in India (FOWIND) (https://gwec.net/wp-content/uploads/2017/12/FOWIND_2017_Final_Outlook_2032.pdf).

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I. State and future of Offshore Wind Projects

One reason for the low level in Japan can be attributed to the delay in promoting offshore wind power, particularly offshore 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 basis for granting the right to use territorial sea areas was drawn from the Port and Harbor Act ("PHA") together with local government ordinances on the management of national property ("LGOs"). However, inconsistencies arose between the PHA and the LGOs, including, for example, in the occupation periods for projects. Under the PHA, the occupation period was 20 years (which was also limited to the minimum amount of area the management and operation of which was necessary as an integral part of the project). On the other hand, the occupation period under the LGOs was generally understood to be between three and five years. Other shortcomings included, for example, the fact that under the PHA it was not feasible to accommodate large-scale power generation facilities, and the fact that under the LGOs the stakeholders' adjustment rules were unclear.

A. Enactment of new act for development of offshore renewable energy projects

As a result of these uncertainties, in December 2018 the Act regarding Promotion of the Use of Sea Areas to Develop Offshore Renewable Energy Facilities[1] (the "New Act") was enacted with the aim of, among other things, expanding the introduction of offshore wind power generation. The New Act took effect on 1 April 2019.

In the two years since the enactment of the New Act, four new marine promotion areas for offshore wind projects have been designated by the national government (such areas when designated, "Promotion Zones"). Significant other changes have also been introduced, such as the implementation of a tender process for the selection of business operators in Promotion Zones.

Another important development came in July 2020, with the establishment of the Public-Private Sector Council (Kanmin Kyogikai). Its goal is to (i) strengthen the offshore wind industry's competitiveness by promoting the introduction and expansion of offshore wind power generation through the New Act, (ii) strengthen the competitiveness of related industries, and (iii) develop domestic industrial clusters and infrastructure in a manner that unites the public and private sectors. The council's Offshore Wind Industry Vision of 15 December 2020 (first edition) ("First Industry Vision") states that the government's targets for the introduction of

1 Kaiyou Saiseikanou Enerugi Hatsudensetsubi no Seibi nikakaru Kaiiki no Riyou no Sokushin nikansuru Houritsu (Act No. 89 of 2018).

new projects are: “for the next ten years, to continue designating areas for projects producing approximately 1 GW annually; by 2030, to foster projects producing 10 GW annually; and by 2040, to have projects producing 30 - 45 GW annually (including floating wind farm projects).”

Significantly, the New Act also (i) stipulates that the territorial sea area can now be occupied for up to 30 years, (ii) clarifies the rules for adjusting stakeholders’ interests and (iii) introduces a public auction system to promote the development of long-term, stable and efficient power generation businesses.

Japan’s Ministry of Economy, Trade and Industry (“METI”) and Japan’s Ministry of Land, Infrastructure, Transport and Tourism (“MLIT”) have held several joint meetings on the New Act since its enactment. In June 2019, they issued the Guidelines for the Designation of Promotion Zones and the Guidelines for Operation of the Occupation Auction System in Territorial Sea Areas (both guidelines collectively, the “Guidelines”). Business operators who intend to submit a bid in a public offering need to understand and follow the Guidelines.

B. Operation under the New Act

In the selection of promotion zones, the following four principles are key:

1. Long-term, stable and efficient implementation of the energy business
2. Harmonization 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., creating a supply chain network to realize a rapid reduction in project costs and recovery from malfunction or disaster)

One of the KPIs under the New Act’s policy goal is the selection of five promotion zones by 2030. This number may be increased to accelerate the expansion of offshore wind power facilities by granting long-term occupancy permits.

Policy obstacles must be dealt with appropriately to achieve the New Act’s policy goal. Examples of such obstacles are the financial burden on the national government created by subsidy programs, and restrictions on regional grid systems.

C. 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 minimum energy output

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

c) The Guidelines refer to projects in the European market with sizes ranging between 30MW and 350MW. When the Japanese government considers which projects to announce, the lessons learned from these European projects may be used to determine the size of the projects to be announced in different promotion zones while considering the unique features of the relevant Japanese prefecture.

d) One of the policy goals driving this decision, however, is to avoid overwhelming the market by announcing projects that are too big or uneconomical. We expect that the scale of the promotion zones to be announced will be determined by reference to the aforementioned European market figures.

e) No adverse impact on the use, preservation or management of sailing routes or surrounding ports

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

g) Suitable base port(s) for offshore wind power facilities

h) 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).

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

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

k) A business operator that already has access to grid connection in a designated zone (the "Original Business Operator") may continue to use that access for its bid in an auction. However, if another business operator is selected to operate in that zone (the "Selected Business Operator"), 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.

l) 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.

m) No adverse impacts on fishery activities due to offshore renewable energy facilities

n) When an area is designated as a Promotion Zone, METI and MLIT form a council (kyogikai) made up of, among others, fishery and other trade associations ("Council"). Business operators intending to submit a bid for a Promotion Zone should initiate a consultation process with the fishery trade associations that are members of the Council in order to determine whether an offshore wind facility could cause any adverse impacts on the fishery activities on the relevant site. If any adverse impacts are identified through the consultation process, the government will not designate the site as a promotion zone.

o) In addition, if a study of a potential site shows that there will be an adverse impact on the fishery trade, METI, MLIT and the local stakeholders will avoid forming a Council for that site.

p) No conflict with any other laws concerning the sea area/areas of water to be designated

q) 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 in relation to the development of fishing ports and grounds or (ii) the port areas designated by the PHA, the coastal preservation areas designated by the Coast Act (Act No. 101 of 1956) or the low water line preservation areas stipulated by the New Act in relation to the preservation of low water line and maintenance of base facilities to promote the preservation and use of the exclusive economic zone and the continental shelf.

2. Procedures for designating promotion zones

The New Act states that to designate an area as a promotion zone, METI and MLIT must investigate and confirm that the relevant area conforms to the required standards for designation. They do this in consultation with the heads of the relevant administrative bodies and by collecting the opinions of the mayors of the relevant prefecture. Once an area is designated, METI and MLIT jointly issue and circulate a public announcement on its designation as a Promotion Zone.

The specific steps METI and MLIT take to designate an area as a promotion zone are as follows:

a) collect various available information known about the area (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 a Council;

d) conduct detailed investigations into those prospective zones which have been confirmed as conforming to the required standards for designation; and

e) make an assessment for designating the zone.

It takes approximately ten months to collect all the relevant information and complete the procedures set out in these steps.

3. Selection of operators by auction

In order to select a business operator by public auction, a set of auction guidelines is created that addresses matters relating to (i) the evaluation standards, (ii) the power facility's output standards, (iii) participant qualifications, (iv) base ports, (v) decommissioning and (vi) the term of the occupancy permit (i.e., up to 30 years).

Brief explanations for each of these matters can be found below.

a) Evaluation 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, evaluate each operator's ability to (i) develop a project that is beneficial to the local economy, (ii) coordinate with local stakeholders and (iii) finance, own, operate and maintain the project.

In evaluating each operator's operational capabilities, the government will consider its operational record, the feasibility of its 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 evaluating each business operator's ability to coordinate with local stakeholders and the project's impact on local economy, the government will consider, among other things, (i) the operator's key personnel who will be coordinating with the heads of the relevant administrative bodies, (ii) the 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) The power facility's output standard
The business operator may propose a total output for its project within ±20% of the total output set out for that project when the promotion zone is designated by METI and MLIT.

c) Qualification of participants in a public auction
The business operator must be a legal entity established in Japan in order to participate in a public auction. A foreign investor may qualify for an auction only if it has a legal entity incorporated in Japan or if it invests through an affiliated Japanese entity, such as a joint stock company (kabushiki kaisha) or a limited liability company (godo kaisha).

The business operator will be suspended from participating in public auctions if it (i) has grid connection rights and fails to assign them to the Selected Business Operator without any valid reason, (ii) provides forged or false information to the government in connection with the designation of a promotion zone 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 self-elevating platform (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 use of third-party guarantees or a reserve account mechanism. The scope of decommissioning works currently remains under consideration as no consensus has been formed on feasible methods for decommissioning base ports and the related costs. An element of uncertainty therefore remains in this regard.

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) decommissioning (typically two years), plus leeway periods.

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

The government is required to provide information relating to (i) wind condition data based on surveys (with data compiled on average every ten minutes 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 evaluation 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 for 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 coordinate 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. Any breach of this undertaking or prohibition will result in penalties being imposed on the business operator. The operator could be banned from participating in the public auction in question or suspended from participating in public auctions for a certain period of time.

In terms of how long this process may take, the government is targeting a six-month period from the commencement of a public announcement of the auction guidelines to the submission of occupancy plans by business operators.

6. The Offshore Wind Promotion System

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

Based on the basic policy set forth in Articles 7 and 8 of the New Act, METI and MLIT on 27 December 2019 designated Goto City offshore in Nagasaki Prefecture ("Goto") as a Promotion Zone, and on 21 July 2020 designated Noshiro City, Mitane Town and Oga City offshore in Akita Prefecture ("Noshiro"), Yurihonjo City offshore (north side and south side) in Akita Prefecture ("Yurihonjo") and Choshi City in Chiba Prefecture ("Choshi") as

additional Promotion Zones, in accordance with the standards set out in the New Act.

Guidelines have been prepared for each of these Promotion Zones specifying the relevant matters for implementing public offerings for them and occupying sea areas within them. Business operators that intend to submit a bid in a public offering must do so by following the relevant guidelines. Out of the four Promotion Zones mentioned above, a business operator has already been selected for Goto in its public offering. Therefore, this paper outlines the guidelines for the public offering process and occupancy in the other three Promotion Zones, and outlines the points that are likely to be problematic in practice.

a) Output Standards
The maximum received power for each Promotion Zone is as follows: (i) for Noshiro, 415MW; (ii) for Yurihonjo, 373MW on the north side and 357MW on the south side, and 730MW in the case of a proposal for a package for both areas; and (iii) for Choshi, there are two options – one is 370MW, and the other is approximately 187MW. Also, no upper limit is set for any of these Promotion Zones, and the lower limit is the value obtained by subtracting 20% from the capacity.

b) Supply Price
The upper limit of the supply price is set at JPY29/kWh.

c) Supply Period
The supply period is 20 years. Once the Selected Business Operator's occupancy plan is certified, the date the power generation facility is scheduled to start operating as described in the occupancy plan becomes the start date of the facility's operations. Suppose the supply of electricity is started after this date. In that case, the 20-year procurement period is reduced by the number of days the supply was late to start

d) Decommissioning
If a Selected Business Operator ceases to occupy the sea area within the Promotion Zones, the power generation facilities must be removed (decommissioned) and in principle the area will need to be restored to its original condition. However, on the condition that the Act on Prevention of Marine Pollution and Maritime Disaster is complied with (for example, by obtaining the permission of the Ministry of the Environment with respect to any disposals), it may also be acceptable to prepare a decommissioning plan which contemplates leaving part of the facilities in the area. The decommissioning cost is uniformly set at 70% of the cost of constructing the facility in the ocean, but the amount and basis for calculating it are not included in the evaluation process for selecting the business operator. In order to secure the removal costs, a

guarantee (i.e., decommissioning LC) or a document certifying the accumulation of the decommissioning cost (these can be used together) must be submitted to secure the decommissioning cost in full.

e) Wind conditions and the results of surveys of submarine geology
Information will be provided on the wind conditions and the results of submarine geology and other surveys conducted by the national government to designate the Promotion Zone. This information is provided as technical support to business operators, and it is not essential to refer to the information in question. Rather, business operators must develop and implement appropriate business plans at their own responsibility. For example, due to the level of accuracy of wind conditions and seabed data, it is possible that the data provided (and which the occupancy plan was based on) may deviate from the actual data measured after the operator is selected. The deviation in the data in such cases may even suggest that the occupancy plan is less commercially feasible than initially contemplated, which could naturally lead the operator to wish to amend the occupancy plan to account for this. However, while it is in principle possible to amend the occupancy plan in some circumstances, it is not possible to amend it in such a way that would, if it were evaluated in its amended form, result in a lower evaluation of the plan. Amendments that are highly likely to lead to a lower evaluation are, for example, increases in the supply price. So in general oeprators should understand that it is not possible to increase the supply price in a certified occupancy plan purely on the basis of deviations in data as described above.

f) Consortium or SPC
Persons who may participate in public offerings are any corporation or any consortium of corporations ("Consortium") that satisfies all of the requirements listed in the public offering participation qualifications. After being selected as the operator (and before certification of the occupancy plan), the winning Consortium must form an SPC comprising Consortium members matching pro-rata voting interests set out in the occupancy plan to dissolve the entity used during the public offering. Once done, the Consortium's occupancy plan will be certified as the SPC's occupancy plan. When participating as a Consortium, each member of the Consortium must satisfy all of the eligibility requirements. When participating in the public offering through an SPC, each member with voting rights is subject to the same performance evaluation and must satisfy all of the eligibility requirements (except for the requirements in 2(1) of

Appendix 4) of the occupancy plan. One of the notable differences of these requirements is that if bidders participate as a Consortium, all Consortium members must be domestic corporations. However, if they set up an SPC and participate in the SPC's name, foreign corporations can be shareholders of the SPC as long as they only hold voting rights and do not participate in the public offering in their name.

g) Contacts with local stakeholders
From the date of publication of the Guidelines for Occupation for Public Offering (27 November 2020) to the date of notification of the Selected Business Operator, participants are prohibited from making contact with local stakeholders in a manner that may impede the fairness, transparency, and competitiveness of the procedures for selecting a business operator. While some contact with local stakeholders may be unavoidable, any particular contact that may be considered prohibited is determined on a case-by-case basis. Therefore, it is necessary to carefully consider how any such specific contact will be made on a case-by-case basis, including by taking effective measures such as recording conversations, having a third party in attendance, and retaining all relevant schedules.

h) Security deposit
The regulators want to ensure proper implementation of public offerings without any manipulation of public offerings. Also, to avoid any excessive price competition, which may result in too many applicants entering by offering arbitrary supply prices, bidders must provide a security deposit. A second security deposit will be required from the Selected Business Operator at the time of selection. A further third security deposit will be required within 24 months from being selected to ensure that the Selected Business Operator reliably implements the business.

i) Cooperating enterprises
When participating as a Consortium or SPC, one member of such Consortium or SPC, as the case may be, is designated as the representative company during the public offering. The representative company will be required to indicate the Consortium or SPC members' names and their roles in the project. Neither the applicant company nor a Consortium or SPC member may concurrently become a competing bidder member. However, one company may provide assistance or cooperate with multiple applicant companies or consortiums in the area of services to provide design, procurement, construction, or maintenance or cooperate in manufacturing, installation, and maintenance of marine renewable energy power generation facilities.

j) Income and expenditure plan
An income and expenditure plan will need to be prepared with respect to the supply price. This will be evaluated in terms of whether risks are properly identified and analyzed and whether an appropriate income and expenditure plan is established based on those risks. Documents and other such materials will be required to understand the decommissioning method, the amount of the decommissioning costs, the basis for calculating those costs, and the method by which those costs will be secured. With respect to the basis for calculating decommissioning costs, it is sufficient to describe the breakdown of costs for constructing the facility in the ocean and stating that decommissioning costs are calculated by multiplying that by 70%. With respect to the decommissioning method, it is sufficient to state simply that it will all be decommissioned or a part of the facility will be left behind.

The income and expenditure plan needs to consist of materials that make it possible to grasp the appropriateness of the income and expenditure plan, including the investigation and design costs, construction costs, materials and equipment procurement costs, O&M costs, removal costs, occupancy fees, equipment utilization rates, income estimates, and the internal rate of return (IRR). The IRR needs to use the "pre-tax IRR" based on the formula set out below. Note it is not assumed that the business will be operating before the operation start date, and electricity generated during the commissioning period before the operation start date is not permitted to be sold as a business outside the procurement period.

C0+C1/ (1+r)+C2/ (1+r)2+□□□+Ct/ (1+r)t=0, where

- Ct is the cash flow occurring at time t and
- r is the internal rate of return (IRR)

k) Selection Process
The selection of a business operator by public offering is made by (i) examining the business operator's proposed occupancy plan to see that it conforms to the standards listed in each item of Article 15, Paragraph (1), of the New Act; and (ii) evaluating all plans that conform to the conformity standards in accordance with the evaluation standards, and selecting the person deemed to be most appropriate for enabling the long-term, stable and efficient implementation of the power generation business.

l) Evaluation of the Plan
The bidder whose occupancy plan receives the highest score is selected as the business operator. The proposed supply price can receive a maximum of 120 points, and the elements related to the feasibility of the project can receive a maximum of 120 points (for a total of 240 points).

The formula used to evaluate the supply price is as follows:

(lowest supply price / participant's supply price) × 120, where
(1) "lowest supply price" is the lowest supply price among the supply prices stated in the occupancy plan submitted by each participant and
(2) "participant's supply price" is the participant's supply price stated in the occupancy plan submitted by the relevant business operator.

With respect to the viewpoints and methods for specifically confirming each item relating to business feasibility:
(3) for the details relating to project implementation capability (80 points), please see Annex 1;
(4) for the details relating to coordination with local communities and the ripple effect of the project (40 points), please see Annex 2; and
(5) for the details relating to evaluation rating and rating methods, please see Annex 3.

The project's performance will be evaluated based on Japan's natural conditions. If an operator submits performance data based on overseas projects, that data will be evaluated taking into consideration the similarities between the project's natural conditions and Japan's. As such, the fact that any particular project's performance is overseas performance will not by that reason alone make it subordinate to domestic project performance, and the overseas project performance will be evaluated in the same manner as domestic project performance if the project is of comparable size and its meteorological conditions are similar to Japan.

m) Cooperation with fisheries
Cooperation with fisheries is not evaluated solely based on the length of the project's adjustment period in question. The proposed project will be evaluated according to whether or not it has taken into account the opinions of the relevant Council. With respect to the Noshiro Promotion Zone, in accordance with the philosophy of coexistence and co-prosperity with local communities and fisheries, the Selected Business Operator must also take measures to cooperate and coexist with local communities and fisheries by returning profits obtained from the power generation business by way of donations to a fund to be established in the future. In terms of the size of the contributions to the fund (total amount), the goal is to contriubute 0.5% of the estimated amount of electricity sales revenue arising over 20 years.

n) Grid Connection
If a Selected Business Operator is not a grid operator, all grid connection-

related agreements must be transferred to the Selected Business Operator within three months after the selection notification.

The transfer price (for taking over the agreements) is calculated as follows:

(construction costs paid to date + operating expenses incurred to date) x investment income

o) Amending a certified occupancy plan
To amend a certified occupancy plan, the business operator must obtain the approval of METI and MLIT. Approval for a change will likely only be given if it is found that the amendment is necessary to satisfy the qualification requirements, such as contributing to further enhancing public interests.

If there is a change in the SPC members, the certified occupancy plan must be changed to that effect. Whether METI/MLIT will approve a change to a certified plan is determined on a case-by-case basis from the viewpoint of whether it contributes to the further promotion of the public interest or whether there is an unavoidable reason for the change. The occupancy plan's conformity to the requirements will be particularly carefully judged if:

(1) there is a change in the company with the largest voting rights;

(2) the company listed in the occupancy plan as the party who will implement and manage the project withdraws from the SPC; or

(3) the proportion of voting rights held by the parties subject to the assessment falls below a certain number (by a transfer of less than two-thirds of the total voting rights before the operation start date or by a transfer of less than one-half of the total voting rights after the operation start date).

p) Written consent of the fisheries
The Selected Business Operator must apply for permission to occupy a Promotion Zone with MLIT, which in principle should grant that permission. However, MLIT may require additional conditions to the extent it considers doing so necessary for the use or preservation of the sea area in the Promotion Zone. One such possible condition is that the business operator must obtain prior written consent from the fisheries that are members of the relevant Council. As the Council's failure to provide its consent would violate a statutory obligation by impeding the Selected Business Operator's smooth implementation of a power generation project in the Promotion Zone, the government's view is that imposing such a condition does not pose a risk to the Selected Business Operator.

II. Public or regulatory permits

A. Spatial planning at sea

As of 1 March 2021, METI and MLIT have, based on information gathered from various prefectures:

1. designated four zones as Promotion Zones;

2. identified a further four zones (in Aomori, Akita, and Nagasaki prefectures) as promising zones in which they will immediately begin preparations for the councils' organization and the government's investigation into the wind and geological conditions; and

3. identified an additional six zones (in Aomori, Akita, Niigata, Yamagata, and Hokkaido prefectures) which will be designated as promotion zones under the New Act, and preparations for offshore projects are underway in these areas.

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

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

Regulatory Permit
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)
Ppermission 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 utility company's grid connection agreement, and such utility company is required to obtain regulatory approval from METI and MLIT.
There are ten 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 a local agricultural committee will provide permits for agricultural land conversion.
Each permit will become final and binding upon its issuance by the relevant regulator.

III. Offtake issues

A. Offtake, remuneration, and tariff scheme

The Act on Special Measures Concerning Procurement of Renewable Electric Energy by Operators of Electric Utilities (the "FIT Act") regulates the procurement price and procurement terms. Under the FIT Act, 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 a utility company 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 Act, the minister of METI will specify the procurement price and terms. Further, utility companies cannot decline to enter into a PPA with a certified business operator unless the agreement's content would potentially and unfairly harm their interest.

<table>
<tr><th>Fiscal Year</th><th>Onshore</th><th>Onshore (replacement - using existing facilities)</th><th>Offshore (sea-bed mounted type wind turbine facilities)[2]</th><th>Offshore (floating type wind turbines)[3]</th></tr>
<tr><td>2018</td><td>JPY20 plus tax</td><td>JPY17 plus tax</td><td rowspan="2">JPY36 plus tax</td><td rowspan="3">JPY36 plus tax</td></tr>
<tr><td>2019</td><td>JPY19 plus tax</td><td rowspan="2">JPY16 plus tax</td></tr>
<tr><td>2020</td><td>JPY18 plus tax</td><td>-</td></tr>
<tr><td>2021</td><td>Bid price</td><td>JPY15 plus tax</td><td>JPY32 plus tax</td><td>JPY36 plus tax</td></tr>
<tr><td>Procurement Period</td><td colspan="4">20 years</td></tr>
</table>

2 "Offshore" here excludes Promotion Zones designated under the New Offshore Renewable Energy Development Act.
3 "Offshore" here excludes Promotion Zones designated under the New Offshore Renewable Energy Development Act.

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 project delay

Any project certified after FY 2018 will have a commercial operation date ("COD") deadline. If a business operator cannot achieve commercial operation before the COD deadline, the procurement period will be shortened by an equivalent period of time.

IV. 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 utility companies, business operators will incur a certain amount of construction costs to connect their power generation facilities to the onshore grid. 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 Act (METI Ordinance No. 46, 2012, as amended) (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 must 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 each fiscal year (pro-rated). The Seller cannot seek compensation for any damages resulting from curtailment provided that the Purchaser has (without delay) informed the Seller in writing of the justifications and mitigating steps after issuing the instructions.

The Purchaser may also curtail the output of the power facility if items (1) (natural disaster causes) or (2) (human safety reasons) under Article 14.1 (8) ho of the Enforcement Regulations apply to the Purchaser and the cause or reason is not attributable to the Purchaser. The Seller cannot seek compensation from the Purchaser for damages resulting from the curtailment if the Purchaser has shown reasonable cause for the curtailment.

The Seller must curtail output at the power facility following the instructions of the Purchaser if item (1) or (2) under Article 14.1 (8) he of the Enforcement Regulations applies to the Seller. If the Purchaser so instructs the Seller and the Purchaser has shown reasonable cause for the curtailment, the Seller cannot seek compensation from the Purchaser for damages resulting from the curtailment.

Other than in the above scenarios, the Seller can seek compensation from the Purchaser for damages incurred as a result of curtailment by the Purchaser or curtailment by the Seller at the Purchaser's instruction. The compensation amount is calculated by multiplying the unit price of electricity by the acknowledged amount of electricity that the Seller would have provided to the Purchaser but for the Purchaser's curtailment, unless the curtailment was due to unforeseeable special circumstances or due to causes attributable to the Purchaser.

V. Real estate

A. Rights over land to be secured

Under the New Act, the selected business operator has its plan certified by METI under the FIT Act, MLIT will grant occupancy right for the designated Promotion Zone for up to 30 years.

For other rights over land (onshore, nearshore, offshore), this will vary depending on the projects' sites and areas. Please refer to our response in section II.B. above.

B. Cost and risk of legal challenges

Under the New Act, if a Council (which includes fishery organizations amomg its members) confirms that a project will create an obstacle to fisheries, METI/MLIT will not designate that area as a promotion zone. During Council meetings, the stakeholders (including fisheries and the business operator) will be granted opportunities to engage in discussions. What is unclear is the nature or level of an obstacle tabled by fisheries that will be determinative in METI/MLIT's not designating the area as a promotion zone. One mitigant to gain transparency into this process is that METI/MLIT will disclose the minutes of Council meetings frequently and as soon as practicable. This disclosure requirement should assist participants in obtaining a better understanding of the Council members' positions.

Even if METI/MLIT designates an area as a Promotion Zone and grants occupancy rights, METI/MLIT cannot guarantee that fisheries will not litigate against the business operator in the future. Ultimately, the business operator will have to assume this as a risk. Thus, before the auction process commences, the business operators should communicate with all stakeholders affected by the project as much as possible. This is critical, particularly since the Guidelines prohibit business operators from communicating with stakeholders once the auction process commences.

The auction will be initiated, and the business operators will submit occupancy plans. Lastly, METI/MLIT will select the most appropriate business operator and an occupancy permit for up to 30 years will be granted by MLIT.

Even after the occupancy permit is issued, there are no assurances that fisheries will not bring claims against the business operator, and there are no assurances of achieving a guaranteed level of revenues (which depends on actual wind conditions). Therefore, losses due to uncertain future events should be borne by the Selected Business Operator. After the selection process but before granting the occupancy permit, the Selected Business Operator should conduct a detailed investigation of the promotion zone to minimize the loss from such uncertain events.

Annex 1
Project implementation capability (80 points)

Evaluation item	Viewpoint of confirmation	Method of confirmation
Steady implementation of the project	Project performance	Has experience in the installation, maintenance and operation of offshore wind power generation facilities, or has experience in the installation, maintenance and operation of onshore wind power generation facilities and marine civil engineering work
	Feasibility of the business plan	Specificity, feasibility, and reliability of schedules, plans for the marine renewable energy power generation facilities, construction plans, maintenance and management plans, and income and expenditure plans
	Identification and analysis of risks	Have the risks that may lead to business withdrawal been analyzed, and are responses possible? • Risks related to construction (e.g., appropriate manufacturers, ships installed, presence or absence of specific installation equipment) • Maintenance risks (technical impediments) • Risks related to financial management (responses to fluctuations in wind conditions)
	Appropriateness of financial plans (financial plans, income and expenditure plans)	Confirm financial plans (financial plans, income and expenditure plans), etc.

Annex 1
Project implementation capability (80 points)

Evaluation item	Viewpoint of confirmation	Method of confirmation
Stable supply of electricity	Are measures in place to restore power quickly in the event of a failure, from the viewpoint of ensuring a stable supply of electricity? Whether early recovery is possible, particularly in relation to the supply chain (whether plans have been formulated for the formation of a domestic supply chain with early recovery capabilities or other supply chains equivalent thereto)	• Where are parts manufactured, where are they stored, and how are they supplied? • Are there facilities for repairs? • Submit a supply chain formation plan describing measures for prompt procurement of parts in the event of a failure and for strengthening of the supply chain.
	Are there measures to reduce electricity prices in the future? In particular, have supply chain formation plans, etc. been prepared that contribute to price reductions? Adoption of the latest technologies	• Submit a supply chain formation plan including cost reduction measures • Is progress being made with state-of-the-art technologies that can be introduced in the future (assessed taking into account its reliability, such as its performance and verification results)?

Annex 2
Coordination with local communities and the ripple effect of the project (40 points)

Evaluation item	Viewpoint of confirmation	Method of confirmation
Coordination capacity with heads of relevant administrative organizations, etc.	Actual results of the person/s coordinating with the heads of the relevant administrative organizations, etc. for the purpose of coordinating with the local community	Results of coordination with heads of relevant administrative organizations, etc. • Domestic offshore wind performance • Domestic onshore wind power results • Results in Other Domestic Markets
Cooperation and coexistence with surrounding sea routes, fisheries, etc.	Methods of cooperation and coexistence with related fishery operators and related shipping companies	• Is it clear how to talk with the relevant fishery operators, related shipping operators, and other local stakeholder to get their understanding?
Economic ripple effect on the region	What is the expected economic ripple effect on the region?	For example, check the following • Number of new hiring local employees • Promoting local plant construction and investment
Domestic economy ripple effect	What is the expected economic ripple effect in Japan?	For example, check the following • How much domestic employment will increase • Domestic plant construction and investment promotion

Annex 3
Evaluation Rating and Rating Methods

Example of the viewpoint of confir-mation	Scoring	Top Runner	Middle Runner	Minimum Require-ment	Level that cannot be said to be inappro-priate	Disquali-fication
Score ratio		100%	70%	30%	0%	-
Steady implemen-tation of the project	65 points					
Having a track record of imple-mentation	30 points	Very appropriate results (limited to results based on the natural and social conditions of Japan, etc.)	Excellent	Good	Other than as shown on the left	No results
The feasibility of the business plan	20 points	Achieve business with utmost certainty	Excellent	Good	Other than as shown on the left	Not commer-cially feasible
Appropiate ristk identi-fication and response	15 points	Very appropriate risk analysis and response	Excellent	Good	Other than as shown on the left	Not commer-cially feasible
Appropiate-ness of the financial plan	No points allocated	-	-	-	-	Not commer-cially feasible

Example of the viewpoint of confir-mation	Scoring	Top Runner	Middle Runner	Minimum Require-ment	Level that cannot be said to be inappro-priate	Disquali-fication
Score ratio		100%	70%	30%	0%	-
Stable supply of electricity	15 points					
Stable supply of electricity and future price reductions	10 points	Very appropriate responses from both perspec-tives	One aspect is quite appropriate and the one viewpoint aspect is excellent	Good	Other than as shown on the left	-
Introduciton of the latest technolo-gies	5 points	First in the world to introduce cutting-edge technology	Progressing with cutting-edge technolo-gies that are expected to be introduced in the future.	Introduction of the most advanced technology among general technolo-gies	Other than as shown on the left	-
Coordination with Communities	20 points					
Coordination capabilities with heads of relevant administrative organizations	10 points	Results of Coordination with heads of relevant administra-tive organi-sation for offshore wind projects	Results of Coordination with heads of relevant administra-tive organi-sation for offshore wind projects	Meaningful results for other adjustments	Other than as shown on the left	No capa-bilities even if there are actual results
Cooperation and coexistence with surrounding sea routes, fisheries, etc	10 points	Most likely to cooperate and coexist	Excellent	Good	Other than as shown on the left	-

Annex 3
Evaluation Rating and Rating Methods

Example of the viewpoint of confir-mation	Scoring	Top Runner	Middle Runner	Minimum Require-ment	Level that cannot be said to be inappro-priate	Disquali-fication
Score ratio		100%	70%	30%	0%	-
Ripple effect on regional economies	20 points					
Economic ripple effect on the region	10 points	Most positive effect on regional economies	Excellent	Good	Other than as shown on the left	
Domestic economy ripple	10 points	Most positive effect on the domestic economy	Excellent	Good	Other than as shown on the left	

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I. State and future of Offshore Wind Projects

Korea's fledgling offshore wind market continues to show encouraging signs. The current Moon Administration is the first to take an active interest in renewable energy and has set an ambitious target of achieving 77.8 GW of installed capacity and 26.3% of the power generation from new and renewable energy sources by 2034.

With the ruling Democratic Party of Korea's surprisingly strong electoral gains in the National Assembly in April 2020, the Blue House has taken up the party's rallying cry to implement a Green New Deal for Korea (the "Green New Deal"), first introduced as a campaign pledge in the run-up to the 2020 elections. The Green New Deal calls for the investment of KRW 73.4 trillion to create 659,000 jobs in green energy sectors by 2025 and aims to catalyze Korea's green economy to create jobs, quicken recovery from COVID-19-related economic sluggishness and revitalize Korea's industrial base and export industries.

The government provided an early glimpse of how it intends to implement Green New Deal objectives in offshore wind when, on July 17, 2020, the Ministry of Trade, Industry and Energy (the "MOTIE"), the Ministry of Oceans and Fisheries (the "MOF") and the Ministry of Environment (the "MOE") jointly issued a "Plan for Offshore Wind Power Generation in Collaboration with Local Residents and the Fishing Industry" (the "OSW Collaboration Plan"). The OSW Collaboration Plan (i) calls for the installation of 12GW[1] of offshore wind power, creating 87,000 new jobs annually, by 2030 to become one of the world's five largest offshore wind power generating countries and (ii) pledges to implement policies to share the economic benefits of offshore wind development with local residents and Korea's fishing industry. Given the relative importance of offshore wind in Korea's overall renewable energy transition,[2] the OSW Collaboration Plan is tantamount to a de facto implementation plan for Korea's Green New Deal.

Korea's institutional commitment to its energy transition further solidified with a flurry of energy policy announcements in the fourth quarter of 2020, which included President Moon's announcement that Korea plans to achieve carbon neutrality by 2050, the introduction of a new piece of legislation in the National Assembly that would codify this commitment and the release of two long-term energy policy plans (the 9th Basic Plan on Supply and Demand of Electricity (the "S&D Basic Plan") and the 5th Basic Plan for New & Renewable Energy (the "RE Basic Plan"). The S&D Basic Plan promises to accelerate the phase-out of domestic coal power and commits the government to enhancing grid stability in preparation for major growth in offshore wind power

1 As compared to the 124.5MW currently in operation.

2 Korea is mountainous and densely populated, but its coastline is 2,413 kilometers long and areas of high electricity demand are relatively close to the coastline. Beyond the 12GW of installed offshore wind capacity for 2030, the government's 2034 target of 20GW is even more ambitious.

generation through grid reinforcements, enhanced forecasting, mandatory curtailment coupled with compensation (details pending) and market incentives to promote ESS and mitigate against renewables intermittency. The RE Basic Plan calls for further strengthening of the RPS (defined below) system (including considering increasing the maximum allowed RPS obligation from 10% to 40% and decreasing the threshold for RPS Participants (defined below) from 500MW to 300MW of generation capacity), exploring adjustments to the existing REC multipliers and creating a new incentive scheme to encourage growth in the green hydrogen industry.

The 30MW Tamra offshore wind farm in Jeju Province is no longer the sole utility-scale operational project in Korea, as the 60MW Southwest Sea Offshore Wind and the 34.5MW Yeonggwang Onshore-Offshore Wind facilities have also now reached COD. 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, Korea Midland Power, SK E&S, CIP, Hanwha E&C, and Korea South-East Power are developing several other offshore projects, including 400 MW near Jeonnam Province's Woo-yi Island, 350MW near Jeonnam Province's Yeonggwang Nak-wal Island and Kyungnam Province's Tongyeong Yok-ji Island respectively, 300 MW near Jeonnam Province's Sinan County and 100 MW in the Saemangeum Renewables Complex. The market continues to progress, and it seems likely that 2021 will see the first non-recourse project financing of a foreign-invested offshore wind farm in Korea.

II. The Offshore Wind Promotion System

A. Renewable Portfolio Standard system

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. In 2021, RPS Participants are required to source 9 % of their total generation from renewable sources. This requirement is scheduled to increase to 10 % from 2022 onwards. RPS Participants can meet these quotas through generation using renewable sources or by purchasing renewable energy certificates (RECs) from renewable energy independent power producers ("IPP"s). 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 cost-pool 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 IPPs 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 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 ("KNREC") of the Korean Energy Agency to certified eligible facilities. KNREC 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.

B. Exclusivity under the Electricity Business Licence

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 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 install a meteorological measurement device (e.g., LiDAR, floating LiDAR or met mast), the developer typically first obtains a public waters occupancy permit ("PWOP") from the applicable public waters management authorities ("PWMA") for such installation pursuant to the Public Water Management and Reclamation Act. A developer is generally granted exclusivity for a four-year period from the issuance date of the public waters occupancy permit for installment of meteorological measurement device, to a specified area corresponding to the location of the meteorological measurement device (the "Effective Area") unless there is another developer(s) who obtained a preceding PWOP for areas overlapped with the Effective Area in whole or in part. The Effective Area had been defined as a 5 km radius of each device (an area of 78.53km2), but effective November 11, 2020 the MOTIE implemented an amendment to its guidelines which expands the Effective Area to a 100 square kilometer area extending 10 kilometers from any such measuring device in each cardinal direction (i.e., a 100km2 square (rather than the current 78.53km2 circle) centered around the measuring device).[3] During this four-year period, the MOTIE will reject subsequent EBL applications within such Effective Areas.

C. Discounted fee for public water occupancy

When granting a PWOP, the PWMA is required to charge the developer an annual fee for use or occupancy of public waters. This annual fee is generally set as 0.5% of the price for the adjoining land. The fee for PWOP for OWF, however, may be reduced by up to 50% of this amount. The MOF has plans to adjust the annual fee level to support the offshore wind power development.

3 Although the Effective Area has been expanded to 100 square kilometers, a developer can use no more than 80 square kilometers within this expanded Effective Area for WTG installation.

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. An EBL for an offshore wind farm ("OWF") will only be issued after collection of at least one year's meteorological data for a specific site, which may require the developer to first obtain a PWOP for installation of a meteorological measurement device from the applicable PWMA.

Following issuance of an EBL, a developer must again obtain a PWOP from the PWMA, this time for the installation of the wind turbine generators ("WTG"s). The PWMA may grant a PWOP for a period of up to 30 years. After receipt of this second PWOP, 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 PWOP (but prior to commencing construction).

Before granting the PWOP for the installation of WTGs, the PWMA is required to consult with the MOF regarding the appropriateness of the proposed utilization of public waters and impact on the marine environment (a process referred to as "Sea Area Utilization Consultation"). Furthermore, effective September 25, 2020, with respect to any OWF with a generation capacity greater than a to-be-determined size, the PWMA is also required to request the MOF to perform a sea area utilization impact assessment, unless such OWF is subject to any required environmental impact assessment ("EIA").

In addition, to obtain the PWOP for the installation of WTGs, 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 30,000m2, 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 generally requires that wind power projects with generation capacity of 100 MW or more 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 less than 100 MW may also be subject to a small-scaled EIA, depending on the facts and circumstances (and location) of the proposed project.

Following obtaining all relevant permits for the construction, OWFs with generation capacity of 10 MW or more must obtain approval for their construction plan from the MOTIE. If the generation capacity is less than 10 MW, the developer needs to only notify the MOTIE of its satisfaction of applicable construction standards prior to commencement of construction.

The Korea Electrical Safety Corporation 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 KNREC determines that a facility qualifies for RECs, it will determine the applicable REC multiplier.

Following construction, developers of OWFs exceeding 3 MW must notify the MOTIE of COD "without delay", within 30 days from the sale of electricity at the latest.

Korea's Electric Power Source Development Promotion Act ("EPSDP Act") provides a 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 PWOP and the development permit based on the National Land Planning and Utilisation Act ("NLPU Act")) are deemed to be obtained if the MOTIE approves the implementation plan under the EPSDP Act, prepared by the developer.

Under the 9th S&D Basic Plan published on December 29, 2020, the MOTIE announced its plans to actively encourage (i) large scale projects (with capacity greater than 40MW) listed in the 9th S&D Basic Plan (ii) large scale projects not listed in the 9th S&D Basic Plan that obtain EBLs in the future and (iii) projects that are likely to have a significant positive impact on the local economy through application of the fast track process under EPSDP Act by supporting the developers in the course of obtaining implementation plan approval under EPSDP Act. 107 offshore and onshore wind power projects and 28 solar projects are listed in the 9th S&D Basic Plan.

2. Onshore grid connection

Any onshore facility to be constructed in connection with an OWF development, such as an onshore substation, requires the prior issuance of a development

permit from the local government in accordance with the NLPU Act.

Once the development permit is issued, the following permits and approvals specified under the NLPU Act 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, which includes KEPCO's general terms and conditions.

B. Permitting process

1. Electricity Business Licence

EBLs are issued by the MOTIE, but are only issued to companies established in Korea. To apply for an EBL, the developer must submit an application to the MOTIE, which is then comprehensively reviewed by the Electricity Regulatory Commission (the "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.

In addition, from October 2020, OWF developers must undergo a public comment period before submitting the application for the EBL to the extent such project is subject to (i) EIA, (ii) small-scaled EIA or (iii) sea area utilization impact assessment.

In the course of reviewing the application, the ERC may (i) cull opinions from specialized institutions such as Korea Maritime Institute, Korea Maritime Environment Management Corporation, Korea Electric Power Research Institute, and Korea Environment Institute and (ii) collate opinions from local stakeholders.

2. Public Waters Occupancy Permit

OWFs are constructed in "public waters"

(the area between the Korean coastline to the outer limit of the exclusive economic zone 200 nautical miles from such coastline). To use public waters in the construction of an OWF, the developer must first obtain a PWOP from the applicable PWMA pursuant to the Public Water Management and Reclamation Act. The PWMA may grant an occupancy permit for a period of up to 30 years (including the construction period) following the consultation requirements set forth below.

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

1. consultation with the MOF;
2. consultation with the Ministry of Environment;
3. consultation with the Ministry of National Defense; and
4. consultation with the Ministry of the Interior and Safety.

In addition, 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 PWOP, including owners of land or structures adjacent to, persons with fishing rights to, and persons with PWOPs for areas that are the same as or nearby, such public waters.
The developer should obtain approval of its public waters occupancy implementation plan from the PWMA within one year from the issuance of the applicable PWOP but prior to commencing construction of the facilities.

3. EIA

As noted above, although the EIA Act generally requires that wind power projects with generation capacity of 100 MW or more complete an EIA prior to commencement of construction, projects with generation capacity less than 100 MW may also be (and often are) subject to a small-scaled EIA. The EIA process generally involves a public hearing and takes approximately one year to complete, although a small-scaled EIA may be completed in less than a year. The process begins when a developer submits its EIA proposal to the Ministry of Environment (or, in certain circumstances set forth in the EPSDP Act, directly to the MOTIE)) 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, the developer should submit the consultation result of the Ministry of Environment to the PWMA in the course of obtaining PWOP for the installation of WTGs.

4. Development Permit

The development permit (under the NLPU Act) 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 development permit (as described above). In addition to the requirements set out in the NLPU Act, there may be certain requirements set forth by local legislation governing or restricting the issuance of development permits, enacted by local governments.

5. Grid Connection

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.

6. Safety Inspection

KESCO's inspection of foundations and the completion of the construction requires 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 dispatch 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 dispatch 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 in principle, only KEPCO is permitted to purchase electricity wholesale from IPPs through the KPX and retail it to electricity consumers. The Korean government has announced that IPPs will be able to sell renewable power to large consumers indirectly through KEPCO's intermediation (Indirect PPAs) within the first half of 2021. The government is also seriously considering the merits of allowing for IPPs and electricity consumers to enter into corporate PPAs directly without KEPCO intermediation, and a related statutory amendment is making headway in Korea's National Assembly.

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 KNREC inspects the project facilities following construction.

The MOTIE reviews and recalibrates REC multipliers every three years 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. The next recalibration is scheduled in the course of 2021, and it is expected that the multipliers for OWF will change to take into account water depth as well as distance from shoreline.

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.

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

Current Korean law does not expressly require renewable energy generators to implement curtailment orders issued by KPX or KEPCO (other than in Jeju Province where wind, solar, and fuel cell generators (i) with capacities exceeding 1MW, or (ii) with capacities not exceeding 1MW and connected to transmission lines of 22.9kv or higher, are obligated to follow curtailment orders issued by the KPX).

Amendments to the Regulations on the Electricity Market Operation effective April 29, 2020 do, however, require wind and solar energy power generators larger than 20MW to install set-point communication facilities to implement potential curtailment orders. The result is that although curtailment of renewable power generation on the Korean mainland is not yet required, the Korean grid is being equipped with infrastructure that will enable regulators to implement curtailment orders in the future if and when required.

On a related note, 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) in accordance with the Regulations on Use of Transmission and Distribution Infrastructure, which is KEPCO's general terms and conditions:

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 on a utility-scale renewable energy project. In the event of such restriction, KEPCO is required to provide generators subject to these restrictions certain benefits in the form of discounted grid usage fees as partial compensation therefor.

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 install 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 private 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. For leases entered into on or after October 1, 2020, government owned lands may be leased for a maximum initial term of 10 years. The initial term is renewable up to two occasions for an additional 10-year period in each case (i.e., government owned lands may now be leased for maximum periods of 30 years).

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 a developer's legitimate title to or usage rights over applicable lands being challenged.

VII. Other

A developer is liable to compensate the interested parties for losses (including fishermen's losses for 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.

Further Reading

'Korean New Deal: National Strategy for a Great Transformation', English booklet which includes the Korean Green New Deal in Part 2, published by the Ministry of Economy and Finance on 28 July 2020 (https://english.moef.go.kr/pc/selectTbPressCenterDtl.do?boardCd=N0001&seq=4948);

'South Korea: Korea's Offshore Wind Collaboration Plan', published by Mondaq on 09 January 2021 (https://www.mondaq.com/renewables/1019306/);

'Korea 2020 Energy Policy Review', published by the International Energy Agency in November 2020 (https://www.iea.org/reports/korea-2020);

'Renewable Portfolio Standards (RPS)', overview of the RPS published by the Korea Energy Agency (https://dco.energy.or.kr/renew_eng/new/standards.aspx);

'Energy Outlook', 'Energy Trends', 'Korean Energy Review Monthly', 'Monthly Energy Statistics', periodicals published by the Korea Energy Economics Institute (http://www.keei.re.kr/main.nsf/index_en.html);

'Third Energy Master Plan', published by the Ministry of Trade, Industry and Energy (MOTIE) in June 2019 (https://www.etrans.or.kr/ebook/05/files/assets/common/downloads/Third%20Energy%20Master%20Plan.pdf);

'The 9th Basic Plan on Supply and Demand of Electricity', published by the MOTIE on 28 December 2020 (only available in Korean) (http://www.motie.go.kr/motie/ne/presse/press2/bbs/bbsView.do?bbs_seq_n=163670&bbs_cd_n=81);

'The 5th Basic Plan for New & Renewable Energy', published by the MOTIE on 29 December 2020 (only available in Korean) (http://www.motie.go.kr/motie/ne/presse/press2/bbs/bbsView.do?bbs_seq_n=163676&bbs_cd_n=81).

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Netherlands

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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. The largest OWF opened in September 2020 in the area Wieringermeer. 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.

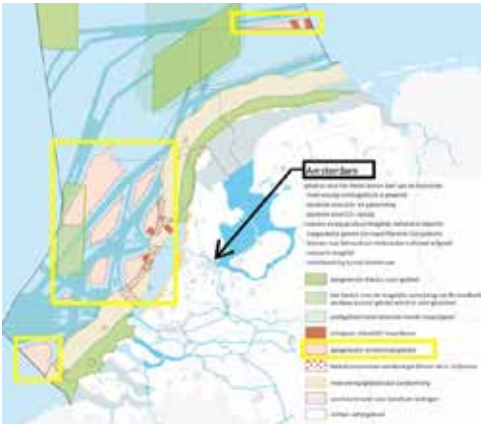
1 Minister/Ministry always refers to the Minister/Ministry of Economic Affairs and Climate Policy
2 See paragraphs 3.2 and 3.3 of the Offshore Wind Energy Act

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 CO_2 emissions, growing climate change awareness, outdated coal-based energy power stations, and the need for greater diversification and energy security for the country.

In 2019, the RES share of the gross final energy consumption in Poland amounted to 12.16 %;[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 the 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 Polish Energy Policy 2040 (PEP 2040)[2] 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 and global offshore wind companies) have already entered the game or have shown an increased interest. The first OWF should be completed by 2025 – 2026, and by 2040 offshore wind will account for the largest quantity 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[3](April 2017), and Bałtyk III[4] (July 2016), each with a total capacity of up to 720 MW, as well as a valid environmental decision for the construction of the transmission infrastructure for Bałtyk III (March 2019). The third project, Bałtyk I[5], will have a total capacity of up to 1,560 MW. PGE Baltica (a subsidiary within PGE – the largest Polish state-owned energy group) has obtained location permits, and GCA for three OWFs: Baltica 2 (1,498 MW), Baltica 3

1 Source: Share of energy from renewable sources, 2004 - 2019 (in % of the gross final energy consumption), Eurostat, available at https://ec.europa.eu/eurostat/statistics-explained/index.php/Renewable_energy_statistics#Share_of_renewable_energy_more_than_doubled_between_2004_and_2019

2 The Polish Energy Policy 2040, available at https://www.gov.pl/web/klimat/polityka-energetyczna-polski (full text in Polish only, with abstracts in English).

3 https://www.baltyk2.pl/en

4 https://www.baltyk3.pl/en

5 https://www.mfwbaltyk1.pl/en

(1,045 MW), and Baltica 1 (896 MW). In December 2019, PGE Baltica signed a preliminary cooperation agreement, and in February 2021 an investment agreement, with Ørsted, concerning the 50/50 joint ventures to implement Baltica 2, and Baltica 3. Both projects already have the environmental decisions in place.

PKN Orlen (a state-owned fuel and energy company), through its subsidiary Baltic Power[6], has a location permit and an environmental decision for an OWF, with a total capacity of 1,200 MW. In January 2021, PKN Orlen entered into a cooperation agreement with Northland Power.

Two other early-stage projects are owned by Ocean Winds (a joint venture by EDPR and Engie) (B-Wind and C-Wind projects, each up to 200 MW[7]). With respect to future projects, Ocean Winds has also signed a cooperation agreement with the Polish energy company Tauron. RWE Renewables has also acquired shares in four projects with a total capacity of up to 1.5 GW (out of which the most advanced project will have a total capacity of up to 350 MW[8]).

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. For these reasons, the Polish market has also attracted other investors. In December 2020, Iberdrola acquired 50% of the Polish project portfolio from Seawind consisting of very early-stage projects with a capacity potential of up to 7.3 GW[9]. In October 2020, Vattenfall signed an MoU to explore possible cooperation in the offshore wind industry in Poland and the Baltic States with Synthos (a Polish chemical raw materials manufacturer).

In January 2021, an LoI concerning possible future cooperation was also signed between three Polish state-owned companies: PGE, Enea, and Tauron.

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

According to the PEP 2040, the offshore wind capacity to be available by 2030 is 5.9 GW and by 2040 is 11 GW. To date, 13 OWF projects are under development (see next page[10]) and there is an appetite for many more. The medium-term forecast for the future development of OWFs according to the Act on the Promotion of Electricity Generation in Offshore Wind Farms (Offshore Wind Act[11]) (and corresponding to the business cases of the most advanced project) is to grant support to OWFs of 5.9 GW in the first phase 2021 (the first projects are expected to supply electricity by 2025 – 2026). In the subsequent steps, the

6 https://www.balticpower.pl/en/

7 http://ow-web-dev.azurewebsites.net/projects-by-country/pl-projects/

8 https://fewbalticii.rwe.com/ This is the westernmost OWF with location permit in which RWE has to carry out cross-border consultations

9 https://seawind.eu/press/seawind-and-iberdrola-become-partners-for-offshore-wind-projects-in-poland/

10 In addition to 12 OWF projects listed in the table, the very early-stage A-Wind project (84 km2) is to be developed by Energetyka Polska

11 Act of 18 December 2020 on the Promotion of Electricity Generation in Offshore Wind Farms; available at https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20210000234/O/D20210234.pdf (in Polish only)

Offshore Wind Act aims at increasing the total 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 11 GW of operating OWFs by 2040.
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.[12]

Source: Polish Wind Energy Association, www.psew.pl

	OWF PROJECTs with location permits	AREA	GRID CONNECTION	ENVIROMENTAL DECISION	SUPPORT PHASE
1	Polenergia/Equinor – Bałtyk I	128 km²	1,560 MW (GCA)		Phase II
2	Polenergia/Equinor – Bałtyk II	122 km²	720 MW (GCA)	YES (2017)	Phase I
3	Polenergia/Equinor – Bałtyk III	120 km²	720 MW (GCA)	YES (2016)	Phase I
4	PGE Baltica 2 / Ørsted	189 km²	1,498 MW (GCA)	YES (2020)	Phase I
5	PGE Baltica 3 / Ørsted	131 km²	1,045 MW (GCA)	YES (2020)	Phase I
6	PGE Baltica 1	108 km²	896 MW (GCA)		Phase II
7	BTI-RWE Renewables	42 km²	350 MW (GCA)	*(in progress)*	Phase I
8	PKN Orlen / Northland – Baltic Power	131 km²	1,200 MW (GCA)	*(in progress)*	Phase I
9	Ocean Winds (EDPR / Engie) B-Wind	42 km²	200 MW		Phase I
10	Ocean Winds (EDPR / Engie) C-Wind	49 km²	200 MW		Phase I
11	Baltex 2 (unpaid permit)	66 km²	800 MW		Phase II
12	Baltex 5 (unpaid permit)	111 km²	1,500 MW		Phase II
TOTAL		1,239 km²	10,689 MW		

12 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

13 GCC – Grid Connection Conditions; GCA – Grid Connection Agreement; Phase I – projects potentially eligible to support under individual decision by ERO in 2021; Phase II – projects potentially to be covered by auctions starting from 2025

II. The Offshore Wind Promotion system

A. Regulatory framework

On 21 February 2021, the long-awaited Offshore Wind Act entered into force. The act was the result of work and consultation with many partners, including sector and business representatives.

The Offshore Wind Act specifically covers a dedicated support scheme for OWFs (quasi-CfDs and auctions) and introduces certain solutions facilitating the development, grid connection and operation of OWFs, as well as incentives for the development of local supply chains. Permit granting processes, construction, and the operation of an OWF to great extent remains subject to general legislation (amended under the Offshore Wind Act), in particular the Act on Maritime Areas, the Energy Law, the Renewables Energy Act, the Act on Maritime Safety, 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 OWFs in 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 was expected to be adopted in the form of a Council of Ministers ordinance by 31 March 2021.[14] The Maritime Areas Spatial Plan will consider the existing location permits.

The permits concerning the establishment and use of artificial islands, installations, and structures (OWF location permit) is issued by the relevant minister for maritime areas. After the submission of an application for an 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, etc.), human resources, organisational and logistic support allowing for the completion of the investments, and the impact on national and EU sector policies (the criteria as well as indication as to what importance should be granted to particular criteria are to be specified in an ordinance of the minister for infrastructure[15]). The winning investor is that which obtains the highest score. The

14 The draft ordinance available at: https://legislacja.gov.pl/projekt/12345201 (in Polish only

15 The draft ordinance is available at https://legislacja.rcl.gov.pl/projekt/12340853 (in Polish only))

results of the settlement procedure can be challenged by its participants in an appeal procedure.

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 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 the energy value at the fixed price (arising from the Energy Regulatory Office's (ERO) decision or the producer's offer that won the auction – see below) and its market value.

This support will be awarded in two phases:

1. The first phase, before 30 June 2021 – the support will be granted by way of an individual decision of the ERO for projects with an aggregate capacity of up to 5.9 GW (which corresponds to the capacity of eight the most advanced projects, and those located closest to the onshore, guaranteeing the lowest LCOE – see the table above). The Offshore Wind Act specifies eight maritime areas where the eligible projects can be located.

   The maximum price for the support was set at PLN 319.60 per MWh (approx. EUR 70), which is below the market expectations. The support will be granted on a first-come-first-served basis. The applications for this phase should have been submitted by 31 March 2021. According to the ERO, all eight eligible projects submitted their applications.

   Due to there being no competitive procedure for granting public support, each decision will be notified to the European Commission. After obtaining approval, the ERO will individually adjust the final support price for each first phase project by way of a decision. The price cannot be higher than the maximum price or the price indicated in the European Commission's decision. The investor can waive its right to receive support if the final price is lower than the maximum price.

2. Second phase, after 2022 – the support will be granted by way of a 'pay-as-bid' auction (similar to the existing RES support system). The schedule stipulates auction in 2025 (up to 2.5 GW), 2027 (up to 2.5 GW), and in 2028, but – only if the remaining capacity exceeds 500 MW. The Council of Ministers can decide on the decrease of this capacity, as well as on any further auctions to take 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 notification to the European Commission.

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

1. he GCA, or the GCC or preliminary GCC;

2. the final OWF location permit, and in the case of an auction – also the final environmental decision;
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 local and national economic growth); and

5. the establishment of a 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.

The maximum period of benefiting from the support scheme (both in the first and second phases) is 25 years from the first power generation and feed into the grid (according to the current RES scheme, this is up to 15 years). A negative balance will be settled by the Settlement Operator (a state-owned corporation) on annual basis. 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 ERO decision, or in the auction bid).

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

D. Timeframe for the realisation of the project

According to the 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 ERO's final individual decision, or the bid award. The operator's failure to comply with these deadlines is sanctioned with the loss of 100 % of the security amount, unless it can prove that it was not liable for this failure. In the case of an admissible decrease of the declared capacity, 50 % of the security amount corresponding to this 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 an OWF location permit, and a cable location permit, obtaining the building and occupancy permits, as well as the fulfilling the numerous requirement conditions concerning environmental protection (including obtaining an environmental decision and a water permit). The grid connection is to be secured based on the GCC (preliminary GCC) and GCA.

The OWF location permit is issued by the relevant minister for maritime areas. Its issuance is complex and time-consuming since it requires the cooperation of ten different ministries (there are specific technical issues to be agreed upon, for example concerning environmental protection matters) as well as the internal security agency. 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. See also II.B above.

The cable location permit is issued by the director of the relevant maritime office in agreement with the relevant ministers. The cable location within an EEZ has to be agreed with the relevant minister for maritime areas. The cable location permit is issued for no more than 35 years (it can, however, be extended by up to 20 years).

Obtaining an OWF location permit, a cable location permit, and the approval of cable location within an EEZ are connected with the obligation to pay a fee (ca. EUR 350) and in the case of an OWF location permit – 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 the investment.

The Offshore Wind Act introduces accelerations for other key permit decisions required for the construction and operation of an OWF: the environmental decisions and water, building, and occupancy permits will immediately be enforceable and will be issued within 90 days (with the exception of the occupancy permits – which will be issued within 30 days). The approvals of the geological works plan and of the geological documentation specifying the geological and engineering conditions prepared in order to locate an OWF are also subject to immediate enforceability.

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 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 60 days in the first stage and within 30 days before the administrative court. A cassation appeal is reviewed within two months.

Based on the Offshore Wind Act, the permits cannot be revoked or declared invalid in whole for the reason that a 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 Offshore Wind Act stipulates a (public) incentive support system in the form of the right to settle a negative balance (see II.C 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 II.D above.

C. Examples of actual and future tariffs

The maximum price for first phase support has been set at PLN 319.60 per MWh (approximately EUR 70) which is below the market expectations (which were approx. EUR 10 – 12 per MWh more).

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 Offshore Wind Act, the Energy Law, and the Preparation and Development of Strategic Investments in respect of the Transmission Network Act.

B. Planning and construction of the grid connection system

In general, the main entity responsible of the financing, construction, and operation of all grid onshore connection systems in Poland is the public TSO, PSE (Polskie Sieci Elektroenergetyczne). Grid connection system has been one of the main challenges of the development of the OWFs in Poland. In order to ensure the connection of a significant new capacity and its transmission from the north to the south of the country, the TSO has included a number of new investments in its transmission network development plan for 2030 .[16]

However, according to the Offshore Wind Act, the investments in the connection network and installations used to offtake power from an OWF, along with the performance of any 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 offtake installations can be sold to the TSO (see point C below).

These investments are to be considered 'transmission network strategic investments', which means that for their implementation (in addition to other permits) an investment location decision will be required as issued by the governor of province (wojewoda). Based on this decision, the lands where the investment is located will be expropriated (in the case of a power station) or the rights to them will be limited (in the 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 Offshore Wind Act, the construction costs of the onshore grid connection will be borne by the OWF owner. After the development the offtake installations can be sold to the TSO. The TSO has a right of first refusal and the investor will have to notify the TSO of its intention to sell these installations. In specified cases, the TSO is also granted an option to purchase the offtake installations which, however, can only be exercised before the grid connection agreement has been concluded by the investor. In both scenarios, the purchase price will be determined based on the rules indicated in the Offshore Wind Act.

16 Map of national grid network 2030 https://www.pse.pl/obszary-dzialalnosci/krajowy-system-elektroenergetyczny/plan-sieci-elektroenergetycznej-najwyzszych-napiec/planowana

In addition to the construction costs, the OWF owner will need to pay a compensation for the expropriation of the lands, or the limitation of the rights to the lands used for grid connection. The amount of compensation is subject to negotiations between the OWF owner, the land owner and the governor of the province (wojewoda). In the case of a failure in the negotiations, the amount of compensation is determined by the governor of the province (wojewoda) 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 covers 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 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 (wojewoda).

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

VII. Other

A. Local supply chain

One of the aims of the 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 who apply for public support are expected to conduct and report on the technical dialogue with the interested market participants (potential providers and performers). This dialogue is conducted in a way that ensures fair competition and the equal treatment of potential suppliers and the solutions they offer. Information concerning this dialogue needs to be published on the investor's website at least 30 days before.

B. OWF fee

Since the OWF cannot be subject to real estate tax, the Offshore Wind Act introduced an additional fee for the OWF. This fee will be part of the fee for generation licence and 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 with reference to the consumer price index).

C. Ports infrastructure

Port infrastructure is one of the main challenges for the development of the OWF in Poland. The port of Gdynia is to be selected, due to its location and technical conditions, to perform the function of an installation terminal, as well as the selection of a logistics operator. The required adaptation will be financed for EUR 437 million from the National Reconstruction Plan (KPO) and it is planned to be completed in 2024.

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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 Program ("Program"; 千架海陸風力機計畫) which set to develop 4GW of offshore wind power by 2030. Under the Program, the development of offshore wind power is divided into three phases, with a total target of 10GW.

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

According to the Renewable Energy Development Act (再生能源發展條例; "RED Act") last amended in May 2019, the targeted total renewable energy capacity by 2025 has been lifted from 10GW to 27GW. 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 for up to the year of 2025. With respect to offshore wind, the cumulative capacity is targeted to reach 2.67GW by 2020, and 5.73GW by 2025.[1]

To reaffirm Taiwan government's policy position to encourage more investment in the development of OWF projects in Taiwan, the MOEA announced the development goal of a further allocation of 10GW during 2026-2035, each year allocating 1GW.

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 Program 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 (8MW) (Phase I) in April 2017 and the remaining part of the wind farm (120MW) (Phase II) on December 27, 2019.

To implement the aforesaid Phase II of the Program, the Bureau of Energy (BOE) promulgated the Guidelines for Reservation of Offshore Wind Power Generation Site (離岸風力發電規劃場址申請作業要點; "Site Guidelines") in July 2015 to govern the offshore wind farm site planning. The BOE identified 36 potential zones suitable for offshore wind project development near 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 (離岸風電規劃場址容量分配作業要點; the "Allocation Directions") which introduced a selection and a bidding mechanism for the allocation of 5.5GW of grid capacity. In April 2018, the MOEA awarded approximately 3.8GW of grid capacity through the selection process, and awarded approximately 1.7GW through a tariff bidding process in June 2018.
The Phase III of the Program is yet to be announced. In 2019 to 2020, the BOE has called for multiple public hearings to collect opinions from the public regarding the rules for the Phase III developmental round for offshore wind projects. Based on the latest news, the rules for the Phase III of the Program are targeted to be released in 2021. It is expected that the capacity would be allocated by price bidding instead of by selection process (with the FiT applicable for the year in which the PPA is executed for the relevant project).

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 (電業法; "EB Act") and/or the RED Act are required for incorporation, construction, and operation of a power generation enterprise. The Electricity Business Registration Regulations (電業登記規則; "EBRR"), 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 (再生能源設備設置管理辦法; "Installation Regulations") promulgated pursuant to the RED Act governs the installation of renewable energy facilities.

III. Public or Regulatory permits

A. Spatial planning at sea

Under the Site Guidelines, the BOE designated 36 potential suitable sites for offshore wind farm ("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 December 31, 2017, and obtain an Establishment Permit ("EP") by December 31, 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.

Different from the previous phases, according to the latest draft rules for the Phase III of the Program put forward on November 19, 2020, the MOEA will not be identifying specific suitable sites for developers. Referring back to the definition under the RED Act, the draft of Guidelines for Reservation of Offshore Wind Power Zonal Development Site (離岸風力發電區塊開發場址規劃申請作業要點; "Draft Zonal Site Guidelines") allows the developers to submit its greenfield sites to the BOE as long as the selected location is within waters outside the subtidal line and not beyond the boundary of the territorial sea.

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 synchronization evaluation;
b) preliminary synchronization negotiation;
c) detailed synchronization negotiation; and
d) execution of the Power Purchase Agreement ("PPA").

In addition, for the OWF project developers who were awarded the grid capacity in Phase II of the Program, 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 summarized 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. With increasing concerns about impacts on the marine wildlife such as the Indo-Pacific Humpback Dolphin (also known as the Taiwanese White Dolphin), the Ocean Affairs Council designated and announced the Major Habitat of the Endangered Taiwanese White Dolphin in September 2020 along Taiwan's west coast. According to the Wildlife Conservation Act, any construction in Major Wildlife Habitats should be carried out in ways and areas with the least impact on the habitat, and the original ecological functions of the habitat should not be harmed.

2. EP: the OWF developer should submit 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 gird connection mentioned in above section 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 (6) months after the Recordation Approval is obtained.

As for the Phase III of the Program, the Draft Zonal Site Guidelines outlines several different site application process for OWF developers to follow. The key features and differences in the Draft Zonal Site Guidelines include:

1. Financial Capability as a Qualification: The applicant will need to provide financial proof concerning the self-owned capital exceeding 5% of the total investment amount. The total investment amount is defined as the initial installation cost per kW as announced in the FiT of the year of the application for the site multiplied by the proposed installed capacity.

2. Opinion Letters: The applicants for site planning are required to submit opinion letters on the site proposal from 8 different government agencies including aviation control and safety, radar jamming, prohibited or restricted military area, ship safety, fishery rights, and so on. The aforesaid opinion letters were required only after the site planning procedure in Phase II; however, in Phase III, opinions of no objection will be required before the commencement of the EIA.

3. Other Requisite Documents: application form (including background description of the application), certificate of establishment of an electricity enterprise or a preparatory office, map and boundary of the wind farm, layout of the turbines, consent for use of information, letter of undertaking, and other documents required by the MOEA.

4. Installed Capacity and Turbine Distances: In order to increase the efficiency of utilizing the sea area, the planned installed capacity of a single OWF project shall be no less than 100MW and no less than 5MW per square kilometer. The distance between the turbines and the boundaries of the wind farm shall not be less than 6D (i.e., 6 times the diameter of the wind turbine). Also, the distance between the proposed turbines and the OWF sites approved under Phase II of the Program boundaries of the wind farm shall be no less than 12D.

5. Invalidation of Site Recordation: Unlike the previous phases, the Draft Zonal Site Guidelines does not specify a specific deadline for obtaining the EP or EIA Approval. Instead, in the event that the approval for the installation of offshore windfarm system (風力發電離岸系統設置同意函) is cancelled or that the approval for the installation of offshore windfarm system is not obtained within 6 months after the deadline for submitting the site application, the site recordation will become void.

IV. Offtake / PPA

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 obligated to connect and purchase power generated by renewable energy facilities at the feed-in tariff ("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 Program, 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 January 26, 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 fulfill their commitment to operate their businesses on green energy. The corporate power purchase agreement ("CPPA") market has seen significant growth, as underlined by the signing of the world's largest (920 MW) CPPA between Ørsted and Taiwan Semiconductor Manufacturing Company ("TSMC") in July 2020. This transaction highlights the potential of the CPPA as a mechanism to allow companies to meet their green energy targets and secure fixed energy prices, whilst allowing renewable energy generators an alternative route to market. The commercial advantages are supported and accelerated by Taiwan policy initiatives, making CPPAs an attractive option for both large and small scale renewable energy generators.

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 2021 announced by the MOEA on January 7, 2021, 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 V.D. below.

C. Examples of actual and future tariffs

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

FiT (NTD per kWh)						
FiT Base		2021	2020	2019	2018	2017
Fixed FiT for 20 years		4.6568	5.0946	5.5160	5.8498	6.0437
Two-phase FiT For the last 10 years	For the first 10 years	5.3064	5.8015	6.2795	7.1177	7.4034
	For the last 10 years	3.5206	3.8227	4.1422	3.5685	3.5948

OWF developers have the option for 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 2021, the MOEA set down tiered production caps on the 2021 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., NT$3.4926/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., NT$2.3284/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 developers recieve undue profits.

V. Grid and grid connection

A. Planning and constructing the grid connection

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 costs 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 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 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 experiencing 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 prioritize the grid connection and dispatch 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.
	Substation	• Depending on the owner of the land (private or public entity), permit(s) or agreement(s) should be obtained or executed
		• For connection with Taipower's onshore connection system, lease agreement(s) with Taipower for the switchboard is required
	Harbor Facilities	• Harbor 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 area 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 risks 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 License. Hence, if the term of a permit/agreement granted/entered into by the government agency is less than the term of the Electricity Business License, the project company should have a strong statutory ground for an extension of the relevant permit/agreement upon its expiration.

VII. Other

A. Localization 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 localization 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 localization plans to the Industrial Development Bureau, the MOEA for review.

Any deviation from the localization 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 Program would require localization commitments from the developers yet. However, the latest news suggest that the government is likely to continue to adopt the localization requirements similar to that under Phase II of the Program and might further include new localization items in Phase III of the Program in order to foster domestic supply chain.

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 license issued by the Council of Agriculture, Executive Yuan (COA). Under the Fisheries Act, only fishermen associations or fisheries production cooperatives 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 cooperative should enter into a contract with the fishermen association or fisheries production cooperative for conducting fishing activities in the exclusive fishery right of such fishermen association or fisheries production cooperative.

As OWF projects may adversely impact fishery rights, the discussion and settlement with fishermen around the site is crucial. On November 30, 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 April 16, 2019, the Draft Usage Rules were finalized 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, 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, 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 NT$0.018 per kWh applicable for OWF projects, yet the final contribution rate is still pending official announcement.

D. The Minimum Purchase Requirement

One of the key drivers for corporates to enter into CPPAs in Taiwan is the new legal requirement for certain major electricity end-users to use a minimum amount of renewable energy. After the amendments to the RED Act on May 2019, the MOEA promulgated its subsidiary rule, the Regulations on the Management of Electricity Consumers with a Certain Contracted Capacity and the Obligations to Set up Renewable Energy Generation Facilities (一定契約容量以上之電力用戶應設置再生能源發電設備管理辦法, the "Regulations") on December 31, 2020, which took effect on January 1, 2021.

Pursuant to the Regulations, the end users subject to the minimum purchase requirement will be those with a contracted capacity of 5,000kW or above ("User(s)"), totaling about 500 companies in Taiwan. The eligible Users are required to install 10% of the regular contracted capacity agreed between Taipower and the User ("Obligated Installed Capacity") through installation of renewable energy generation facilities, power storage facilities, or purchase of renewable energy or Taiwan Renewable Energy Certificate ("TREC"). Such obligation is provided with a 5-year grace period. The Users will face annual delinquency fees in case of failure to comply. The MOEA will conduct a biannual review from 2023 regarding the scope of the Users.

An additional incentive is provided to those Users who had installed renewable energy facilities prior to the promulgation of the Regulations. In such case, the Obligated Installed Capacity can be reduced by the already installed capacity to the extent that

the reduced amount does not exceed 20% of the original Obligated Installed Capacity. After the promulgation of the Regulations, another 20% reduction in the Obligated Installed Capacity will be granted if a User (i) sets up renewable energy facility, (ii) purchases renewable energy and/or TREC, or (iii) sets up storage facility, with a capacity ("Renewable Capacity") of 80% of the Obligated Installed Capacity within three years since the promulgation of the Regulations. If the Renewable Capacity reaches 90% of the Obligated Installed Capacity in four years, the Regulations further offer a 10% reduction in the Obligated Installed Capacity.

According to our informal consultation with the BOE, the incentives provided for installing renewable energy facilities prior to the promulgation of the Regulations and reaching the Obligated Installed Capacity after the promulgation of the Regulations may apply simultaneously.

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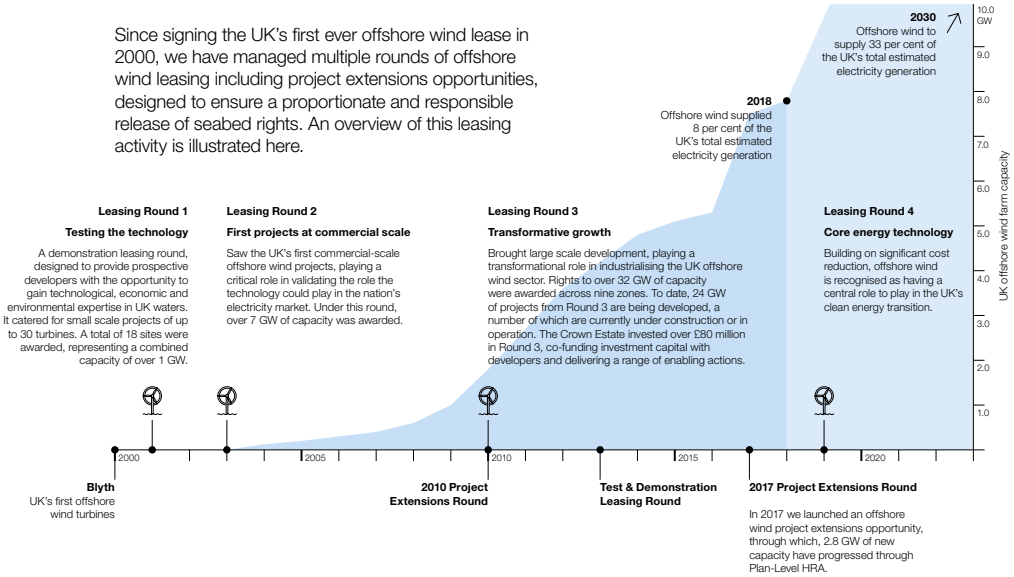
I. State and future of Offshore Wind Projects

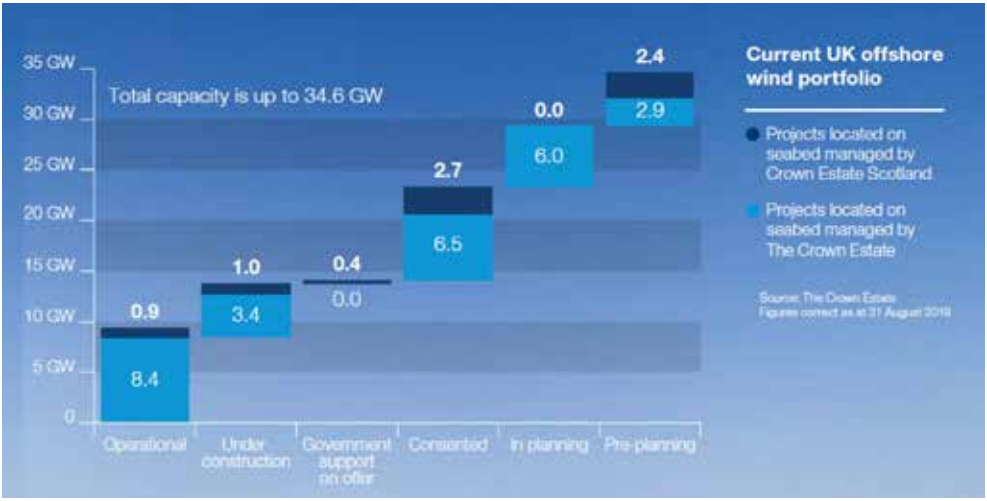
A. Current state of offshore wind development and projects

"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 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] with around 10GW of currently operational projects and a pipeline above 40GW.[4]

There are more than 30 offshore wind projects with nearly 2000 foundations in UK waters and nearly 1000 under construction.[5]

In 2018, offshore wind generated 14.7 % of total power in the UK.[6]

3 https://www.thecrownestate.co.uk/media/2950/offshore-wind-operational-report-2018.pdf
4 https://www.gov.uk/government/news/new-plans-to-make-uk-world-leader-in-green-energy
5 https://cdn.ymaws.com/www.renewableuk.com/resource/resmgr/publications/supply_chain_review_31.01.20.pdf
6 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 Deal[7] 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 offuture Contracts for Difference ("CfDs") rounds with government support of £557m. 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 2 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.[8] 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.

In October 2020, the UK Government set out further commitments[9] to progress towards net zero by 2050, including:

a) confirming offshore wind will produce more than enough electricity to power every home in the country by 2030, based on current electricity usage;
b) creating a new target for floating offshore wind to deliver 1GW of energy by 2030, which is over 15 times the current volumes worldwide. Building on the strengths of the North Sea, this brand new technology allows wind farms to be built further out to sea in deeper waters, boosting capacity even further where winds are strongest and is aimed to ensure that the UK remains at the forefront of the next generation of clean energy; and
c) setting a target to support up to double the capacity of renewable energy in the next Contracts for Difference auction, which will open in late 2021 - providing enough clean, low cost energy to power up to 10 million homes.

7 https://www.gov.uk/government/publications/offshore-wind-sector-deal

8 https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/

9 https://www.gov.uk/government/news/new-plans-to-make-uk-world-leader-in-green-energy

3. Contract for Difference – auction round 3

In December 2020, the UK Government published the White Paper "Powering our Net Zero Future". The White Paper sets out the Government's plans for the transition to clean energy and builds on the target of 40GW of offshore wind by 2030. The Paper comments that:

a) Renewable capacity has grown fivefold since 2010, driven by the deployment of wind, solar and biomass. The UK had 10GW of operational offshore wind by 2019, up from just over 1GW in 2010.
b) The cost of offshore wind projects contracted in 2019 fell by 30 per cent for example, relative to those contracted in 2018.
c) The UK Government will support the delivery of the sector's target of 60 per cent UK content in offshore wind projects by 2030, through more stringent requirements for the CfD supply chain plan process.

4. COP26 conference

The UK will host the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow in November 2021. As COP26 President, the UK will be bringing together heads of state, climate experts and campaigners to agree coordinated action to tackle climate change. The UK will be hosting over 30,000 delegates, including world leaders, experts, campaigners and government officials.

This summit is widely considered to be the most important COP since the 2015 Paris Agreement was reached at COP21. The aim of COP26 is to address the gap between the Paris Agreement aspirations and the targets to which countries have so far committed.

Alok Sharma, COP26 Present, stated that "we have defined a number of key themes for COP26, which include transition to clean energy, clean transport, nature based solutions, adaptation and resilience and of course bringing it all together, finance".

5. 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 15 year CfD contract support at record low auction clearing prices of between £39.65 - £41.61 / MWh (2012 prices).

In November 2020, the UK Government confirmed the creation of a new dedicated pot for bids specifically for fixed-foundation offshore wind projects. The aim is that fixed-foundation offshore wind projects will no longer compete with other technologies for a share of investment, and floating wind projects will compete only

10 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/945899/201216_BEIS_EWP_Command_Paper_Accessible.pdf

with other "`less established technologies" and will not need to compete with fixed-foundation wind projects.

6. 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). In February 2021, six proposed new offshore wind projects were selected in the competitive tender process opening up the opportunity for just under 8GW of new offshore wind energy, anticipated to be enough to meet the electricity needs of over seven million homes.[11]

Crown Estate Scotland is also proposing to launch an offshore wind leasing round in Scotland in the near future.[12]

7. 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.[13] 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.

8. Queen's speech

In December 2019, the Queen's Speech announcing the UK Government's new legislative programme for the current 5 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.

11 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/945899/201216_BEIS_EWP_Command_Paper_Accessible.pdf

12 https://www.crownestatescotland.com/media-and-notices/news-media-releases-opinion/scotwind-leasing-update

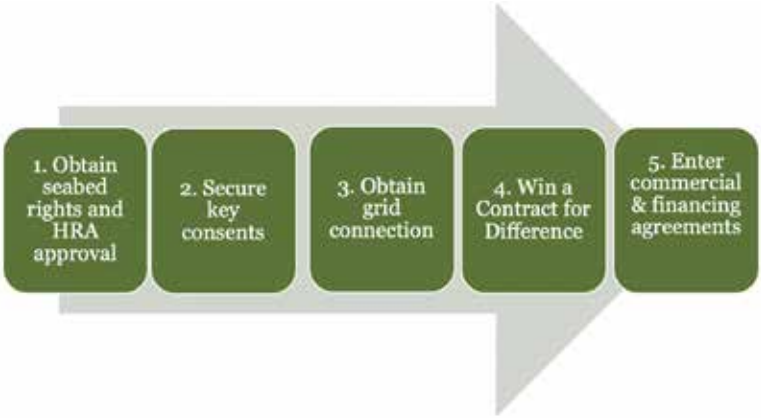
13 https://www.offshorewind.biz/2019/10/31/uk-gets-floating-offshore-wind-centre-of-excellence/

II. Offshore wind promotion system in general

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:



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 c.8GW of new offshore wind energy. This process is ongoing.

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 4 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 are required to come forward across at least three Bidding Areas, with a maximum of 3.5 GW within any one area;
d) xtended 60 year lease terms - (up from 50) enough for two full project lifecycles;
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)[14]

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

14 Further details can be found at https://www.thecrownestate.co.uk/media/3378/tce-r4-information-memorandum.pdf

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 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 affecting the integrity of the European sites concerned;
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 Contract for Difference (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 prosective 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 3 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. The next CfD auction is scheduled to take place in 2021.

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 5 offshore wind farms 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 Renewable Obligation Certificates (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 – March 2010
b) 2.0 ROCs for projects accredited from April 2010 – March 2015
c) 1.9 ROCs for projects accredited from April 2015 – 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. Timeline 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:

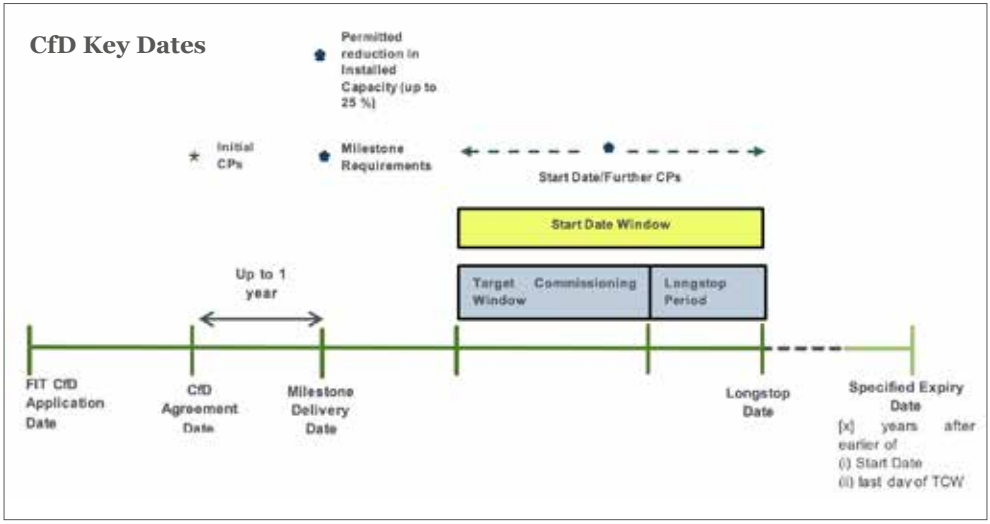
1. a 10 year option period that applies under the Agreement for Lease entered into by a prospective offshore wind developer with The Crown Estate in which the prospective developer must satisfy the milestone conditions to proceed to the grant of a Lease;

2. time limits that apply in relation to participation of the prospective offshore wind developer in CfD auctions;

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 1 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 environmental impact assessment ("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. Offteke / PPA

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 power purchase agreement;

2. the generators are treated as having capture 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 power purchase agreement; and

2. the generators will sell the ROCs they receive for the generation of accredited renewable power to suppliers or ROC traders.

B. If the project is delayed, what are the consequences under the offtake regime?

See section II.D above for an overview of the consequences of delay under the CfD regime.

C. If feed in tariffs are determined by auctions or change over time please give examples of actual and future tariffs.

CfD and Investment Contract pricing

The level of support offered to offshore wind contracts under the Investment Contracts and CfDs awarded to date is as follows:

1. bilaterally negotiated Investment Contracts (April 2014): £140 – 155 / MWh (2012 prices)

2. CfD auction 1 (February 2015): £114.39 - £119.89 / MWh (2012 prices)

3. CfD auction 2 (September 2017): £57.50 - £74.75 / MWh (2012 prices)

4. CfD auction 3 (September 2019): £39.65 - £41.61 / 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 offshore wind farm 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 National Grid and a construction agreement ("CONSAG").

1. OFTOs

European Union (EU) requirements under the so called Third Energy Directive require that ownership of transmission and generation assets be unbundled. The UK has established an offshore transmission owner ("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 build" model, where Ofgem runs a tender to appoint an OFTO with responsibility for constructing and operating the offshore wind farm's transmission assets.

B. Planning and constructing 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 GCS

The CfD contains some limited protections against the consequences of delays and disruptions to the grid connection system. For example, the generator is entitled to an extension of its milestone delivery date or the longstop date if 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. Generator's bid into National Grid's "Balancing Mechanism" a price at which they are willing to be curtailed in any settlement period and can therefore generate 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 offshore wind farm in the form of an Agreement for Lease and then Lease granted by The Crown Estate;

2. seabed rights for the corridor of the offshore wind farm 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 Britian 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. What are the costs, and are there risks that the rights of use will be successfully challenged during the term of operation? If yes, what kind of protection is available against such challenges?

The rent payable in respect of an operational offshore wind farm in England and Wales is typically equal to 2 per cent 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. Others

A. 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 offshore wind farm 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:

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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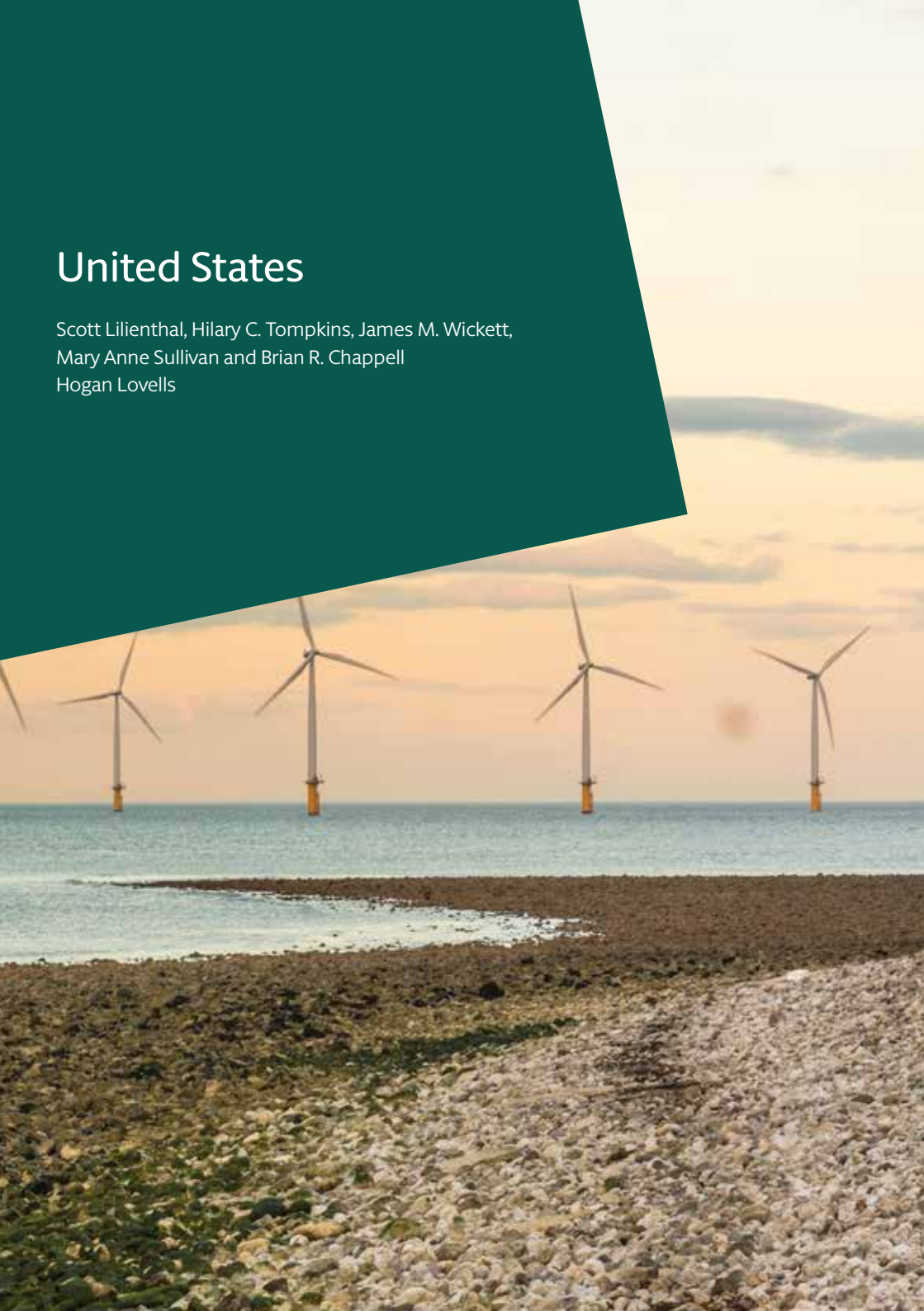

I. State and future of Offshore Wind Projects

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 neither constructed nor begun operating any large, utility scale projects.[1] Carbon-free electricity near large, coastal population centres and the associated jobs and economic development represent the significant attractions of offshore wind. A recently expanded 30 percent federal investment tax credit for offshore wind, and recent guidance allowing qualifying offshore projects a 10 year construction period to qualify for the tax credit, is enhancing investor interest in these projects. 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. Notwithstanding the obstacles, U.S. offshore wind development appears ready for a near-term boom, and the Biden Administration is expected to be a strong supporter given its laser-like focus on climate change and targets to reduce greenhouse gas emissions. At this writing, specifics on how the Biden Administration approach will accelerate offshore wind development are unknown, but there is a widespread expectation that a much friendlier environment for offshore wind will emerge quickly.

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 16 active commercial leases for offshore wind development.[2]

The most advanced project had been 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. BOEM conducted a required environmental review under the National Environmental Policy Act, and in 2020 it completed a supplemental review addressing "cumulative impacts," with a particular focus on Atlantic wind development impacts on the fishing industry.[3] This final review set the stage for BOEM to issue an approval for this project; however, Vineyard Wind announced a pause and an intent to change turbine vendors, allowing it to move to a smaller number of larger capacity turbines. As a result, BOEM terminated its permitting

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-snag-due-to-fishingindustry- concerns-idUSKCN1UO0EK

review but it is likely that the new Biden Administration will re-launch this project and issue an approval.

Although the Vineyard Wind project is on pause, the supplemental cumulative impact analysis BOEM issued in 2020was designed to "serve as both a base and a model for future projects."[5] Thus, other projects underway in the North Atlantic, off New England, New York, New Jersey, and Maryland should benefit from this analysis. There continues to be strong interest in offshore wind development, especially at the state level. Coastal states, from New England to North Carolina in the eastern U.S. and California in the West, 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 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]

Experienced offshore developers who have been active in projects already in operation or under construction around the globe have taken an increased interest in the U.S. market. Thus, the U.S. should get the benefit of "lessons learned" in more mature offshore wind markets.

Copied from the BOEM website

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

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.

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]

There also has been increased attention regarding issues of navigational safety and various port and vessel traffic studies have been launched by the U.S. Coast Guard along the eastern Atlantic seaboard. The commercial fisheries industry has also been actively engaged in BOEM's review of proposed projects, expressing concerns regarding impacts to fishing patterns and practices as well as fish habitat. The new Biden Administration is expected to engage with the various, affected stakeholders to find solutions that reconcile these various uses of the OCS.

Another kind of regulation that affects offshore wind projects is the Jones Act, which is designed to protect the U.S. shipbuilding industry. While not specifically directed to offshore wind development, its restrictions complicate the offshore construction process.

10 Energy Policy Act of 2005, 42 USCS § 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

III. Offshore Permitting

A. 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. OCSLA requires consideration of a variety of factors when permitting offshore wind projects, including safety, protection of the environment, prevention of interference with certain reasonable uses of the OCS, environmental impacts, and protection of national security interests. 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.[15] 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. The regulatory process under BOEM

The regulatory process is divided into four phases: Planning and Analysis, Leasing, Site Assessment and Construction and Operations.[16] 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. BOEM has also adopted a "design envelope" approach to provide for flexibility

15 43 U.S.C. §1337(p)(9)

16 https://www.boem.gov/sites/default/files/boem-newsroom/Wind-Energy-Comm-Leasing-Process-FS-01242017-%281%29.pdf 17 https://www.everycrsreport.com/files/20150113_R40175_4a86263083ea515ffd7e0b7ed69f1f23f9a1f590.pdf

and a sufficient range of alternatives to allow for design adjustments later in the installation process. At the COP stage, 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.

C. Rights of coastal states

The permitting requirements for offshore wind developments depend on whether the facility will be located in state or federal waters.[17] State waters extend three nm[18] off the coast. Waters beyond that point, up to 200nm seaward, are under federal jurisdiction.[19]

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".[20] Federal permitting with reasonably foreseeable coastal effects must be consistent with state management plans.[21] 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."[22] 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.[23] 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.[24] A state also has the authority to review the BOEM permit once it is issued, following a similar procedure.

17 ttps://www.everycrsreport.com/files/20150113_R40175_4a86263083ea515ffd7e0b7ed69f1f23f9a1f590.pdf
18 State waters for Texas and the Gulf coast of Florida extend 9 nm
19 https://www.boem.gov/oil-gas-energy/leasing/outer-continental-shelf
20 16 U.S.C. 1451 et seq.
21 16 U.S.C. § 1456
21 16 U.S.C. § 1455(d)
23 https://coast.noaa.gov/czm/consistency/
24 https://www.boem.gov/environment/environmental-assessment/coastal-zone-management-act

D. Governmental payments for an offshore wind project

Section 388 of the EPAct 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".[25] An offshore wind project's lease will dictate the payment structure between the lessee and lessor, pursuant to the Renewable Energy Programme Regulations.[26] For example, the Vineyard Wind's lease provides that, for rent payments prior to the Commercial Operations Date,[27] or the lease end date, whichever is sooner, the lessee must pay an annual rental rate of USD 3.00 per acre, which results in a USD 500,658 rent payment per year.[28] 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 he 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. [29]

IV. Maritime Regulation

The Jones 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. occur on vessels owned, operated and crewed by U.S. citizens.[30]

While it is clear that the Jones Act applies to locations on the Outer Continental Shelf being developed for oil and gas production, there has been an open question as to whether that was also true for locations being developed for renewable energy. Legislation has now been enacted to eliminate that uncertainty.

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. In 2019, the Office of Customs and Border Protection, the agency tasked with interpreting coastwise law, has modified two key provisions of rulings under the Jones Act.[31] 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

25 43 U.S.C. §1337(p)(2)(B)

26 30 CFR 585

27 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/newableenergy-program/State-Activities/MA/Lease-OCS-A-0501.pdf

28 Id.

29 Id.

30 46 U.S.C. § 50501

31 https://www.cbp.gov/sites/default/files/assets/documents/2019-Dec/Vol_53_No_45_Title.pdf

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.

In addition, to work around Jones Act restrictions, it is possible to move construction materials and work crews originating abroad from foreign vessels to U.S.- qualified vessels once they arrive in U.S. territorial waters to allow transportation of materials and work crews to project development sites. While there are inefficiencies with this approach, the alternative of seeking waivers of the Jones Act is not likely a real option. Waivers of meaningful duration are not likely to be granted. And, if they were, it would engender strong opposition from powerful maritime interests.

While workarounds such as these may facilitate offshore wind project development in the near term, 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. That will require more progress on the development front so that it is clear there will be a long-term demand for Jones Act compliant construction vessels.

V. Safeguarding the Environment

A. The National Environmental Policy Act

NEPA requires that environmental impacts be considered when a major federal action may have significant effects on the environment.[32] Under NEPA, any new federal project with potential environmental impacts 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.

The Trump Administration significantly revised the NEPA regulations to provide for greater streamlining and a narrower scope of review, including the removal of consideration of cumulative impacts.(cite NEPA CEQ website with new regs). It is anticipated that the new Biden Administration will revisit these revisions and seek to provide a greater level of environmental review. However, given the comprehensive cumulative impact analysis conducted on the Vineyard Wind project (see above), there is ample NEPA analysis to rely upon for future projects in the queue.

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

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

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.

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]

The new Biden Administration will also likely revisit revisions made to the ESA regulations under the Trump Administration, resulting in a more species protective interpretation of this law.

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]

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

40 clf.org/wp-content/uploads/2019/01/Final_VW-NGO-NARW-Agreement-012219-NGO-fully-executed.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

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 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

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_BOEMworkshop_3.07.17.pdf

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

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 liability for incidental take.[61] Certain organisations have successfully challenged this reversal in position in court, and it is anticipated that the new Biden administration will return to DOI's long standing view that incidental "take" of birds is prohibited.[62] However, the Biden Administration is also likely to adopt a permit regime to provide coverage for renewable energy projects that accidentally take migratory birds.

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 species[63] that could be impacted.

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

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

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]

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-windoffshore-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

VI. Incentives for Investment

Federal tax credits provide owners and developers incentives for offshore wind project development. U.S. taxpayers may choose between two federal tax credit options available for such projects: the Investment Tax Credit (ITC) and the Production Tax Credit (PTC). In an omnibus budget bill passed by Congress and signed into law in the last days of 2020, the U.S. Congress created a new 30 percent ITC exclusively for offshore wind, which is effective for projects that begin (or have begun) construction between 1 January 2017 and 31 December 2025. The same bill also extended the PTC one year, providing developers an alternative option to claim 10 years of PTCs at 60% of full value for projects under construction by the end of 2021. (The full PTC value, annually adjusted for inflation, was 2.5 cents per kWh in 2020.) Days later, on 31 December, 2020, the U.S. Internal Revenue Service issued guidance allowing offshore wind developers 10 years after qualifying for the ITC or PTC to finish construction and place such projects in service.

VII. Grid Connection for Offshore Wind

The Department of Energy's 2014 National Offshore Wind Energy Grid Interconnection Study[73] 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.[74] Anbaric proposes to install several offshore collector platforms, with each platform collecting 800 to 1,200 MW of offshore energy.[75] 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.[76] BOEM is currently reviewing comments and determining whether a competitive interest exists. More commonly, however, projects develop their own project-specific grid connection plans.

Further reading

The Jones Act, Informed Compliance, U.S. Customs and Border Protection (Sept. 2020),
https://www.cbp.gov/sites/default/files/assets/documents/2020-Oct/Jones-Act-Informed-Compliance-Publication-September-2020.pdf

Offshore Renewable Energy Fact Sheet, Bureau of Ocean Energy Management, U.S. Department of the Interior
https://www.boem.gov/sites/default/files/documents/newsroom/fact-sheets/BOEM-FactSheet-Renewable.pdf

Clean Power Report, Q4-2020, The American Clean Power Association
https://cleanpower.org/resources/american-clean-power-market-report-q4-2020/

2020 Wind Energy Research and Development Highlights, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy
https://www.energy.gov/sites/prod/files/2021/01/f82/weto-2020-rd-highlights.pdf

73 https://www.energy.gov/sites/prod/files/2014/08/f18/NOWEGIS %20Full %20Report.pdf
74 https://www.boem.gov/sites/default/files/regulations/Federal-Register-Notices/2019/84-FR-28582.pdf
75 https://www.boem.gov/sites/default/files/regulations/Federal-Register-Notices/2019/84-FR-28582.pdf
76 https://www.regulations.gov/docketBrowser?rpp=25&so=DESC&sb=commentDueDate&po=0&dct=PS&D =BOEM- 2018-0067

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Vietnam

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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 May 2020, the technical potential for fixed and floating offshore wind energy in Vietnam is 475 GW.[1]

The offshore wind sector is very nascent. As of today, the 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 tremendous industry appetite to develop offshore wind power in Vietnam. According to Global Wind Energy Council (GWEC)'s forecast in its Global Offshore Wind Report 2020, Vietnam would in the top five markets in Asia in terms of new installations of offshore wind power in the next decade, along with other large offshore markets in the region such as China, Taiwan, South Korea, and Japan.[2]

Recently, several other offshore wind projects have either been added to (e.g. Phu Cuong Project, Soc Trang, 800 MW), or are in the process of application for inclusion in (e.g. HBRE Vung Tau Project (500MW) in Ba Ria – Vung Tau province, Thang Long Project (3.4GW), and LaGan Project (3.5GW) in Binh Thuan province, etc.), the power development master plan.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 June 2020, in light of the delay in operation of a huge number of wind projects and the resulting eminent power shortfall, the Prime Minister issued Official Document No. 795/TTg-CN, under which 91 wind projects (both offshore and onshore) have been added to the Revised PMDP VII with a total capacity of nearly 7,000 MW. Investors are waiting to see how the Government defines its renewable ambitions with new targets in the Power Development Master Plan VIII which is going to be issued soon.[3]

1 http://documents1.worldbank.org/curated/en/340451572465613444/pdf/Technical-Potential-for-Offshore-Wind-in-Vietnam-Map.pdf
2 https://gwec.net/wp content/uploads/dlm_uploads/2020/08/GWEC-offshore-wind-2020-5.pdf
3 http://ieefa.org/wp-content/uploads/2019/09/Vietnam-Solar-FiT-Program-Delivers_September-2019.pdf

II. The Offshore Wind Promotion System

There are currently no government subsidies or particular promotion system provided specifically to offshore wind power projects 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. If a project is partially operational, such tariff will only apply to that part of the project which is operational before the tariff expiry date. This deadline is a critical issue for large-scale offshore wind power projects. The Ministry of Industry and Trade (MIT) has proposed to the Prime Minister to extend the deadline to 31 December 2023 and to delay the planned implementation of a competitive wind auction mechanism from 1 November 2021 to 2023. However, to date, this has not been approved by the Prime Minister.

Other than the incentive on tariff, offshore wind power projects will generally enjoy the investment incentives applicable to wind projects, including:

A. Corporate income tax preferences

Income from new investment projects in production of renewable energy 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

B. Import duty preferences

There is an exemption from import duty in respect of goods imported in order to form fixed assets of the project, or imported raw materials and manufactured materials not yet able to be produced within Vietnam and imported to service production of the project.

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 section VI.A. below.

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

In overview, there are a number of key permits and authorisations required to develop an offshore wind project in Vietnam and the statutory timelines to obtain them as follows:

First, if the offshore wind project was not originally included in the power development master plan, the investor must prepare a wind measurement survey (minimum of 12 consecutive months) and obtain an approval from the MIT or the Prime Minister for the project to be supplemented into such plan.

The inclusion of the project in the power development master plan is a key condition precedent to the application for the project approvals.

Second, 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.

Third, 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.

Fourth, 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 terms 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. Unless the Government agree to extend the deadline to 31 December 2023 or to issue another feed-in tariff mechanism after the deadline, an auction scheme might be implemented.

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 and the Government.

2. MONRE with respect to investment projects which are subject to approval by the Prime Minister, inter-regional sea areas and marine space outside six-nm sea regions, investment projects to exploit and use marine resources by foreign investors or economic entities with foreign investment.

3. The People's Committee of coastal provinces with respect to the marine space within the scope of the six-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. Local content requirements

Currently, there are no statutory requirements for local content pertaining to the development of offshore wind projects. However, the Prime Minister has authorised MIT to prepare a mechanism for promoting domestic production of wind turbines and boosting the localization of wind power projects. In addition, the MIT has provided that the Department of Industry (which falls under the auspices of MIT) was to study and propose measures to encourage the development and manufacture of domestically produced wind power equipment and to increase the local content of wind power projects. Ultimately, their findings were to be reported to the Prime Minister. Though there has not been any development in this area yet, it is expected that local content will become a legal requirement in the near future.

VIII. 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 lender 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 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.

Further reading

'Offshore Wind Technical Potential in Vietnam', published by the World Bank on March 2020 (http://documents1.worldbank.org/curated/en/340451572465613444/pdf/Technical-Potential-for-Offshore-Wind-in-Vietnam-Map.pdf);

'Global Offshore Wind Report 2020', published by the Global Wind Energy Council on August 5, 2020 (https://gwec.net/wp-content/uploads/2020/12/GWEC-Global-Offshore-Wind-Report-2020.pdf);

'Option for wind power in Vietnam by 2030', published by Minh Ha-Duong, Sven Teske, Dimitri Pescia, Mentari Pujantoro on January 26, 2020 (https://hal-enpc.archives-ouvertes.fr/hal-02329698v2/document);

'Vietnam backs plans to develop nearly 7,000MW of new wind power', published by the Institute for Energy Economics and Financial Analysis on June 30, 2020 (https://ieefa.org/vietnam-backs-plans-to-develop-nearly-7000mw-of-new-wind-power/);

'Market to Watch: Vietnam Offshore Wind' published by the Institute for Energy Economics and Financial Analysis on 23 September 2019 (https://gwec.net/market-to-watch-vietnam-offshore-wind/);

Usability and Challenges of Offshore Wind Energy in Vietnam published by Van Q. Doan, Van Nguyen Dinh, Hiroyuki Kusaka, Thanh Cong, Ansar Khan, Du Van Toan, and Nguyen Dinh Duc (https://www.jstage.jst.go.jp/article/sola/15/0/15_2019-021/_pdf).

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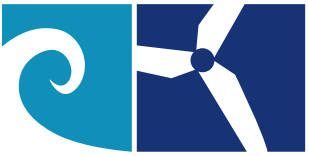

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