

Denmark

Klint Klingberg-Jensen, Malene Harkjær Frederiksen and Laura Higham Schlüter

Poul Schmith/Kammeradvokaten

MARKET FRAMEWORK

Government electricity participants

- 1 Who are the principal government participants in the electricity sector? What roles do they perform in relation to renewable energy?

The principal government participants in the electricity sector in Denmark are the following:

The Danish Ministry of Climate, Energy and Utilities

The Ministry of Climate, Energy and Utilities is responsible for administering the laws within energy supply and utilisation in Denmark. The Ministry of Climate, Energy and Utilities consists of five government agencies, including the Danish Energy Agency, and three government institutions, including Energinet, the Danish Utility Regulator and the Council on Climate Change. The administration of energy and supply in Denmark is to a great extent delegated to the Danish Energy Agency and Energinet.

The Danish Energy Agency

The Danish Energy Agency (DEA) was established in 1976 and monitors and develops energy and supply sectors in Denmark, as well as Danish efforts to reduce carbon emissions. Among other things, DEA issues licences and permissions to the production of electricity and administers several subsidy schemes.

The Danish Utility Regulator

The Danish Utility Regulator (DUR) was established on 1 July 2018 where it replaced the former Danish Energy Regulatory Authority. DUR is responsible for maintaining strong and effective supervision of the utility sectors, including electricity and natural gas, and securing consumer interests by striving for a higher level of efficiency, the lowest possible costs, a stable and secure supply, and a cost-effective development in technology and climate-friendly initiatives.

Energinet

Energinet is an independent public enterprise subject to the Act on Energinet (Consolidation Act No. 118 of 6 February 2020). Energinet is the Danish transmission system operator (TSO) and owns and is responsible for constructing and operating the grid connection system and the transmission system in Denmark with the purpose of maintaining the security of supply and secure equal market access.

The Danish Energy Board of Appeal

Decisions concluded by DEA, DUR and Energinet are subject to appeal at the Danish Energy Board of Appeal.

Private electricity participants

- 2 Who are the principal private participants in the electricity sector? What roles do they serve in relation to renewable energy?

The principal private participants in the electricity sector include the plant owners, the distribution companies, the electricity suppliers, the balance responsible parties, Nord Pool, the Danish mortgage institutions and private investors.

The power plants in Denmark are either owned by private persons or private companies. Some of the principal power plant-owning companies include Ørsted A/S, in which the Danish state has majority ownership, Vattenfall A/S and E.ON Danmark A/S. The power plant owners sell the electricity generated at the plant to the electricity suppliers. In Denmark, there are approximately 100,000 large- and small-scale power plants.

The power plants are connected to the electricity grid, which is divided into the transmission grid, owned by the public enterprise Energinet (the TSO), and the distribution grid, owned by several distribution companies. Neither of which are subject to competition. The distribution companies are primarily owned in cooperative societies by, inter alia, the consumers and the Danish municipalities. The distribution companies are responsible for maintaining and operating the distribution system and ensuring that power reaches the end-user. Each of the distribution companies has a natural monopoly on the physical distribution of electricity within their area. Some of the principal private participants within distribution include N1 A/S (owned by Norlys) and Radius Elnet A/S (owned by SEAS-NVE).

Following the liberalisation of the market for electricity suppliers in 2003, the number of electricity suppliers has increased. The electricity suppliers buy electricity through power purchase agreements or Nord Pool and sell it to the consumers. Some of the principal private participants within the supplying of electricity include SEAS-NVE and E.ON Danmark A/S.

Nord Pool and the balance responsible parties help securing the balance between the supply and demand of electricity through trading in the electricity market. Nord Pool is Europe's leading power market and an appointed nominated electricity market operator across several European countries. Several of the European countries have a shared transmission grid, which makes it possible to transfer energy across borders. The balance responsible parties are private participants buying and selling electricity on behalf of electricity suppliers and plant owners. Among the larger balance responsible parties in Denmark are Energi Danmark A/S and Danske Commodities A/S.

Further, the Danish mortgage institutions and private investors play an important role in financing Danish renewable energy projects.

Definition of 'renewable energy'

3 | Is there any legal definition of what constitutes 'renewable energy' or 'clean power' (or their equivalents) in your jurisdiction?

Renewable energy is defined in section 2(2) of the Act on Promotion of Renewable Energy (Consolidated Act No. 1791 of 2 September 2021) as energy from renewable non-fossil sources, namely wind, solar (solar thermal and solar photovoltaic) and geothermal energy, ambient energy, tide, wave and other ocean energy, and energy in the form of hydro-power, biomass, landfill gas, sewage treatment plant gas and biogas. This definition is an implementation of article 2(1) in the Renewable Energy Directive (Directive (EU) 2018/2001) (RED II).

Framework

4 | What is the legal and regulatory framework applicable to developing, financing, operating and selling power and 'environmental attributes' from renewable energy projects?

Broadly, the Act on Promotion of Renewable Energy, the Electricity Supply Act (Consolidated Act No. 984 of 12 May 2021) and the executive orders issued thereunder are the regulatory framework applicable to developing, financing, operating and selling power in the renewable energy market, and implement the Renewable Energy Directive.

The Act on Promotion of Renewable Energy is the fundamental regulation for renewable energy sources and is promoting energy production using renewable energy sources to reduce the dependence of fossil fuels, increase the security of supplies and reduce the emission of CO₂ and other greenhouse gases. In particular, the Act on Promotion of Renewable Energy regulates the price supplements (feed-in tariffs) to electricity generation plants using renewable energy sources, measures to promote the manufacturing of wind turbines, and the access to utilising energy from water and offshore wind.

The Electricity Supply Act regulates the production, transport, trade and supply of electricity. The purpose of the Electricity Supply Act is to ensure that the supply of electricity is organised and implemented in the interests of security of supply, economics and the environment, and in order to protect consumers and secure equal access to low-priced electricity.

Further, the Natural Gas Supply Act (Consolidated Act No. 126 of 6 February 2020) regulates the transmission, distribution, supply and storage of natural gas and implements the Natural Gas Directive (Directive 2009/73/EC). The Natural Gas Supply Act is the regulatory framework applicable to the natural gas market, including biogas, gas from biomass, and other types of gas to the extent that these gasses technically and safely can be transported through the natural gas system.

Stripping attributes

5 | Can environmental attributes be stripped and sold separately?

Certificates of origin for electricity, gas, heating and cooling from renewable energy sources can be stripped and sold separately in Denmark in accordance with Executive Order No. 1216 of 7 June 2021, which implements parts of the Renewable Energy Directive.

A certificate of origin is an electronic document that has the sole function of providing proof for each megawatt of energy produced from renewable energy sources. Energinet and the DEA are the issuing entities of such certificates of origin and are responsible for the registration and monitoring of the certificates of origin. The certificates of origin can be issued to producers of electricity, gas, heating or cooling from renewable energy sources upon request. An energy producer can

sell the certificates of origin to an energy supplier and thereafter the energy supplier can resell the certificates of origin to other operators or consumers. There is a secondary market for the certificates of origin that is separate from the physical market, meaning the certificates of origin do not have to be sold together with the electricity produced.

Government incentives

6 | Does the government offer incentives to promote the development of renewable energy projects? In addition, has the government established policies that also promote renewable energy?

The Danish government has introduced several incentives to promote the development of renewable energy projects in Denmark.

In general, the subsidies can be divided into price supplements (feed-in-tariffs) and economical support to the construction of the renewable energy plant.

In respect of price supplements, there are in general four different types that all have in common that they secure the electricity producers a fixed price (revenue) independent of the actual market price. The four different types are the following:

- premium on the market price (with or without a price cap);
- fixed settlement price where the supplier is guaranteed a fixed price, (ie, a subsidy will be granted on top of the market price, and the amount of the subsidy will therefore be the difference on the fixed price and the market price);
- Contract for Difference (CfD) in respect of tendered offshore wind farms, where the amount of the subsidy is the difference between the tendered price and the spot price; and
- fixed yearly amount.

Economical support to the construction of the renewable energy plant is often given as a percentage of the costs of the construction of the renewable energy plant.

Following the capability of renewable energy being able to perform on market competitive terms and prices of electricity from renewable energy beginning to match electricity from fossil fuels, the subsidies for renewable energy production are in general decreasing. As an example, subsidies are no longer offered to new solar cell plants from 2020 and the bidders for tendered offshore wind farms are in some cases (de facto by the design of the CfD regime and obligation to cover certain costs) paying the state for the utilisation of certain areas at sea.

The Danish Energy Agency has taken over the administration of the system of subsidies from Energinet as of 1 January 2018.

7 | Are renewable energy policies and incentives generally established at the national level, or are they established by states or other political subdivisions?

Renewable energy policies and incentives are established at national level, primarily under the Act on Promotion of Renewable Energy and the Electricity Supply Act, which to a large extent implement EU regulations.

Purchasing mechanisms

8 | What mechanisms are available to facilitate the purchase of renewable power by private companies?

To facilitate the purchase of renewable power by private companies, these private companies can enter into corporate power purchase agreements (CPPAs). A CPPA is a contract under which a company agrees to purchase renewable energy directly from an electricity producer on fixed energy prices, which at the same time contributes to investment in and production of renewable energy.

The greater part of the electricity delivered in Denmark currently is traded on Nord Pool; however, there is a great potential for CPPAs in Denmark, and the number of CPPAs is expected to accelerate concurrently with the global trend of companies making the 'green' transition. To guarantee that energy is produced by renewable assets, including energy traded on Nord Pool, it is possible to purchase certificates of origin, which is a type of environmental attribute.

Legislative proposals

9 | Describe any notable pending or anticipated legislative proposals regarding renewable energy in your jurisdiction.

In June 2020, the Danish parliament passed the Climate Act (Consolidated Act No. 2580 of 13 December 2021). The Climate Act includes a mechanism where the Danish Minister of Climate, Energy and Utilities is obliged to lay down a new national climate sub-target every fifth year with a perspective of 10 years, which cannot be less ambitious than the previous national climate sub-target, and to publish a climate action plan every fifth year with a perspective of 10 years. These national climate sub-targets and climate action plans will presumably involve new legislative proposals for the promotion of renewable energy.

In June 2018, the Danish parliament and government entered into an Energy Agreement in which it was agreed to establish three new large-scale offshore wind farms in Denmark before 2030, which will expand the supply of energy from offshore wind by at least 2,400MW and contribute to making Denmark independent of fossil fuels by 2050. The first of the three offshore wind farms, Thor Offshore Wind Farm, was concluded with final bids in Q4 2021 by the Danish Energy Agency. The additional two offshore wind farms were planned to be tendered in 2021 and 2023. However, the tender for the second offshore wind farm, Hesselø, is currently on hold due to soft clay formations revealed in the preliminary site investigations.

In June 2020, the Danish parliament and government decided upon the establishment of the world's first energy islands; one in the North Sea and one in the Baltic Sea (on Bornholm). The energy islands are planned to be completed in 2033 and 2030 respectively, and to have a total capacity of 5GW, and 12GW in the longer term. With these energy islands, Denmark is contributing to delivery on the Paris Agreement.

On 18 May 2022, Denmark, Belgium, the Netherlands and Germany entered into the Esbjerg Declaration on the North Seas as a Green Power Plant of Europe, with the ambitious combined targets for offshore wind of at least 65GW by 2030 and at least 150GW by 2050, and the combined targets for onshore and offshore production of green hydrogen of about 20GW by 2030.

From 1 January 2023, a new tariff model is expected according to which the renewable energy producers will have to pay geographically differentiated contributions for the establishment of the grid connection. The exact cut-off dates and size of the tariffs have not yet been determined and are pending adoption of the contemplated regulatory amendments.

Drivers of change

10 | What are the biggest drivers of change in the renewable energy markets in your jurisdiction?

The Climate Act is one of the biggest drivers of change in the renewable energy markets in Denmark. The Climate Act constitutes the first legally binding climate targets in Denmark. The Climate Act prescribes that Denmark must reduce greenhouse gas emissions by 70 per cent in 2030 compared to 1990 and become climate neutral by 2050, which means that the emission of greenhouse gases shall be equal to the absorption of greenhouse gases.

Disputes framework

11 | Describe the legal framework applicable to disputes between renewable power market participants, related to pricing or otherwise.

Special authorities have been established to handle disputes between renewable power market participants in Denmark: the Danish Energy Board of Appeal and the Energy Supplies Complaint Board.

The Danish Energy Board of Appeal is an independent board under the Ministry of Climate, Energy and Utilities and the final appeals body for decisions concluded by the Danish Energy Agency, the Danish Utility Regulator, Energinet and the municipalities within the energy field. If a party is unhappy with the ruling it can bring legal action against the Danish Energy Board of Appeal before the courts. The judicial review can be subject to time limits and other limitations.

The Energy Supplies Complaint Board is an independent private complaints board approved by the Danish Minister of Industry, Business and Financial Affairs that investigates complaints regarding the purchase and supply of electricity, gas and heat as well as other related goods and services from consumers against energy companies.

Disputes are, in general, subject to the general dispute resolution options, including courts and arbitration.

UTILITY-SCALE RENEWABLE PROJECTS

Project types and sizes

12 | Describe the primary types and sizes of existing and planned utility-scale renewable energy projects in your jurisdiction.

The primary types of existing utility-scale renewable energy projects are bioenergy (including biomass and biogas), wind projects (including offshore, near-shore and onshore wind farms) and solar cells.

Bioenergy makes up almost two-thirds of the total Danish consumption of renewable energy in Denmark. The production of biogas in Denmark is increasing, and the Danish Energy Agency expects a production of around 50PJ in 2030, which is a doubling of the amount of biogas produced in 2020. Among the largest renewable energy projects within bioenergy are Maabjerg Energy Center producing 50 million cubic metres of biogas, NGF Nature Energy Videbæk producing 27.5 million cubic metres of biogas and Sønderjysk Biogas Bevtoft producing 20 million cubic metres of biogas.

Wind projects make up more than 40 per cent of the total Danish electricity consumption with a total capacity of 6,259MW (ultimo 2020). Denmark has a long history of offshore wind, being the first country in the world to establish an offshore wind farm in 1991. Currently, the largest offshore wind farms in Denmark are Kriegers Flak (established in 2021 with a capacity of 600MW), Horns Rev III (established in 2019 with a capacity of 400MW) and Anholt (established in 2013 with a capacity of 399.6MW). Planned wind farms include Thor Offshore Wind Farm (with a capacity of 800–1,000MW and scheduled to be in full operation in 2027) and Hesselø Offshore Wind Farm (with a capacity of 800–1,200MW and scheduled to be in full operation in 2027), and the establishment of the world's first energy islands is due several years later – one in the North Sea and one in the Baltic Sea (on Bornholm), planned to be completed in 2033 and 2030 respectively and to have a total capacity of 5GW (12GW in the longer term).

In addition to the above-mentioned, solar power cells make up 8.5 per cent of the total Danish electricity consumption with a total capacity of 1,304MW (ultimo 2020). In 2030 the Danish Energy Agency expects a capacity of solar power of 8.5 GW.

Development issues

13 | What types of issues restrain the development of utility-scale renewable energy projects?

There are not any noticeable restraints on the development of utility-scale renewable projects in Denmark.

In respect to grid instability, Energinet is very experienced in handling peak capacity in the transmission system. Energinet is continuously mapping if there are any flow constraints or if any development or expansion of the transmission system is necessary.

HYDROPOWER

Primary types of project

14 | Describe the primary types of hydropower projects that are prevalent.

Hydropower projects are not prevalent as Denmark is a rather flat country. In 2015, hydropower made up 0.1 per cent of the total electricity production and 0.04 per cent of the total renewable energy production in Denmark. Currently, several wave power plants are being tested in Denmark.

15 | What legal considerations are relevant for hydroelectric generation in your jurisdiction?

No specific legal consideration applies to hydroelectric generation in Denmark.

DISTRIBUTED GENERATION

Prevalence

16 | Describe the prevalence of on-site, distributed generation projects.

Distributed generation projects such as household wind turbines or solar cells are relatively prevalent in Denmark and have been subject to special price supplements in accordance with the Act on Promotion of Renewable Energy (Consolidated Act No. 1791 of 2 September 2021). However, since 2020, these price supplements in respect of household wind turbines and solar cells are no longer available.

Because solar cells and batteries are becoming cheaper, it is expected that more electricity consumers will take on distributed generation projects and become producers of their own electricity in the future.

Types

17 | Describe the primary types of distributed generation projects that are common in your jurisdiction.

The primary types of distributed generation projects in Denmark are wind turbines and solar cells. Most of the distributed generation projects are grid-connected to the distribution network whereby each plant owner has the possibility to sell excess power produced.

Regulation

18 | Have any legislative or regulatory efforts been undertaken to promote the development of microgrids? What are the most significant legal obstacles to the development of microgrids?

Currently, no legislative or regulatory efforts have been undertaken to promote the development of microgrids. However, on 15 March 2022 the Danish parliament entered into a political agreement on power-to-x,

in which it was agreed to enable direct lines owned by private parties. These direct lines will facilitate a direct connection between private parties' electricity production and use of electricity, and thereby ensure a cost-efficient and balanced use of the grid. Direct lines will make an exception to the main rule that transport and distribution of electricity must pass through the grid, hence, it is required that parties apply for permission from the Danish Energy Agency.

Other considerations

19 | What additional legal considerations are relevant for distributed generation?

Local development plans, among other things, can restrict the provision of distributed generation projects.

ENERGY STORAGE

Framework

20 | What storage technologies are used and what legal framework is generally applicable to them?

As regards energy storage, such technologies are currently only used on a pilot-project level, as no economically sound solutions have been found yet. Hesselø Offshore Wind Farm, which was planned to be tendered in 2021, but for now has been postponed, includes the option of overplanting and adding power-to-x assets or storage [batteries] (the windfarm will have a capacity of 800–1,200MW; however, only 1,000MW can be delivered to the grid).

As regards storage of CO₂, a majority of the Danish parliament has agreed on supporting development and demonstration projects within carbon capture and storage (CCS) in the North Sea with the Danish Climate Agreement for Energy and Industry of 22 June 2020 and the historical agreement of 3 December 2020 to end the extraction of oil and gas in the Danish part of the North Sea by the end of 2050. Currently, the Danish Energy Agency (DEA) is tendering the deployment of carbon capture and utilisation (CCUS) funds of 16 billion kroner, which are intended to ensure the capture, transport and storage of 0.4 million tonnes of CO₂ per year from 2025 and an additional 0.5 million tonnes of CO₂ per year from 2030.

The use of the subsoil for storage of CO₂ is regulated in the Subsoil Act (Consolidated Act No. 1533 of 16 December 2019) and the Executive Order No. 1425 of 30 November 2016 on Geological Storage of CO₂, which implements the CCS Directive (Directive 2009/31/EC). CCS is a technology for the exploration and storage of CO₂ and hence a cost-effective tool to reduce CO₂. The individual member states are free to choose if they want to use the carbon capture and storage technology under the CCS Directive. Currently, it is not possible to obtain licences for storage of CO₂ in the Danish subsoil.

Development

21 | Are there any significant hurdles to the development of energy storage projects?

No economically sound solutions for energy storage on an industrial scale have yet been adopted in Denmark; however, on 1 December 2020 a consortium of Danish renewable energy market participants, including the large onshore wind developer Eurowind, announced plans to build the world's largest power-to-x plant in Denmark with a combined capacity of 350MW and with utilisation of subsoil storage of the hydrogen resources used in the project Green Hydrogen Hub Denmark; and on 23 February 2021 Copenhagen Infrastructure Partners announced its plans to build Europe's largest power-to-x-facility converting power

from offshore wind turbines to green ammonia, with support from market leaders within the agriculture and shipping industries.

One of the hurdles within power-to-x is that it requires vast amounts of electricity, which leads to high tariff payments for electricity transported in the grid. This could be solved by establishing direct lines owned by private parties that connect the use of electricity with electricity production without using the grid. Development of regulation to support the establishment of direct lines is part of the recent political Power-to-X Agreement of 15 March 2022. The establishment of direct lines will be an exception to the main rule, which prescribes that transport and distribution of electricity must pass through the grid. A clear practice for the requirements for obtaining dispensation from the main rule has not yet been developed by authorities, but has so far involved certain requirements being set out in relation to the ownership structure of the facilities that are 'behind the meter'.

Leading industry participants are calling for adjustments to the rules concerning certificates of origin in respect of hydrogen produced from renewable energy, and naming this as a hurdle for the development of industry-scale renewable energy storage projects.

FOREIGN INVESTMENT

Ownership restrictions

- 22 | May foreign investors invest in renewable energy projects?
Are there restrictions on foreign ownership relevant to renewable energy projects?

The Investment Screening Act (Act No. 842 of 10 May 2021) applies to investments completed from 1 September 2021. Direct or indirect acquisitions of 10 per cent or more of the ownership interest or voting rights by a foreign citizen or foreign undertaking in a Danish undertaking operating in sensitive sectors such as critical technology or critical infrastructure (which might include renewable energy projects) must obtain prior authorisation from the Danish Business Authority in order to be allowed to carry out the investment. If such an investment is considered to be a threat to Danish national security or public order, the authorities may refuse to authorise the investment. A number of uncertainties still remain as to the practical implications of the Investment Screening Act, including clarification of the key notion such as 'critical infrastructure'. Nevertheless, it is certain that foreign investors in renewable energy projects in Denmark will now have to consider the Investment Screening Act.

Equipment restrictions

- 23 | What restrictions are in place with respect to the import of foreign manufactured equipment?

Denmark is part of the EU customs union, and most foreign-manufactured equipment can be imported from other European countries without restrictions. In general, no restrictions are in place with respect to the import of foreign manufactured equipment.

PROJECTS

General government authorisation

- 24 | What government authorisations must investors or owners obtain prior to constructing or directly or indirectly transferring or acquiring a renewable energy project?

The construction, transfer or acquisition of a renewable energy project is subject to prior permission from the Danish Energy Agency (DEA).

The establishment of, and subsequent considerable modifications to, electricity generation plants exploiting energy from renewable energy

sources (except for water and wind) are subject to prior permission from the DEA, unless such electricity generation plants have a capacity of less than 10MW.

The Danish state owns the exclusive right to utilise energy from water and wind within the Danish territorial waters and the exclusive economic zone. Therefore the establishment of, and subsequent considerable modifications to, electricity generation plants exploiting energy from water and wind are subject to having obtained a licence and permission from the DEA.

In respect of offshore wind farms, these licences and permissions to establish offshore wind farms can be obtained through an open-door procedure or a tender procedure. For both procedures, the project developer must obtain the following three permissions: (1) permission to conduct a preliminary investigation; (2) permission to establish the electricity generation plant; and (3) permission to start utilising the energy. The permissions may be conditional on certain environmental, technical and financial requirements for the project. These permissions may only be transferred upon prior approval from the DEA.

In the open-door procedure, the project developer takes the initiative to establish an offshore wind farm (from 1 July 2022, applications for offshore wind farms under the open-door procedure is limited to projects within 15km of the coastline).

In the tender procedure, the tender is announced by the DEA following a political energy agreement. The tender will include tender specifications and a draft concession agreement (which, for example, is an agreement between the state and the project developer for utilising a certain area for the production of wind power on certain terms, including a combination of fixed payment for kWh produced, Contract for Difference (CfD), one-off or current payments for the utilisation right, etc). The bids will typically be submitted following a negotiation procedure. After evaluation and selection of the winner, a concession agreement is concluded. Hereafter, the winning tenderer must, inter alia, provide a guarantee for the construction of, and connection to, the grid and a guarantee for the decommissioning of the plant.

Offtake arrangements

- 25 | What type of offtake arrangements are available and typically used for utility-scale renewables projects?

Electricity is either traded through Nord Pool or through power purchase agreements.

Procurement of offtaker agreements

- 26 | How are long-term power purchase agreements procured by the offtakers in your jurisdiction? Are they the subject of feed-in tariffs, the subject of multi-project competitive tenders, or are they typically developed through the submission of unsolicited tenders?

These agreements are negotiated agreements, typically in the form of a long-term supply contract guaranteeing renewable energy at a fixed price, which is not subject to any specific Danish legislation.

Operational authorisation

- 27 | What government authorisations are required to operate a renewable energy project and sell electricity from renewable energy projects?

The generation of electricity from plants exploiting energy from water and wind can only be carried out by companies that have obtained a licence from the Danish Energy Agency subject to the conditions in the Act on Promotion of Renewable Energy (Consolidated Act No. 1791 of 2

September 2021). This licence is given for a period of 25 years with the possibility of extension.

The generation of electricity from other plants with a capacity of more than 25MW can only be carried out by companies that have obtained a licence from the Danish Energy Agency subject to the conditions in section 10 of the Electricity Supply Act (Consolidated Act No. 984 of 12 May 2021). This licence is given for a minimum period of 20 years.

It does not require a licence or permission to sell electricity from renewable energy projects.

Decommissioning

28 | Are there legal requirements for the decommissioning of renewable energy projects? Must these requirements be funded by a sinking fund or through other credit enhancements during the operational phase of a renewable energy project?

The permission or licence to establish electricity generation plants will in general be accompanied by the condition to provide security for the decommissioning of plants, for example, in the form of a guarantee for decommissioning of the plant from a financial institution, an insurance company or similar.

TRANSACTION STRUCTURES

Construction financing

29 | What are the primary structures for financing the construction of renewable energy projects in your jurisdiction?

Investments in renewable energy projects have historically primarily been financed by equity. Although non-recourse project finance is increasing and is also being used more often now than in the past.

When non-recourse project finance is used the structure will resemble similar international financings. As the developer of the plant is responsible for the construction of the plant, the developer will be required to retain an equity interest in the project to take on some of the construction risks. The investors will invest through a special purpose vehicle, which owns the power-producing asset (inter alia, the wind farm).

The permissions and licences for constructing or acquiring a renewable energy project are subject to transfer restrictions, meaning that approval must be obtained from the Danish Energy Agency prior to a sale or transfer of these renewable energy projects. The transfer restrictions are in general considered to be a formality.

In addition to financing by private parties, the Danish government has several public funds that are helping accelerate the green transition in Denmark. These funds include Vækstfonden and the Danish Green Investment Fund, both of which are providing funding to companies in a need for risk capital. Following the Climate Act and the target to cut emissions 70 per cent by 2030 and become climate neutral in 2050, we will most likely also see more public-private partnerships investing in renewable energy in the future.

Operational financing

30 | What are the primary structures for financing operating renewable energy projects in your jurisdiction?

In general, the operating phase is less risky than the construction phase. Therefore, following the conclusion of the construction phase, the equity interests might be purchased by investors with a preference for stable cash flows, inter alia, pension funds or other institutional investors. The main risks in the operating phase are related to whether there is

Poul Schmith

KAMMERADVOKATEN

Klint Klingberg-Jensen

kkli@poulschmith.com

Malene Harkjær Frederiksen

mfre@poulschmith.com

Laura Higham Schlüter

lahs@poulschmith.com

Kalvebod Brygge 32
1560 Copenhagen
Denmark

Åboulevard 49
8000 Aarhus C
Denmark

Tel: +45 33 15 20 10
www.poulschmith.com

sufficient demand for the power generated by the plant. These risks can either be addressed by entering into a power purchase agreement or by public funds (ie, through a contract for difference).

Existing assets such as solar and onshore wind have received long-term senior financing through the Danish mortgage credit system, which is based on first priority mortgages in the assets.

UPDATE AND TRENDS

Recent developments

31 | Describe any market trends with respect to development, financing or operation in the renewables sector or other pertinent matters.

Denmark has passed a legally binding Climate Act (Consolidated Act No. 2580 of 13 December 2021) with a target to cut emissions 70 per cent by 2030 and become climate neutral in 2050, which will presumably involve further investments in renewable energy and the development of renewable energy technologies.

In June 2020, the Danish parliament and government decided to establish the world's first energy islands; one in the North Sea and one in the Baltic Sea (on Bornholm). The purpose of the energy islands is that they will be able to pool the power from multiple offshore wind farms and feed this directly to several countries. The energy islands represent a paradigm shift from the establishment of isolated offshore wind farms to one interconnected construction. In the long run, it is the intention to connect the energy islands to technologies that can store renewable energy or convert it into 'green' fuel (power-to-x technologies). The energy islands are planned to be completed in 2033 and 2030 respectively, with a total capacity of 5GW, and 12GW in the longer term.

The Danish Energy Agency (DEA) has completed a 10GW screening. The purpose of the screening is to confirm whether it is possible to establish offshore wind farms in prescribed areas and to rank the placement of the offshore wind farms based on financial calculations. The financial calculations consider the environment, conditions relating to planning

permissions, conditions relating to the seabed, wind resources, layouts and energy production. The areas that have been examined are parts of the North Sea, Kriegers Flak and Hesselø. The conclusion is that it is possible to establish offshore wind farms in all the examined areas and that none of the areas are notably less attractive compared to the others.

32 | Describe any notable pending or anticipated legislative proposals.

In June 2020, the Danish parliament passed the Climate Act. The Climate Act includes a mechanism where the Danish Minister of Climate, Energy and Utilities is obliged to lay down a new national climate sub-target every fifth year with a perspective of 10 years, which cannot be less ambitious than the previous national climate sub-target, and to publish a climate action plan every fifth year with a perspective of 10 years. These national climate sub-targets and climate action plans will presumably involve new legislative proposals for the promotion of renewable energy.

In June 2018, the Danish parliament and government entered into an Energy Agreement in which it was agreed to establish three new large-scale offshore wind farms in Denmark before 2030, which will expand the supply of energy from offshore wind by at least 2,400MW and contribute to making Denmark independent of fossil fuels by 2050. The first of the three offshore wind farms, Thor Offshore Wind Farm, was concluded with final bids in Q4 2021 by the DEA. The additional two offshore wind farms were planned to be tendered in 2021 and 2023. However, the tender for the second offshore wind farm, Hesselø, is currently on hold due to soft clay formations revealed in the preliminary site investigations.

In June 2020, the Danish parliament and government decided upon the establishment of the world's first energy islands; one in the North Sea and one in the Baltic Sea (on Bornholm). The energy islands are planned to be completed in 2033 and 2030 respectively, and to have a total capacity of 5GW, and 12GW in the longer term. With these energy islands, Denmark is contributing to delivery on the Paris Agreement.

On 18 May 2022, Denmark, Belgium, the Netherlands and Germany entered into the Esbjerg Declaration on the North Sea as a Green Power Plant of Europe, with the ambitious combined targets for offshore wind of at least 65GW by 2030 and at least 150GW by 2050, and the combined targets for onshore and offshore production of green hydrogen of about 20GW by 2030.

From 1 January 2023, a new tariff model is expected according to which the renewable energy producers will have to pay geographically differentiated contributions for the establishment of the grid connection. The exact cut-off dates and the size of the tariffs have not yet been determined, and are pending adoption of the contemplated regulatory amendments.