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International Onshore Wind Study

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Editorial

Solving Europe's energy concerns with a gust of wind? It might take a little more than that. However, the expansion of onshore wind energy in Europe is essential to achieve the ambitious targets set for the decarbonisation of the energy sector – both on EU and national level. As this first-time international study regarding 29 European jurisdictions conducted by Luther Rechtsanwaltsgesellschaft mbH shows, despite the apparent awareness of the importance of onshore wind energy, the overall conditions for onshore wind energy in the European countries continue to vary greatly.

In total, wind energy accounted for 19% of electricity consumption in Europe in 2023. The EU has installed a record amount of 16.2 GW in 2023, 79% of which was onshore wind. The importance of onshore wind energy and the installed capacity of wind turbines has also increased considerably in neighbouring non-EU countries in recent years.

As a renewable energy source capable of generating large amounts of electricity, onshore wind energy is one of the central building blocks of the energy transition and the decarbonisation of the economies of many countries. Europe is leading in the expansion of onshore wind energy. The largest onshore wind energy markets in Europe in terms of installed capacity are Germany, Spain, France, Sweden, the UK, Türkiye and Italy. While countries such as Sweden, France and Finland are showing impressive progress, in 2023, Germany reported the largest growth rate with 3,567 MW in new generation capacities. In the coming years, a considerable increase in wind energy installations is expected in most EU countries and neighbouring non-EU countries.

The main drivers for the expansion are the desire to end the dependence on conventional energy sources and to achieve CO2-neutrality; as prescribed for the EU by Article 2 of the "European Climate Law". The further growth of onshore wind energy is therefore one of the key ways to combat the expansion and consequences of climate change.

Nevertheless, onshore wind energy is also facing challenges. Major obstacles are increasingly limited grid capacities throughout Europe and the length of planning and permitting procedures in many countries. Also, environmental regulations are often seen as a delaying factor. In contrast to solar energy, onshore wind energy projects are often hampered by a lack of acceptance among the local population.

Both the EU and neighbouring countries attempt to improve regulatory framework conditions. In the EU, this acceleration is driven by, among other things, Regulation (EU) 2022/2577, which introduced temporary measures to promote the expansion of onshore wind energy, and RED III. The latter inter alia raises the overall target for the expansion of renewable energies to 45% by 2030.

However, some legal areas important for the expansion of onshore wind energy are not harmonised and will remain subject to national

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law in the future. This applies, for example, to the securing of land governed by national property law. The legal framework conditions will therefore continue to differ considerably in European jurisdictions for the foreseeable future.

The following study provides a comprehensive overview of the status of onshore wind energy and the regulatory framework to expand onshore wind energy in 29 countries. These countries include all member states of the European Union that play a role in the wind energy sector, as well as neighbouring non-EU states such as Norway, Türkiye, Serbia and Ukraine. For each jurisdiction, the study contains a presentation and comparative analysis of key legal issues for wind energy projects, i.e. securing land, planning and permitting law, grid connection conditions and the marketing of electricity. The study also analyses the general political attitude towards onshore wind energy and the assessment of the legal certainty of investments.

The study was conducted from October 2023 to January 2025 in cooperation with leading law firms in the field of (renewable) energy law in the respective countries. A comprehensive questionnaire was drawn up for this purpose, which was answered by all participating law firms. The answers given in the questionnaire as detailed under “Jurisdictions” range from general descriptions of the wind energy sector, national government policies and the regulatory framework for onshore wind energy in the respective countries, aspects of energy law, property law, planning and permitting procedures and corporate structuring.

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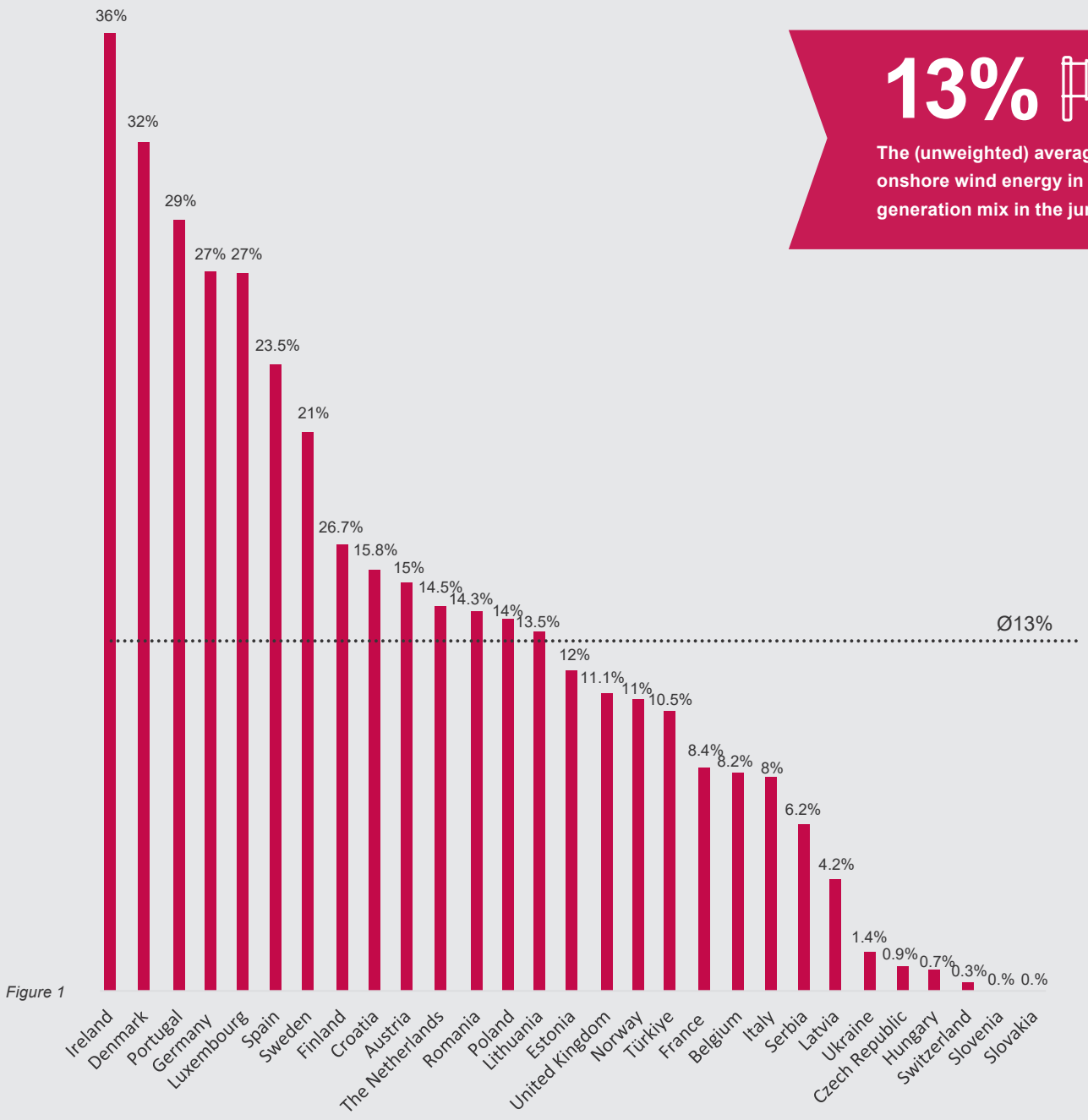


Figure 1

Please note that the data for Finland, France, and Lithuania refer to 2022 figures.

13%

The (unweighted) average of onshore wind energy in the generation mix in the jurisdictions

Analysis – Key Findings

In 2023, what share of total domestic energy production came from onshore wind?

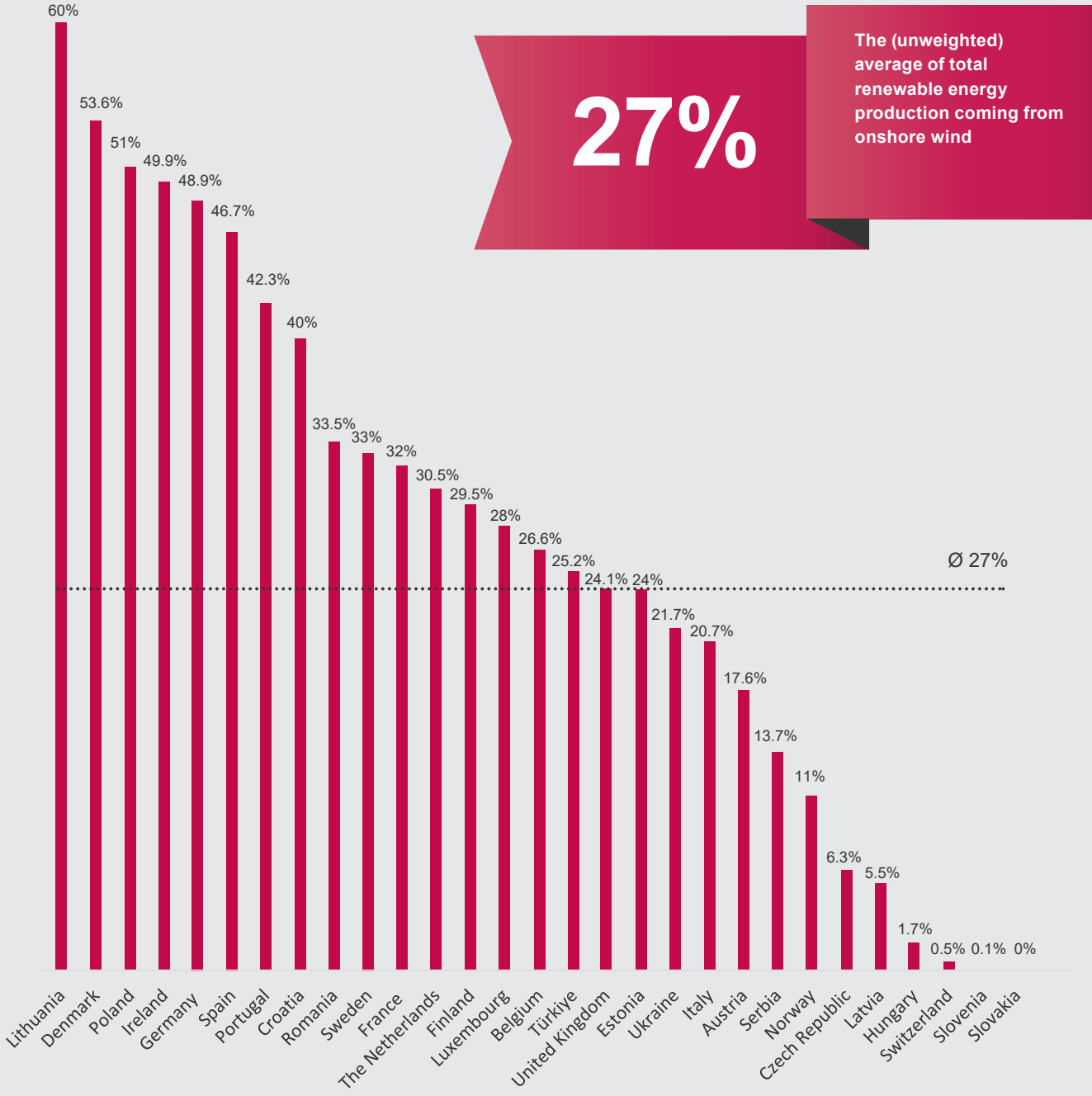
The natural wind potential in the 29 European jurisdictions varies greatly. This largely explains the varying shares of onshore wind power in the energy generation mix among the countries analysed. In 2023, the average proportion of onshore wind energy in domestic electricity production among the participating jurisdictions was 13%. With a share of around 27%, Germany is in the fourth place in this statistic. Ireland, Denmark and Portugal are in the medal places with shares of onshore wind power in the generation mix of 36% to 29%. At the other end of the scale are Ukraine, the Czech Republic, Hungary, Switzerland, Slovakia and Slovenia – six countries where the share is below 2%.

In 2023, what share of total renewable energy production came from onshore wind?

The order of the countries shifts considerably in some cases when looking at the share of onshore wind energy in the generation of electricity from renewable energies. In the (unweighted) average of all 29 jurisdictions, onshore wind energy accounts for 27% of the renewable energy generated. The gold, silver and bronze medals go to Lithuania, Denmark and Poland with shares of 60%, 53.6% and 51% respectively. Germany ranks fifth with a share of 48.9%.

This figure shows that countries have different priorities when it comes to renewable energies. Countries such as Norway, Austria and Switzerland, for example, offer good conditions for the use of hydropower, while solar energy plays a significant role in the renewable energy politics in the southern European countries. However, onshore wind energy accounts for a high proportion of electricity generation from renewable energies across many countries. This demonstrates that the deployment of onshore wind energy is one of the keys to the further decarbonisation of the European electricity generation.

The comparisons also make it clear that the natural conditions are not solely responsible for the success of onshore wind energy. The generation mix and the creation of the legal framework for electricity generation as a whole are the responsibility of the individual states, both within and outside the EU. Wind energy policy therefore differs considerably in the countries examined, even if they are EU member states. Political decision-making in the individual countries will continue to play a decisive role in the future.



Please note that the data for Finland, France, and Lithuania refer to 2022 figures.

Figure 2

In the member states of the European Union, the regulations are strongly influenced by EU-legislation, especially the RED III.

Government Policy / Regulatory Framework

Onshore wind energy is primarily governed by national policies. The regulatory framework varies from country to country. In the member states of the European Union, the regulations are strongly influenced by EU-legislation, especially the Renewable Energy Directives (RED). A special focus of energy policy in the European Union is on reducing dependence on natural gas and oil and making the energy supply in Europe climate-neutral in the medium term. Overall, a trend can be observed that EU member states and neighbouring countries are improving the regulatory framework in favour of a strong expansion of wind energy.

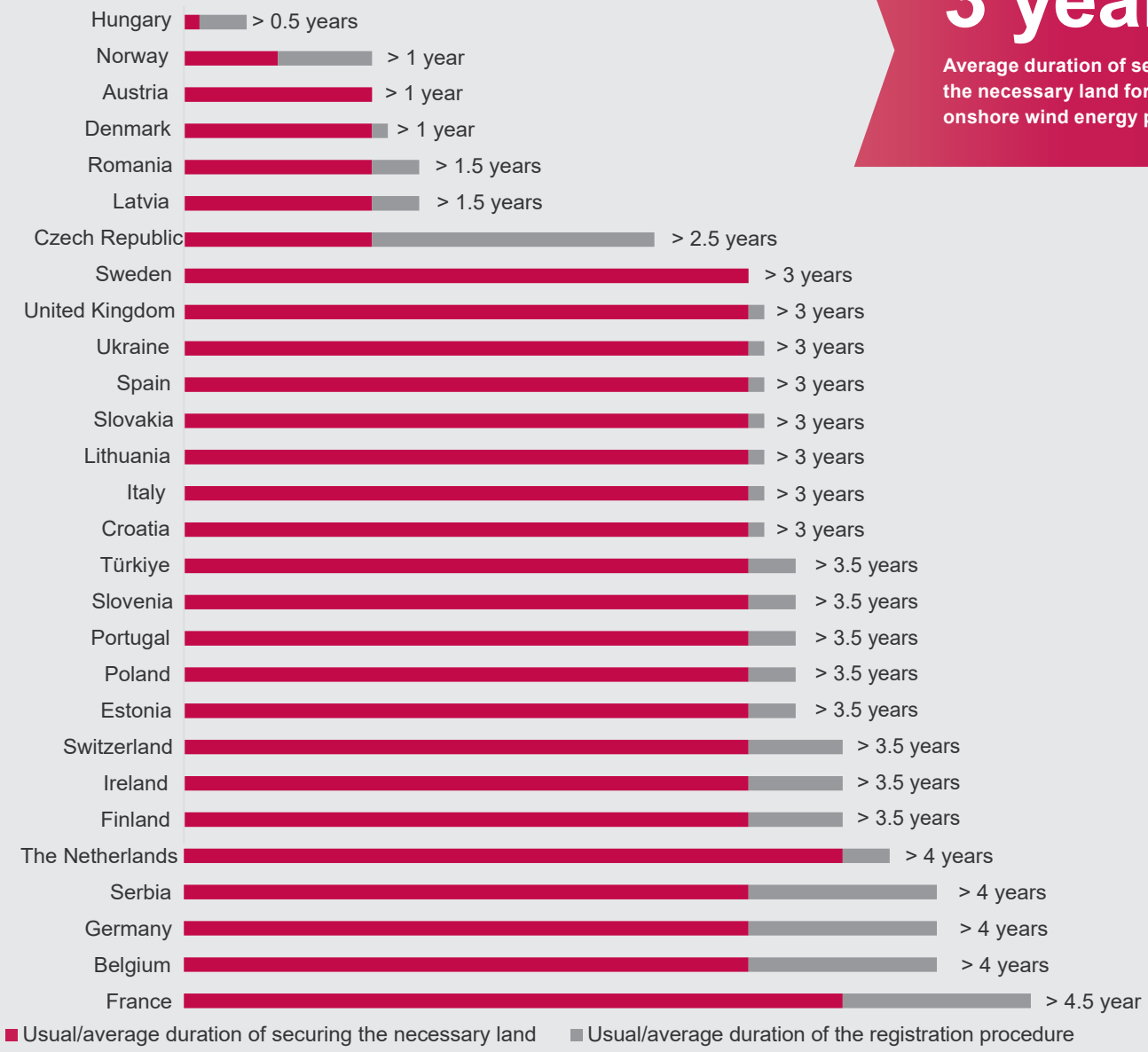
To reduce CO2-emissions and as a consequence of the limited availability of conventional fuels the EU and its member states have taken strong measures to promote the expansion of wind energy. These measures include, in particular, the Council Regulation (EU) 2022/2577 which introduced temporary measures to speed up the approval process for renewable energy projects. The regulation stipulates that the expansion of renewable energies is in the overriding public interest and therefore supersedes other concerns that could previously prevent the construction of wind turbines.

In October 2023 the revised Renewable Energy Directive (RED III) was adopted, which raised the overall target for the expansion of renewable energies to 45% by 2030. The revised directive also permanently establishes the overriding public interest and the requirements for accelerating permit procedures for the expansion of renewable energies. Furthermore, the directive contains stipulations for the designation of areas for renewable energies under planning law in which reduced requirements for environmental assessments apply. It also obliges member states to accelerate grid expansion to ensure sufficient grid capacity.

In order to improve the framework conditions for manufacturers of wind turbines in the EU, the European Commission has also announced a wind energy action plan, which sets out a package of immediate measures to complement existing regulations and strategies for the expansion of wind energy. On 19 December 2023, representatives of the European Commission, 26 Member States and 300 companies from the wind industry signed a European Wind Charter. Among other things, the member states committed to quickly implementing the requirements of RED III to facilitate planning and approval procedures, improving wind energy auctions and the conditions for European manufacturers of wind turbines.

Onshore wind energy has become considerably more important in the government policies of neighbouring EU and non-EU countries in recent years and is firmly anchored in the national policies of these states. Particularly noteworthy here are the Baltic states, for example, which have recently made extensive legal adjustments and introduced ambitious expansion targets to promote the expansion of wind energy. Among neighbouring non-EU-states for instance the United Kingdom, Türkiye and Norway also provide significant amounts of electricity from onshore wind energy plants. Significant expansion rates can also be expected in these countries.

How long does it take to secure the necessary land for the construction of an onshore wind energy plant?



3 years

Average duration of securing the necessary land for an onshore wind energy project

Figure 3

Securing Land

The issue of securing land is of considerable importance for the construction of onshore wind turbines. In fact, it is the first step in any onshore wind energy project. Among other things, it is important to regulate the use of paths or access via third-party properties and to secure access authorisations for individual properties. Operators of wind turbines and owners of land on which wind turbines are to be constructed are usually different people. The operator must therefore first obtain the right of use for the construction and operation of the wind turbine “on third-party land” from the owner for a certain period of time. The same applies to possible access routes to these plots of land. To this end, the operator secures the land on which it intends to erect the wind turbine and via which the access routes and cable route are to be realised – for a period of time that is needed for the economic operation of the wind turbine.

The process of securing the land necessary for the construction of an onshore wind energy project, including the land required for the turbines, distance and compensation areas, and other necessary areas, typically takes an **average of three years** for a project of average location, size, and complexity. In addition to securing the land, many jurisdictions require the registration of the property title in a designated land register. While registration is not required in Sweden, for example it is usually done in Spain due to the protective effects it provides against third parties.

Hungary is the country with the fastest process, taking less than a year to secure the necessary

land and complete the registration process. In contrast, France can take up to four years and a half to complete the same process. Only seven countries have a shorter process than the average of three years, and it is evident that many other countries, particularly the largest countries in the EU, such as Germany, France, Italy, and Spain, require three years or more to secure land for such projects.

In practice, the expected duration of securing land varies from project to project. Estimating a “usual” duration in the respective jurisdictions is therefore difficult and should be treated with caution. Also, the clarification of planning and permitting processes are usually started during the land securing phase, so that these phases can overlap.

The process of securing land for the construction of onshore wind energy projects varies depending on the country and typically involves the use of land lease agreements, securities in rem, or a combination of both. In some rare cases, other instruments may also be used. The targeted durations for these instruments are illustrated in the map below.

What contractual terms are being sought for land contracts in each country?

Figure 4

When onshore wind energy projects are implemented, the land on which the projects are built needs to be secured. This is usually done through land use agreements. The length of these agreements is particularly important.

The economic viability of the respective projects is also determined by the length of these contracts. Financing banks and investors also require a certain term to ensure that the financial instruments used are profitable. In many cases, onshore wind energy projects are only written off after 30 years.

As a result, the study found that in the majority of European countries, land use contracts have a term of more than 30 years. Only a few countries, such as Portugal and Italy, have shorter terms of less than 30 years. Please note that these are average values and the duration of the land use agreements can vary depending on the type and size of the project.

Planning and Permits

The construction of wind turbines requires the designation of areas for wind turbines under zoning law at municipal, regional or state level and the subsequent permits under public law. The structure of the planning and approval procedures and the requirements for the granting of permits differ in the national legal systems.

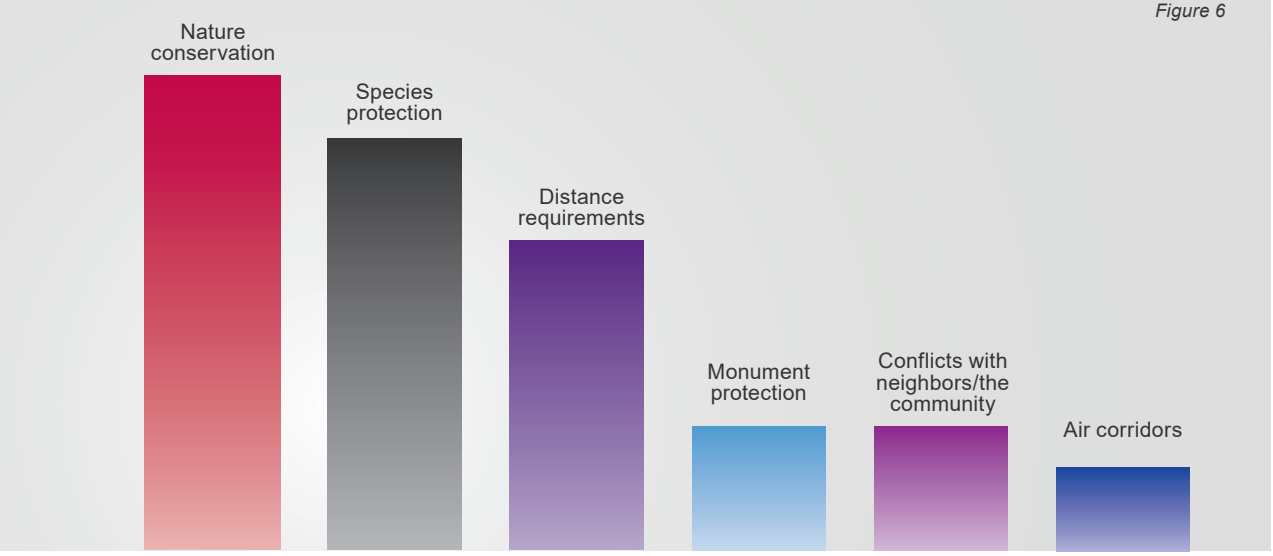
These processes are mostly seen as one of the biggest hurdles for the deployment of onshore wind energy in Europe. The reasons for the lengthy procedures are in many cases the large number and complexity of the legal requirements that need to be taken into account and the staff shortages at planning bodies and authorities. In particular, nature conservation and species protection regulations are seen as the main reason for the lengthy procedures in many countries, as extensive investigations are often required to determine and compensate for the relevant impacts. In addition, there are other typical legal obstacles in many countries, such as distance requirements from nearby residential areas, monument protection and the protection of civil and military radar systems and flight corridors.

How long does it usually take to complete planning and permit procedures for onshore wind energy projects?

Figure 5

Why do onshore wind energy projects fail?

Figure 6



On average, it takes four years to complete the necessary planning and permitting procedures in the jurisdictions surveyed. However, there are considerable differences in the typical duration in the respective countries. The time required for planning and approval can also vary greatly. In Spain, for example, the legal planning aspects can usually be dealt with in a relatively short time, whereas the permitting procedures can take a long time.

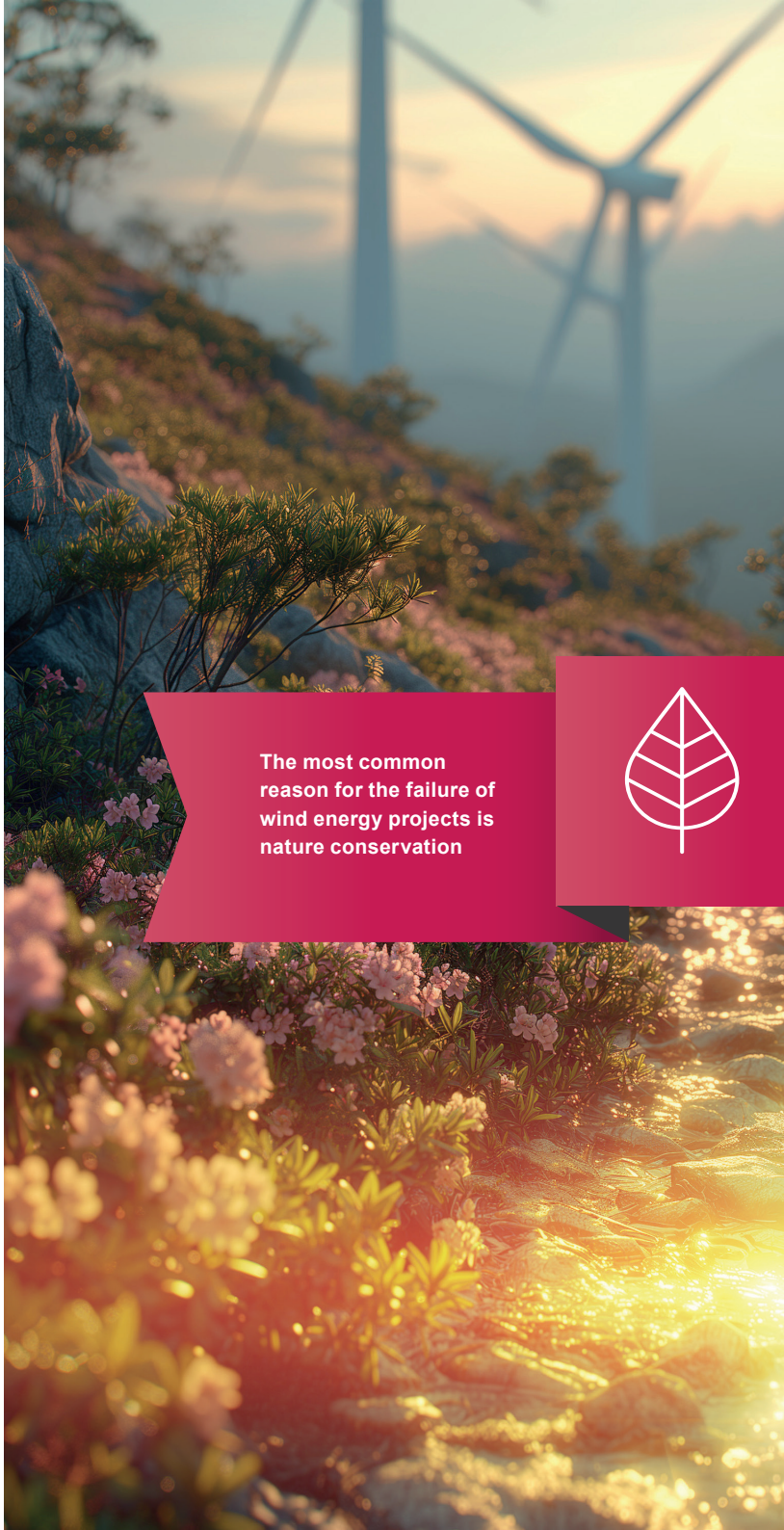
However, a long process duration in itself is obviously not a compelling reason for the stagnant expansion of onshore wind energy. In Sweden, for example, planning and permitting procedures take a very long period of eight years. Nevertheless, this did not stand in the way of the good expansion figures in the past. Conversely, there is still considerable potential for onshore wind energy in Hungary, although not only the time required to secure land but also the planning and permitting procedures are generally short there.

The study found that nature conservation is the most prevalent reason for the failure of onshore wind energy projects. Specifically, 23 out of 29 countries cited nature conservation issues as a significant factor contributing to project failure.

The second most common reason for project failure, as reported by 20 out of 29 participating countries, is species protection. Distance requirements were also identified as a significant factor in project failure, with 15 out of 29 countries citing this as a reason for their wind energy projects not coming to fruition.

In addition, the study found that monument protection, conflicts with neighbours or the community, and air corridors were frequently mentioned as reasons for project failure. These findings suggest that there are a range of factors that can impact the success of onshore wind energy projects.

Overall, the study highlights the importance of considering a variety of factors when developing onshore wind energy projects. By carefully assessing and mitigating potential risks such as nature conservation, species protection, and distance requirements early on, developers can increase the likelihood of project success.



The most common reason for the failure of wind energy projects is nature conservation

Grid Connection

Grid connection is a crucial step in the development of onshore wind energy projects, as it enables the energy produced in the plants to be transported to consumers. However, connecting a wind farm to the grid can be a complex and challenging process, with a range of considerations that need to be taken into account.

In addition to the financial burden of grid connection, which falls on the wind farm developer in all analysed countries, investors also have a keen interest in the regulatory frameworks of the countries involved.

One of the currently biggest challenges and maybe the number one bottleneck to deploying onshore wind energy projects at scale is getting access to the electricity grids. The answers from the participating law firms show that in many countries (≈83%), the existing grid infrastructure is insufficient to accommodate the increasing number of onshore wind energy projects being developed. This can lead to delays in grid connection, as developers may need to upgrade the existing grid infrastructure or build new transmission lines to connect to the grid.

The answers from the participating countries revealed that the financial responsibilities for grid connection efforts typically fall upon the operator or developer of the onshore wind power installation in all of the countries analysed. The study also has shown a clear need for early application for grid connections by project developers (see left graph below). In 52% of the countries, project developers usually apply for a grid connection to the (private or public) grid operators “as early as possible, i.e. right after identification of a suitable project site”. In a number of countries, the application will take place only after the plots of land needed for the wind farm have been secured (24%). The share of countries in which the application is made only after the necessary permit(s) was/were granted makes up 24%. This leads to the conclusion that speed is essential in order to secure the much sought-after resource “grid capacity” for a wind project.

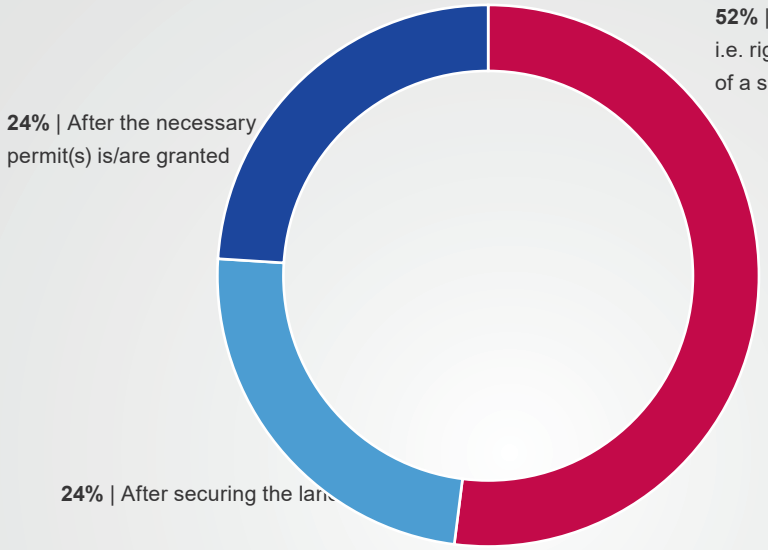
Another key issue which the study has highlighted is the lack of adequate capacities in the grids of the countries. In total 24 out of 29 countries (≈83%) have stated that onshore wind energy project developers face hurdles when it comes to the availability of grid capacities. The often rapidly increasing expansion in the countries, which is not or cannot be accompanied by grid expansion at the same pace, can result in a “bottleneck” for further expansion of onshore wind energy.

In 83%

of countries, onshore wind developers have indicated that there are hurdles regarding the availability of grid capacity.

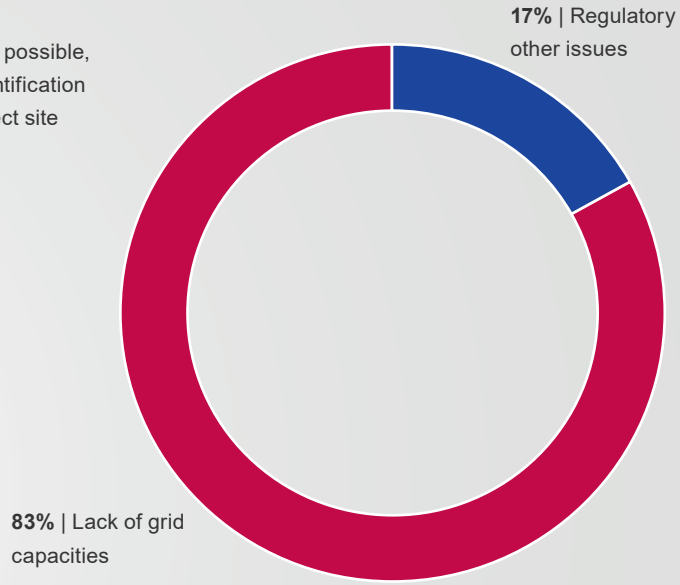
At which stage of a project do project developers have to apply for a grid connection?

Figure 7



Which hurdles in grid connection exist?

Figure 8



Comparing the issues identified in the different countries, it becomes clear many of them face similar challenges related to grid capacity. This leads to a wide-spread necessity for grid expansion to accommodate the growing sector of renewable energy generation. Countries like Austria, Croatia, Germany and the Netherlands are regularly experiencing grid congestion, while others like Finland and Serbia are introducing stricter conditions for connection to the grid. In some countries like Luxembourg and Switzerland, potentially time-consuming planning approval procedures are required, and in others, applicants are obligated to participate in the grid expansion costs (e.g. Türkiye) or have to pay special reservation fees (e.g. Latvia) or provide performance securities (e.g. Lithuania).

Overall, the challenges related to grid connection for wind power are complex and require careful planning and coordination between various stakeholders to ensure a successful project realisation. Also, the relevance of timing in the application process for grid connections in times of decreasing connection capacities cannot be understated as an important factor for the success of onshore wind projects.

Remuneration

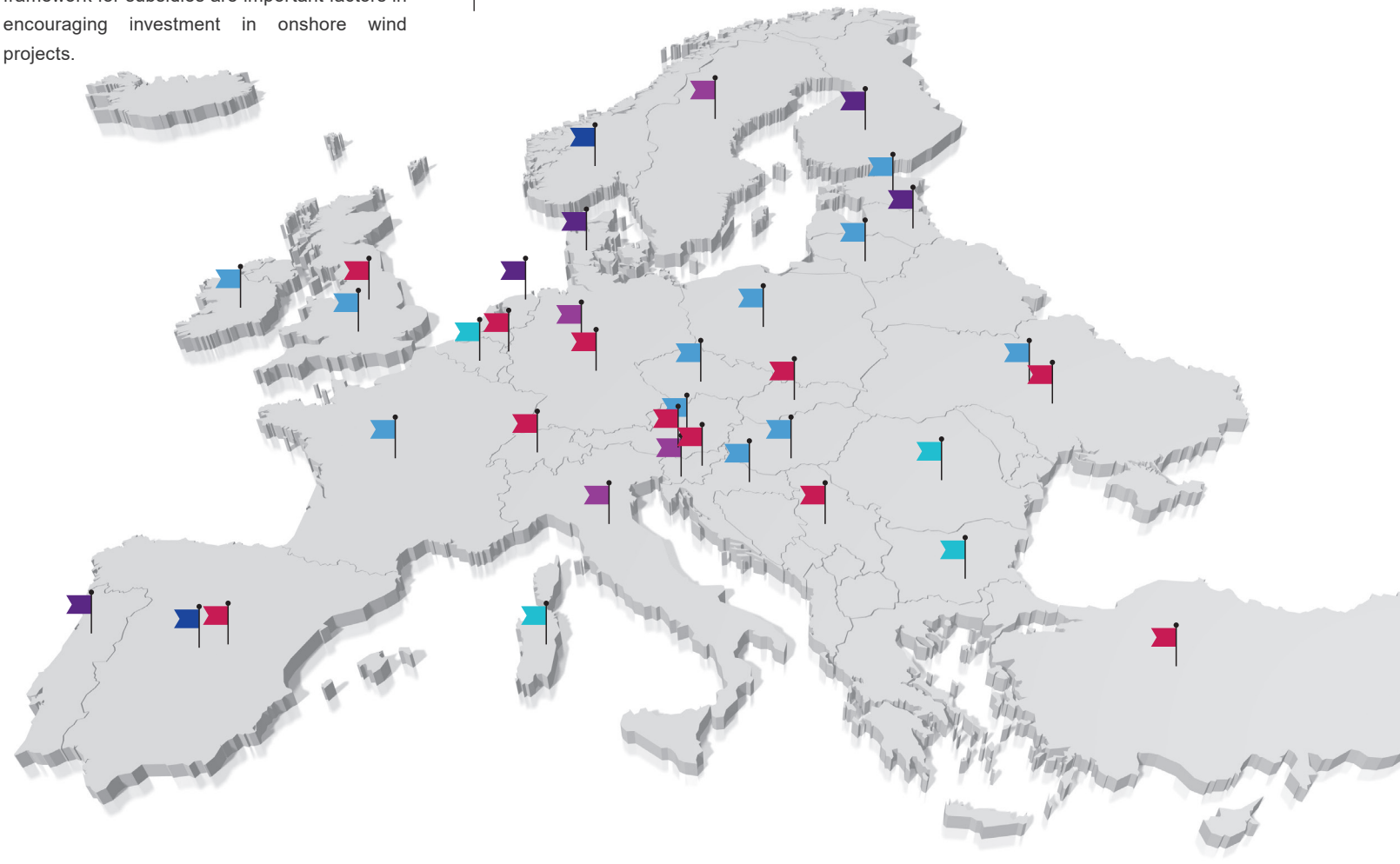
The financial viability of onshore wind projects is strongly influenced by the remuneration/subsidy scheme in place. Our study found that a variety of support schemes are available in the 29 countries surveyed, including feed-in tariffs, contracts for difference and other mechanisms such as lower VAT for wind energy. To strike a balance between reducing the financial burden on the government and ensuring profitability for investors, many countries use a tendering process in combination with these mechanisms to minimise the burden on taxpayers. However, there are also countries where there are no official support schemes and the focus is on direct marketing of wind energy.

The stability and predictability of the remuneration/subsidy scheme is crucial to attract investors and ensure the long-term success of onshore wind projects. The existence of official support schemes and a clear legal framework for subsidies are important factors in encouraging investment in onshore wind projects.

What are the channels for selling electricity from onshore wind energy?

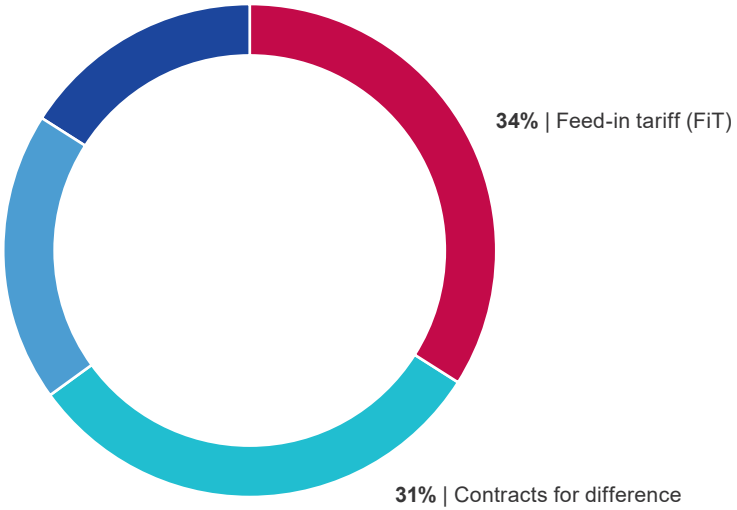
Figure 9

The financial viability of onshore wind projects is strongly influenced by the remuneration/subsidy scheme in place.



What is the distribution of support mechanisms for onshore wind energy across different countries?

Figure 10



There is a surprisingly wide range of support and marketing mechanisms for onshore wind energy in the participating countries. It is worth noting that some countries combine promotion schemes (as indicated by the cross-hatched areas in the map above), whereby the eligibility of a project for a particular scheme usually depends on the installed capacity and/or the commissioning date.

As shown in Figure 10, only 16% of the participating countries currently do not foresee an official promotion scheme, mostly leading to the necessity for operators of onshore wind parks to look for marketing opportunities via PPAs or the spot market (e.g. in Portugal). The still widespread use of promotion mechanisms, however, shows that the participating countries still recognise a need for the promotion of wind energy throughout the EU. At the same time, the increasing implementation of at least market-oriented remuneration models (e.g. market premium in Germany or CfDs in various countries) shows that there is a clear intention to develop onshore wind energy in line with the objectives determined by European law towards complete marketability without state support. The diversity of promotion mechanisms also shows that there is no one-size-fits-all solution and that national characteristics in particular lead to individual approaches.

How are wind power project companies generally structured?

This section of the study focuses on the legal structures used for wind power projects in the participating jurisdictions. With the growing demand for renewable energy and the increasing importance of wind power in the energy mix, it is essential to also understand the choice of legal entity used to operate and manage the project. In particular, whether there is any mandatory prescribed legal form. Different countries have different legal frameworks for wind power projects, and the choice of legal entity can have significant implications for project financing, ownership structures, and liability issues.

With certain exceptions (e.g. Türkiye or Hungary), we generally see that there are no special requirements for the choice of legal form of wind farm operators in the individual jurisdictions. In Türkiye, for example, the choice of legal form is generally prescribed due to the licensing requirements. Under Turkish law, legal entities to be issued a generation license in the market must be established as a joint stock company or limited liability company in accordance with the provisions of the Turkish Commercial Code No. 6762. The same applies to Hungary where the Hungarian Enforcement Decree specifies the form of company in which a licensable activity can be carried out (typically as a domestically established limited liability company or a company limited by shares). Other indicated restrictions are also licence related: In Serbia, for example, any such legal entity for which an energy license is applied for, must be incorporated in Serbia but there is no mandatory prescribed type of legal entity.

Apart from these particularities, the legal form for the operation of the wind power plants can basically be freely chosen. Typically, a special purpose vehicle (SPV) is set up to operate the

wind power project. The separation of individual projects or structures into SPVs is likely to be driven by the need to separate financing and liability levels from each other in most countries and to meet certain unbundling requirements where applicable. Further, establishing an SPV also facilitates a later sale (especially if ownership of the assets, the contractual framework and licenses are concentrated in the SPV).

In almost all jurisdictions, wind power plants are operated in an SPV in the form a LLC, LLP or public company. Limited liability companies or other comparable structures (like stock corporations) typically provide for a limitation of the liability of the shareholders to the contributed share capital. In recent years/decades, the minimum capital requirements for limited liability companies across European jurisdictions have become much more flexible (ultimately also to counter the trend of increased demand for English limited companies). In addition to such LLCs, wind power projects are often set up in a limited partnership, which in most jurisdictions also provides for limited liability (limited to the contributions) for the limited partners. The choice of legal form depends on various factors, including the size and scope of the project, financial resources, tax considerations and also liability assumption of the parties involved. Choosing a limited liability company is on the one hand due to the easy setup. On the other hand, this naturally reduces the risk of the respective financing providers. In Germany for example, there is no prescribed mandatory form to operate wind power plants and typically, these are operated by limited liability companies (GmbH). There are also other legal forms in which wind power plants are operated in Germany, such as partnerships, cooperatives and investor groups.

The ownership structure of wind power projects varies significantly from country to country. In some countries, the electricity market is strongly characterised by publicly owned utilities (Austria), while for some other countries it is stated that both the state and private providers are active in the market. However, from the answers given, it appears that the majority of wind power plants are owned by private investors, without giving an exact figure. However, we can also see that in some countries the ratio is changing due to increased public investment (e.g. Slovenia). Furthermore, there is no real pattern regarding the ownership structure or internal structures in terms of production and supply. The spectrum with regard to the owners ranges from large energy companies (which may be privately or sometime publicly owned) to smaller municipal entities and small private operators, and in some cases even private investors/individuals (e.g., in Belgium, citizen participation is sometimes required as a condition of approval). In certain jurisdictions, SPVs are typically set up as joint ventures (e.g. Finland). However, we cannot identify a consistent structure across the relevant jurisdictions in terms of investment and structure within each entity. In some countries (e.g. driven by local subsidy law like in Ireland) the operational business and generation are separated (in different SPVs), in (most) other countries this seems to play less of a role (e.g. Italy, Luxembourg or Portugal).

In addition, various unbundling requirements apply, particularly with respect to the operation of the grid. In addition to mandatory unbundling requirements, certain jurisdictions indicate that the separation of generation and distribution is a common corporate design. However, this should not be regarded as a standard pattern.

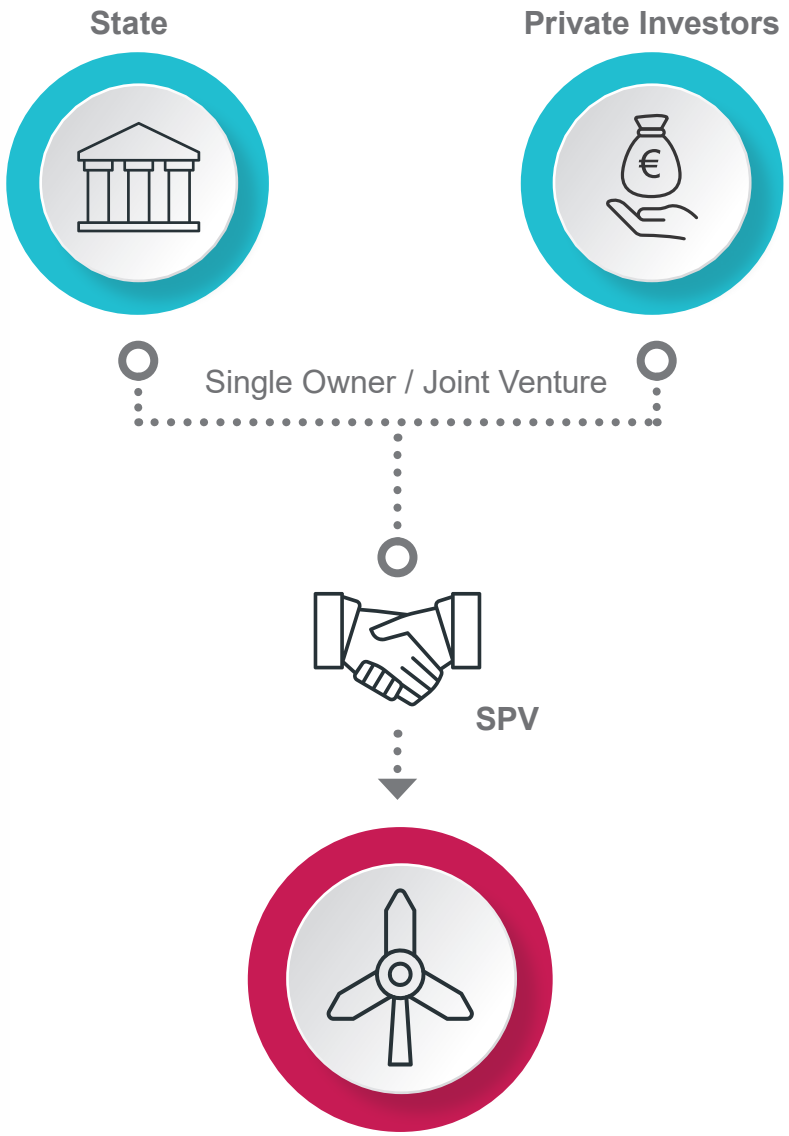


Figure 11

How do countries rate the legal certainty of onshore wind projects in relation to the four issues below?

Country	Securing land	Planning law	Permit situation	Granting of subsidies
Austria	9	8	7	8
Belgium	9	5	2	6
Croatia	8	7	8	8
Czech Republic	9	7	8	9
Denmark	8	8	8	8
Estonia	9	6	7	7
Finland	9	9	8	9
France	10	5	5	8
Germany	8	7	8	8
Hungary	8	8	8	8
Ireland	8	8	8	9
Italy	10	7	6	7
Latvia	9	6	7	10
Lithuania	9	8	6	1
Luxembourg	5	5	5	5
The Netherlands	10	5	5	10
Norway	8	8	6	10
Poland	7	4	5	9
Portugal	6	5	6	6
Romania	9	8	8	7
Serbia	6	7	7	9
Slovakia	9	6	7	8
Slovenia	10	8	8	8
Spain	7	7	7	9
Sweden	5	5	5	5
Switzerland	9	3	3	8
Türkiye	8	7	9	10
Ukraine	7	4	6	4
United Kingdom	8	5	8	6

- 10: Highly transparent and consistently produces predictable outcomes
- 6: Moderately clear but with room for improvement in terms of clarity and predictability
- 1: Lacks transparency and provides no reliable or predictable outcomes

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

The regulatory framework for onshore wind energy in Austria is complex. In Austria, the federal state does currently not have a separate area of responsibility for “energy law” and is therefore not in a position to impose uniform rules on the construction and operation of wind turbines. Instead, the Austrian constitution recognises various legislative powers that are relevant to energy law in general, but also to onshore wind energy in particular. Basically, the provisions on plant authorisation, which are particularly relevant for wind energy projects, are regulated in the respective electricity laws of the individual federal provinces. In addition to the provisions on the authorisation of installations, the various (nine) laws on the regulation of the energy sector also contain provisions on the obligations of producers. However, these provisions are virtually identical in wording to the basic federal provisions for generators. If a large wind farm is to be built that exceeds certain thresholds, an environmental impact assessment (EIA) must be carried out for its approval. In Austria, this is regulated by the Environmental Impact Assessment Act (UVP-G), which also contains a number of exemptions and simplifications for the construction of renewable energy plants and wind turbines in particular.

Local and supra-local spatial planning regulations are also of great importance for the construction of wind turbines. While supra-local spatial planning is the responsibility of the provinces, municipalities are empowered to adopt local spatial planning regulations. These spatial planning regulations often determine whether and, more importantly, where a wind turbine can be built in a province or municipality.

As described above, many different legislative levels in Austria are empowered to set the legal framework for the construction of wind turbines and thus to influence government policy. This division of powers also leads to conflicting policies in practice. While the trend at the federal level in recent years has been clearly in favour of promoting wind power, the same cannot be said for the provincial and municipal levels. While some provinces have already recognised the potential of wind energy, others (mainly in the west) are still hesitant. For example, there are still no wind turbines at all in the three westernmost provinces. This result is mainly due to more difficult spatial planning conditions. While it can be argued that the current federal government is, and will continue to be, supportive of the expansion of wind power, it is doubtful that this is a key policy objective for all government partners.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 15.3% and the share of total domestic renewable energy coming from onshore wind was 17.6%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

Yes, there are binding targets for the expansion of wind energy in Austria.

Description:

According to section 4 para 4 of the Renewable Energy Expansion Act (EAG), 10 TWh of onshore wind energy are to be installed in Austria by the end of 2030, referring to the reporting year of 2020.

04 | Which measures are being taken by the government to promote onshore wind energy?

Financial support

Section 57 EAG: The construction of a new wind turbine with a bottleneck capacity between 20 kW and 1 MW can be subsidised with an investment grant. The amount of the subsidy is determined on the basis of the specified subsidy requirement per kW and may not exceed 30% of the investment volume directly required for the installation.

Section 9 ff EAG: Electricity generated by wind turbines can also be subsidised through the market premium. The purpose of this subsidy is to compensate for all or part of the cost difference between the production costs of electricity from renewable sources and the average market price of electricity for a given period.

Acceleration of planning and approval procedures

According to Section 17 of the EIA Act, energy conversion projects (including wind farms) are now of high public interest. The change was certainly well-intentioned, but the phrase "high public interest" does not yet define an overriding public interest for the required balancing of interests. There are, however, other provisions which at least allow the authorisation procedure to be speeded up.

Binding land use for onshore wind

In principle, wind turbines may only be erected in designated priority zones, but provinces and municipalities can no longer circumvent this requirement by failing to designate priority zones in accordance with Article 3a of the EIA Act.

Sectoral spatial planning programme for the use of wind energy in Lower Austria: This ordinance defines certain zones in the province of Lower Austria, where the respective municipalities are allowed to designate "grassland – wind power plant", on which the construction of wind power plants is permitted. At the same time, the ordinance stipulates that these zones may not be reclassified into other categories.

Ordinance on the zoning of wind turbines in Burgenland: The ordinance defines certain suitable zones in Burgenland within which the construction of wind energy plants is permitted.

Styrian Wind Energy Programme: The programme defines exclusion zones, priority zones and suitability zones for wind turbines. While the construction of wind energy plants is not allowed in exclusion zones, the construction of such plants in priority zones is also possible in concentrated form. Suitability zones are also designated as second priority locations for the construction of wind turbines.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

It should be noted that Austria does not have an effective climate protection law. If such a law existed, it would probably encourage the construction of wind turbines even more.

At present, EIA procedures in Austria are still relatively lengthy. In 2022, EIA procedures took an average of around 20 months from application to approval. Of course, this also affects wind energy projects that are subject to EIA approval. However, the recent amendment to the EIA Act addresses this issue, so it is expected that the duration of the procedure will be shorter in the future. In addition, the Renewable Energy Expansion Acceleration Act (EABG), which is expected to be passed in the Summer of 2024, should also significantly speed up procedures for wind projects that do not require an EIA.

Like many other countries, Austria faces the problem that the wind turbines needed to generate energy cannot be built directly where the energy consumers are located. As a result, the use of wind power potential also depends heavily on the efficiency of the grids that transport the energy from the power plants to the consumers. Grid expansion often lags behind the expansion of power plants.

From a political perspective, it is sometimes argued that wind turbines "destroy the beautiful landscape" or are "bird shredders". It is sometimes argued that Austria does not need wind turbines because there is enough electricity from hydropower. These views are sometimes legally reflected in local and municipal spatial planning.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Five.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights or the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments).

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of 20 to 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of under one year.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Final site plans of the wind turbines and transmission lines are usually required for registration of the easement in the land register. Experience has shown that these are not available until the engineering design has been completed. For this reason, a preliminary agreement or lease is usually entered into at the outset to secure the land. In this case, an easement agreement, signed and notarised by the landowner and the producer/operator, is drawn up after the technical planning and site plans have been completed – most likely in parallel with the permitting process.

11 | Does the securing of the land require registration of rights in an official register?

No.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

No registration required.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Topic is not of relevance.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

In Austria, taxes are levied on the conclusion of certain contracts. The lease agreement and the easement agreement for consideration are such fee-based contracts. The amount of the fees is determined by the term of the contract and the amount of the agreed fee.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

In principle, wind turbines may only be built on the types of land designated for this purpose. However, the type of zoning varies from province to province. Some provinces provide for a separate designation for "wind turbines", others provide for grassland / open land with a special designation for power plants, and others restrict the special designation to power plants for energy from renewable sources. In addition, the various provinces can also implement spatial energy plans, which designate areas for municipalities in which, for example, wind turbines are to be built mainly or exclusively. However, not all provinces make use of this option.

For wind energy plants subject to an EIA, the legislator has decided to introduce a mechanism by which the construction of wind energy plants can no longer be prevented by the fact that a province and/or a municipality has not created the spatial planning framework conditions for their construction. Article 4a para. 1 of the EIA Act stipulates that wind energy plants are to be erected primarily in areas that have been designated as priority zones in the context of supra-local spatial planning (i.e. by the *Länder*).

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 18 to 30 months.

Average duration of permit procedures: 18 to 30 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Nature conservation and species protection play a very important role in both the planning and the permitting process. This is because nature and species protection regulations are one of the most common reasons for the failure of a wind energy project, or at least for significant delays in the permitting process. It is therefore advisable to consider these issues in as much detail as possible at the planning stage.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

c) Distance requirements

19 | Please describe the legal framework for the repowering of wind turbines.

In the past, producers were often faced with the problem that wind turbine types for which a procedure was initiated were no longer available at the end of the procedure due to the long duration of the procedure. If the permitting procedure had to undergo an EIA, it had to undergo a separate amendment procedure for the new wind turbine types. With the amendment to the EIA Act in 2023, Section 18c of the EIA Act was added to the Act. This provision now makes it possible to commission other turbine types than those originally applied for, as long as the change is immission neutral and is not expected to have any significant adverse effects on the protected objects of the EIA procedure. All that is required is a notification to the competent authority. In this respect, it can be seen from the legislative materials that this regulation not only covers new and different types of installations, but also more powerful ones.

However, this option is only available until the acceptance notice becomes legally binding. If a wind farm operator wishes to upgrade wind turbines after this time, either an EIA procedure or an permitting procedure in accordance with the individual material laws must be carried out, depending on the size of the wind park.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

State / public authority / state-owned grid operator.

21 | At which stage of a project do project developers have to apply for a grid connection?

As early as possible, i.e. right after identification of a suitable project site.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

It should be noted that the expansion of the grid in Austria is currently not keeping pace with the expansion of renewable energy production plants. As a result, the grids are already unable to absorb the energy generated at certain times. As a lack of grid capacity is also one of the few reasons for grid operators to refuse a grid connection, this has a negative impact on the expansion of wind power in Austria. This is also one of the reasons why the expansion of wind power came to a standstill last year. While more than 80 wind turbines were installed in 2021 and 70 in 2022, the number of wind turbines installed fell to just 24 in 2023.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

The former Green Electricity Act, which came into force in 2003, regulated the subsidisation of renewable electricity nationwide for the first time and started a decisive expansion phase for sustainable generation technologies. In line with the subsidisation concept, operators of wind power plants receive a guaranteed price for every kilowatt hour generated and fed into the public grid and are therefore not subject to any market price risk. However, due to the significant increase in wholesale prices for electrical energy from the second half of 2021, the direct marketing of renewable electricity proved to be more advantageous for many operators for the first time. The interim decline in subsidised output is therefore due to the fact that the generation of green electricity has become directly competitive in the current price environment and outside the subsidy system. Nowadays, an increase in subsidised wind power output can be assumed again. However, concluded PPAs or marketing via service providers is also possible and common.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

a) Feed in tariff (involves the government setting a tariff price, or a set of prices for specific renewable technology, at which the country's supply companies or grid operators are obliged to purchase all renewable energy exported to the grid)

b) Contracts for difference (CfDs) (this subsidy model defines a fixed minimum remuneration per MWh of electricity. The level of this subsidy rate is usually determined by a tender procedure)

c) Incentives, e.g. lower VAT rate applied for renewable energy systems and dividends from renewable energy source investment made exempt from income taxes

d) Investment subsidy

Description:

The construction of new wind turbines can be subsidised through investment grants. Furthermore, there is a feed in tariff called "market premium" that is considered the most important scheme: Producers offer a minimum price for the electricity they generate in a tender. If the market price is lower than this, the difference is paid out. If the price is higher, there is no subsidy.

26 | How does the application process for the promotion / subsidy scheme work?

Eligibility through tendering process

Description:

In a tender, the operators of a wind turbine offer a minimum price for the electricity they want to generate. If the market price is lower than this, the difference is paid out. If the price is higher, there is no subsidy. If the price is much higher, operators may have to pay a share of the proceeds to the subsidising body.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

20 years.

Description:

In accordance with Section 16 EAG, market premiums as the most important funding instrument are granted for a period of 20 years from the date the plant is formally operational.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

The remuneration will be paid in kWh for all described promotions and subsidies.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

In principle not, but it should be noted that funding is provided within the framework of calls for tenders and that funding conditions and applications must be complied with.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

There are no legal restrictions with regard to the legal form of the operating company. As a rule, these companies are founded in the legal form of a GmbH (which is an Austrian limited liability company). Advantages of the GmbH: typical liability privileges of a corporation, no high start-up costs in financial and administrative terms, easy saleability of the project via the project company.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

The ownership structure of wind farm operators in Austria is generally diverse. However, the majority of them are in the hands of large Austrian energy suppliers, in which the public sector has a majority shareholding.

The Austrian electricity market is strongly characterised by publicly owned electricity suppliers. In Austria, each federal state has more or less its own electricity supplier, which has been increasingly interlinked for several years through mutual shareholdings in the form of alliances. These state-owned electricity suppliers currently also dominate the electricity generation market. Non-governmental companies are also active in the Austrian wind energy market as producers and suppliers. Some of them are based abroad (mainly in Germany). Occasionally, joint ventures are established between municipalities and companies for the operation of wind farms.

Irrespective of unbundling regulations, which make it mandatory to have separate grid companies, it is common practice for large energy companies to separate the areas of generation and sales. In addition, there is often more than one sales or power generation company in a group (SPVs).

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with nine,*

(ii) *planning law with eight,*

(iii)*permit situation with seven, and the*

(iv)*granting of subsidies with eight.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

As mentioned above, according to the responsible ministry, the Renewable Energy Expansion Acceleration Act is currently being finalised. This is intended to introduce further procedural acceleration with regard to procedures for energy transition projects. For example, energy transition projects are to be carried out according to a one-stop-shop procedure even if they do not fall under the EIA obligation. It is to be hoped that this law will be passed by parliament before the summer of 2024.

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

I. At the beginning of 2023, the onshore wind energy capacity installed in Belgium was around 3 GW, with a production around 4.4 TWh in 2022.

II. Energy policy is divided between the federal level and the regional level (Flanders, Wallonia and Brussels). Onshore Wind Energy is a regional matter, and thus the applicable regulation and market reality will vary depending on where the wind farm is located.

III. Flanders and Wallonia are expanding their onshore wind capacity and have a positive look on the development of onshore wind energy, and are willing to expand their capacity. Conversely, Brussels is a heavily urbanised region, not suited for traditional onshore wind, with almost no wind turbine in operation or in development.

IV. The key players in the onshore wind energy market include Engie, Luminus, Eneco, Renner Energies, Ecopower, and Elicio). Participations from municipalities or citizens do exist in some cases.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 8.2% and the share of total domestic renewable energy coming from onshore wind was 26.2%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

Yes, there are binding targets for the expansion of wind energy in Belgium.

Description:

There are binding targets for the expansion of wind energy at regional level.

In Flanders, the target (according to the regional Energy and Climate Plan "VEKP") is to install 2,642 GW by the end of 2030. In Wallonia (according to the Climate Plan – more specifically the "pax eolienica") 6.2 GW are to be installed by the end of 2030.

04 | Which measures are being taken by the government to promote onshore wind energy?

In Flanders, some of these measures are:

financial support to production through green certificates;

facilitating the permit procedures;

empowering local authorities and setting up pilot projects with large wind turbines on public land;

the targeted opening up of certain zones for wind energy, such as around motorways;

facilitating the siting of wind turbines in certain zones (such as landscape-valuable agricultural areas and in areas with green zoning).

In Wallonia, the measures include:

financial support to production through green certificates;

revising the legal framework to facilitate the procedures;

reducing the total duration of the procedure leading to the final granting of licences and facilitating wind energy deployment;

implementing compensatory measures including those favourable to biodiversity;

improving the social acceptability of wind projects and the involvement of local authorities and citizens in them.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

Most of the obstacles are due to the poor public perception of citizens of wind energy, the citizens start lengthy procedures that block the development of wind energy projects.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Seven.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

- *Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments).*

- Besides the possibility to directly purchase land and become a full owner (of the land and the constructions erected thereon), we usually conclude a building for this kind of project. By virtue of this building right, the operator is entitled to erect a power plant and is the owner of this plant for the entire duration of the building right.

- This building right is in principle (unless contractually limited in the agreement) transferrable, seizeable and mortgageable.

- Please note that if the land belongs to the public domain, authorities usually conclude a "concession agreement" (an administrative-law agreement), which is an agreement of a precarious nature (it may always be terminated by the public authority who owns the land (in the general interest)). In such case, the right of the operator to transferred, seize or mortgage the concession agreement is limited (and subject to the approval by the public authorities). The principles of good administration (equality, transparency and competition) apply to this type of contract.

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of more than 30 years.

- Regarding the right to build: The law does not require a minimum duration, but the maximum duration is 99 years.

- Regarding concession agreements (on public domain): The maximum of 99 years also applies. Within that limit, parties are free to organise their contractual relationship as they wish, but the principle of "proportionality" applies (considering the fact that the principles of equality, transparency and competition must be respected regarding public domain). It is market practice to agree on a duration of +/- 20 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Only notary deeds can be transcribed. The notary deed will be transcribed within one month from the signing before the notary; the notary will pay the registration fees within 15 days to the administration. Please note that registration fees are due within four months after the conclusion (or entering into force, if the agreement is subject to condition(s) precedent) of the private deed.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Topic is not of relevance.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

- Spatial planning and its rules are particularly important when considering the granting of permits.
- Preliminary soil examination is obligated for building rights and recommended for concession agreements.
- Existence of securities in rem is to be checked (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments).
- Option agreements are common practice in the field of development of renewable energy projects, all the more taken into account the long development process (for obtaining the permits, examining the soil etc.).

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

Flanders: Siting might require a planning procedure if zoning regulations do not allow wind turbines (but this is rarely the case because of an exemption scheme for wind turbines). Apart from planning the building and operating of a wind turbine, they are both subject to specific permit obligations both aspects can be requested for in one environmental permit request.

Wallonia: In the Walloon Region, the implementation of a wind turbine project requires a so-called “single permit”, i.e. a planning permit for its construction plus an environmental permit for its operation. The procedure to be applied varies according to the wind turbine’s capacity. For wind turbines or wind farms with a total capacity equal to or greater than 0.5 MW, the Walloon legal framework foresees a “single permit procedure”. The redline of the procedure is the following:

Preliminary information meeting: For wind turbines with an installed capacity of 3MW or more (class 1 projects), a preliminary information meeting must be held before the permit application is submitted. The purpose of this information meeting is to enable the applicant to present the project and to enable the public to obtain information and make observations or suggestions on the project.

Impact assessment : An impact assessment notice prepared either by the applicant or an expert must be provided for wind turbine(s) with a total capacity of 0.5 to 3 MW (class 2 projects). For class 1 projects, an impact assessment study must be prepared by an accredited expert.

Examination by the competent authority : Once the permit application has been submitted, it is then evaluated by the competent authority, which decides whether to grant the permit in question.

If the permit is granted, it will be valid for 30 years.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 18 to 30 months.

Average duration of permit procedures: six to 12 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

In the Walloon Region, the impact of wind turbines projects on the nature and the species is specifically assessed in the impact assessment notice or in the impact assessment study:

The impact assessment notice will point out the main ecological parameters of the project and will also highlight the effects of the project on the environment (in the broadest sense of the word, i.e. nature conservation, species protection, nuisance for the nearby residents, etc);

The impact assessment study identifies, describes and appropriately evaluates the direct and indirect effects, in the short, medium, and long term, of the siting and implementation of the wind turbine project on man, fauna and flora, soil, water, air, climate, landscape, material assets and monument protection, as well as the interaction between these factors. The minimum content of the impact assessment study is defined by the Walloon Region.

Flanders:
It is of particular importance, and is included in the spatial planning and thus also the allocation of permits.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Nature conservation

b) Distance requirements

c) Agricultural protection

d) Limiting of nuisance to citizens

19 | Please describe the legal framework for the repowering of wind turbines.

Topic is not of relevance.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

The TSO or the DSO depending on which grid the farm is connected.

21 | At which stage of a project do project developers have to apply for a grid connection?

After receiving the necessary permit(s).

22 | Who has to bear the costs of the grid connection?

The developer of the wind farm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

Grid capacity could be an issue in some areas of the country.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Belgian windfarm operators mainly generate profits by the conclusion of power purchase agreements with offtakers. Other systems, such as energy sharing in peer-to-peer relations (through energy communities) only make out a small part of the sold power by producers of wind energy.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

- *The green energy certificates.*

Description:

The green energy certificates are attributed per certain amount of produced MWh of green energy. These certificates can be sold through the energy market regulator (Brugel in Brussels, CWaPE in Wallonia and VREG in Flanders).

26 | How does the application process for the promotion / subsidy scheme work?

- *Definition of eligible plants by statutory law.*

Description:

The application of the green energy certificate mechanism for wind energy is mostly linked to the capacity of the installation (e.g. in Flanders, production installations with a capacity from 10 to 300kW are subject to ''Calls green Energy" instead of the green energy certificates, whereas above 300kW the 'classic' regime is applicable).

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

12 years.

Description:

Usually the duration is around 12 years.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

See the previous questions.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

None that were not mentioned/are mentionable.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

Usually, they are operated in the form of a private companies – there is no mandatory form.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

A special purpose vehicle is typically established for a wind farm project, which is controlled by either a specialised onshore wind player, or an integrated group of the energy sector. Sometimes, a citizen participation is allowed or imposed by the authorities as a condition of permits. The implementations of EU unbundling rules (with respect to grid activities) apply. Typically, the SPV is a private company owning the plant but subcontracting its operation. In some cases, public structures can have a participation in the SPV.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with nine,*

(ii) *planning law with five,*

(iii)*permit situation with two, and the*

(iv)*granting of subsidies with six.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

Removing barriers to onshore wind development due to military regulation is an issue.

Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

The Croatian energy legislative regulatory framework is based on several acts and related bylaws, in addition to the regulations adopted by the competent regulators and grid system operators.

The basic principles of the energy sector, the main permitting procedures in relation to production and supply of electricity, as well as competences and powers of regulatory governmental bodies are defined by the Croatian Energy Act as the sector umbrella law.

The relations, stakeholders and organisation of the electricity market and procedure for connecting to the grid are defined by the Croatian Electricity Market Act and its bylaws.

The key document regulating matters of renewable energy and high efficiency cogeneration is the Croatian Act on Renewable Energy Sources and High-Efficiency Cogeneration and related bylaws. The Act on Renewable Energy Sources and High-Efficiency Cogeneration introduced a new incentive system for RES and high-efficiency cogeneration in Croatia – market premium – and, for RES power plants up to 500 kW of connection capacity, a guaranteed purchase price.

All policies directed towards development of onshore wind energy projects are adopted at the state level through the legislative process conducted by the Croatian Parliament and by adoption of necessary bylaws by competent regulators and grid system operators. Key authorities are:

- The Government of the Republic of Croatia,
- The Ministry of Economy
- The Croatian Energy Regulatory Agency (HERA),
- The Croatian Energy Market Operator (HROTE).

The use of renewable energy sources, including wind, is one of top priorities of the Croatian Government, and is reiterated in several energy strategies, as well as further supported in the form of market premium.

The Energy Development Strategy of the Republic of Croatia until 2030, with an outlook to 2050, foresees for the share of renewables in the total energy consumption to grow to 65.6% in 2050, thus outreaching goals set in the EU's Fitfor55 strategy. By 2030, wind energy is expected to account for 21.3% of power generation from RES sources, solar energy for 6.1% and geothermal for 0.8%. Hydro power will still account for the majority of electricity production from renewables with a 44% share, which is less than today's 47%.

There are no specific policies or incentives towards onshore wind energy.

Key players in the development of onshore wind projects are, in most cases, foreign private developers present on the EU or world energy markets. In addition, several investments into

wind projects have been made by the majority-state owned electricity provider Hrvatska elektroprivreda, d.d. (HEP).

The day-ahead and intraday market of electricity are organised and managed by the Croatian Power Exchange Market (CROPEX).

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 15.80% and the share of onshore wind energy from other renewable energies was approx. 40%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in Croatia.

04 | Which measures are being taken by the government to promote onshore wind energy?

Financial support

The Act on Renewable Energy Sources and High-Efficiency Cogeneration abandoned the Feed in Tariff model and introduced the market premium model.

The market premium is defined as a difference between the reference value (price) of electricity (which is subject to the public tender – market premium auctions – where the bidder that offers the lowest reference value is declared as most favourable, and which is determined in the market premium agreement) and the reference market price of electricity within an accounting period (which is published by the market operator on a monthly basis taking into account the prices of electricity in the previous month, differences between various technologies etc.).

The Act on Renewable Energy Sources and High-Efficiency Cogeneration also includes a so-called "negative" market premium (if the market price is, on a monthly basis, higher than the amount of the reference price determined by the market premium agreement, the project holder shall be obliged to pay to the market operator a difference between the market price and the reference value).

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

Barriers in the grid regulation and infrastructure

Description:

Until recently, there was a standstill in processing of requests for the connection to the grid, due to the lack of applicable bylaws. Even though some of the bylaws have been enacted, there is an ongoing delay in determining the grid connection unit price. This has created uncertainty in the RES sector, preventing accurate calculation of connection costs and hindering project progress, which is essential for assessing their financial viability.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Six.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

- *Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)*

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

In principle, the duration of agreements necessary for securing the land rights usually corresponds to the duration of the project itself, with the additional certain ("grace") period before the project starts, minding the bankability criteria. In practice, that may be for a period of 30 to 40 years with a possibility of multiple extensions envisaged.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

In principle, the prescribed deadline for the land registry to issue a decision on registration upon a duly completed request for registration of a certain land right is up to 15 business days as of receipt of the request. However, in practice, registration of a certain right may take longer than the prescribed deadline (this deadline mostly tends to be extended when, due to the principle of priority (meaning that registration in the land registry and determination of priority of rights with respect to a particular real estate will be carried out according to the timing of the

receipt of the submitted request) there are requests that have been priorly filed for a certain real estate).

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

In Croatia, easement agreements, based on which wind projects are usually developed and constructed, are simple in form and contain general clauses referring to the relevant wind project and its possible variations, thus leaving an option for potential technical changes to the project.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

There are certain considerations that should be taken into account when it comes to differentiation between different types of land (i.e. construction, agricultural, forest) and whether the land is publicly or privately owned.

Land plots owned by local authorities can be alienated by the competent authorities based on a public tender. A real right for the purpose of wind power plant construction can be established on state owned land without holding a public tender if the investor is selected in a public tender for awarding of an energy approval. Once issued to the investor, the energy approval, in principle, "secures" the location of a project, i.e., its development with respect to specific land plots listed in the energy approval. For resolving the title on privately owned land, there are no prescribed procedures and public tenders required and the length and complexity solely depends on negotiation and good will of the parties.

For establishment of a real right on a state-owned forest and forest land, a request is submitted to the Croatian Ministry of Agriculture together with the decision that the investor has been selected for an energy approval and a location permit. In principle, agricultural state-owned land can be disposed only for agricultural purposes, with the exception of establishing real rights which can be established on agricultural land based on a location permit and/or construction permit. This is possible only if such land is designated as being part of construction area in the applicable spatial plan.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

The main steps include:

- Ensuring that the development and construction of a wind power plant on certain land plot is even possible by, if necessary, amending the applicable spatial plans. Applicable law is the Spatial Planning Act and its bylaws.
- Obtaining of the energy approval, an approval of the Ministry of Economy issued in connection with construction of an energy facility upon request of a physical or legal entity, which enables the registration of such entity in the RES Registry and acquiring the status of a project holder. It is one of the first documents obtained in the development process.
- Environmental Impact Assessment: Obtaining of the decisions of the Ministry of Economy or other competent authority on acceptability of the renewable energy sources project for the environment and, if applicable, Natura 2000.
- Grid Connection: Obtaining of a complex document which, inter alia, analyses the possibilities of connecting of a project to the grid with an aim to determine the optimal technical solution for the respective connection and estimate the costs connected therewith – so-called EOTRP. In addition, obtaining of the electro-energy consent (a document which defines the possibility of connection, determines the technical, economic and other conditions for connection of the future power plant to the grid, and sets out various conditions connected with the aforementioned (e.g., special conditions for the location of the power plant, creating of technical conditions in the grid).
- Obtaining of (i) location permit, (ii) construction permit, and (iii) use permit, regulated under the Construction Act and the Spatial Planning Act.
- Conclusion of agreements with the grid system operator: electricity supply agreement, substation management agreement, grid use agreement.
- If applicable, performing of the trial operation.
- Obtaining of the use permit and the relevant energy permit by the energy regulatory agency.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 12 to 18 months.

Average duration of permit procedures: 30 to 48 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Nature conservation and species protection are mandated by law. Namely, environmental impact assessment is one of the key documents that has to be obtained in the development process of any renewable energy project. Preliminary environmental impact assessment applies to projects that are likely to have significant environmental impacts. The process should be finalised within two months from receiving the complete and orderly request. By way of exception, this two-month period may be prolonged by the competent authority.

An environmental impact assessment/study is mandatory for power plants of connection capacity higher than 100 MW. The process has to be finalised within four months from receiving the complete and orderly request. If additional actions need to be taken, this deadline can be prolonged for additional two months.

Natura 2000 EIA requires performance of more complex procedures and includes (i) Natura 2000 preliminary assessment, (ii) Natura 2000 main assessment, and (iii) determining of a prevailing public interest with implementation of

compensatory measures. If the possibility of significant negative impact on Natura 2000 is not ruled out during the preliminary EIA, the main environmental impact assessment will have to be conducted.

If the request for Natura 2000 main assessment is denied, within one year, the project holder may apply to the Ministry of Economy for a decision on determining the prevailing public interest (that being the protection of public health and safety or establishment of significantly more favourable conditions of primary importance for the environment) and the approval of compensatory measures for the project. Such a decision can be adopted by the Croatian Government (with a prior approval from the European Commission in cases of prevailing public interests other than the aforementioned).

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

19 | Please describe the legal framework for the repowering of wind turbines.

There is no specific legal framework regulating the repowering of wind turbines in Croatia. Depending on the specific repowering process, e.g., the replacement of an existing wind turbine with a new wind turbine of higher connection capacity, certain permitting requirements are possibly triggered. This may result in obligations to perform a new environmental impact assessment, as well as to obtain new construction-related permits.

In Croatia, easement agreements, based on which wind projects are usually developed and constructed, are simple in form and contain general clauses referring to the relevant wind project and its possible variations, thus leaving an option for potential technical changes to the project. To the best of our knowledge, there have been no repowering processes in Croatia, which would include replacement of existing wind turbines.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

State / public authority / state-owned grid operator.

21 | At which stage of a project do project developers have to apply for a grid connection?

As early as possible, i.e. right after identification of a suitable project site.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

The Croatian Transmission System Operator announced in its ten-year plan that it will be necessary to invest approx. EUR 359 million in the development, reconstruction, and revitalization of the transmission grid (excluding connections) over the next three years, and a total of approx. EUR 777 million over the next ten years.

The total investment for connections is projected to be approx. EUR 15 million over the three-year period, and approx. EUR 346 million over the ten-year period. The required investment for connection of power plants to the transmission grid primarily depends on the actual construction of such facilities.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Generally, most of the wind farms in Croatia constructed in the past decade fall under the feed-in-tariff support system, under which all producers sell all generated electricity to the Croatian Energy Market Operator under a predetermined fixed price. Now, new power plants are eligible for the market premium, in which the premium tariff is paid by the energy market operator to electricity producers on top of the price they achieve on the energy market. The legislation also recognises so-called “negative” market premium (i.e. if the market price is, on a monthly basis, higher than the amount of the reference price determined by the market premium agreement, the production facilities are obliged to pay to the energy market operator a difference between the market price and the reference price).

Apart from the above, legislation also recognises corporate power purchase agreements. Virtual PPA would be possible without any particular additional regulatory requirements. However, a direct corporate PPA would need to fulfil additional formalities. This is because the current legislation defines electricity sale purchase agreements between various market stakeholders (i.e. producer – supplier – consumer), of which all must have their respective licences and may act on the market only towards predefined counterparties. Producers may therefore sell their electricity to suppliers or traders, and not directly to end consumers. Therefore, in order to execute a direct corporate PPA, either the producer or the corporation as the end consumer would need to obtain a supplier’s licence in order to fulfil the statutory preconditions.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

- Contracts for difference (CfDs) (This subsidy model defines a fixed minimum remuneration per MWh of electricity. The level of this subsidy rate is usually determined by a tender procedure.)

Description:

The Act on Renewable Energy Sources and High Efficiency Cogeneration envisages a promotion/subsidy scheme in the form of market premium. Market premium is defined as a difference between the reference value (price) of electricity and the reference market price of electricity within a specific accounting period (published by the market operator on a monthly basis).

26 | How does the application process for the promotion / subsidy scheme work?

- Eligibility *through tendering process*

Description:

The market premium is awarded through a public tender, which is prepared and carried out by the market operator at least once every three years and is payable on top of the net amount of electricity released by the producer into the grid and sold on the energy market. The market premium is defined as a difference between the reference value (price) of electricity and the reference market price of electricity within a specific accounting period (published by the market operator on a monthly basis). The reference values (price) of electricity are subject to the public tender, i.e., market premium auctions, where the bidder that offers the lowest reference value is declared as the most favourable. The applicable Act on Renewable Energy Sources and High-Efficiency Cogeneration also introduced a so-called negative market premium. In case of a monthly basis, the market price is higher than the amount of the reference price determined by the market premium agreement, the project holder will be obliged to pay the market operator the difference between the market price and the reference price.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

12 years.

Description:

Market premium agreements are concluded for a period of 12 years.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

Market premiums are determined as remuneration per MWh.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

After the introduction of the market premium to the Croatian energy market, there has been low interest in the market premiums. Namely, one market premium auction was held in June 2022 and intended to award premiums for power plants with a total capacity of 638 MW, however, the interest was low and only bids covering only 150 MW were received. The reasons for failure of the auction were connected to the high electricity prices achieved on the open market at that time, as well as the cap of EUR 180/MWh imposed by the European Commission. The latest market premium auction in Croatia was held in June 2024, allocated 419.063 MW of renewable energy capacity, which shows increased interest for Croatia's renewable energy market.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

There is no particular legal requirement on the type of legal entity for the operation of wind energy plants. In practice, wind energy plants are predominantly organised in the form of limited liability companies.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

Wind energy plants are typically operated by an SPV, owned usually by a single shareholder, i.e. private investor or majority-state owned. The ownership of the plants and the operational business (licenses, contracts) is not held in separate SPVs. Ownership unbundling is envisioned by the Croatian Electricity Market Act as the obligation to unbundle the transmission system operator by prohibiting the same person from:

(i) exercising control over entities that perform production or supply activities while simultaneously exercising control or any other right over the transmission system operator or the transmission system;

(ii) exercising control over the transmission system operator or the transmission system while simultaneously exercising control or any other right over the entities that perform production or supply activities;

(iii) appointing supervisory or management board members or bodies that legally represent the transmission system operator or the transmission system while exercising control or any other right over entities that perform production or supply activities;

(iv) performing the function of the supervisory or management board members or bodies that legally represent entities that perform production or supply activities at the same time as the transmission system operator or the transmission system.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with eight,*

(ii) *planning law with seven,*

(iii)*permit situation with eight, and the*

(iv)*granting of subsidies with eight.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

Currently, there are no regulatory developments or related issues to be elaborated under this question.

Czech Republic

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

The wind energy sector in the Czech Republic has been growing, and there has been an increase in installed capacity over the years. The total installed capacity reached approximately 400 MW in May 2023. The current Integrated National Energy and Climate Plan of the Czech Republic for the period 2021-2030 (approved by the Czech government) identifies the development of wind energy as one of the Czech Republic's top priorities in the renewable energy sector. Regulatory frameworks related to permitting, licensing, grid connection and environmental impact assessments have an influence on the development and operation of wind projects. The main pieces of relevant legislation include: the Energy Act (Act No. 458/2000 Coll.), the Renewable Energy Act (Act No. 165/2012 Coll.), the Building Act (Act No. 283/2021 Coll.) and the Environmental Impact Assessment Act (Act No. 100/2001). The wind energy market in the Czech Republic has several key players, including both domestic and international companies involved in the development, construction, and operation of wind farms.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 0.91% and the share of total domestic renewable energy coming from onshore wind was 6.28%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, the Czech Republic has no binding targets for the expansion of wind energy.

04 | Which measures are being taken by the government to promote onshore wind energy?

Temporary acceleration of permitting processes

According to the EU Renewable Energy Regulation, the whole permitting procedure with respect to the repowering of wind power plant (the "WPP") which increases its capacity, must be finished within six months from submitting the application. The regulation further provides that an EIA with respect to repowering of a WPP, or the upgrade of a WPP related grid infrastructure, must be limited only to the potential significant impacts stemming from the change compared to the initial WPP project. Measures are temporary, as the regulation is applicable on proceedings commenced before 30 June 2024. After that date, the standard construction permit procedure will apply.

Simplification of the permitting procedures

The following overview is based on the New Building Act which became effective from 1 July 2024. In general, all WPPs require a construction permit and an occupancy permit. However,

certain WPPs may not require a construction permit (WPPs with a maximum capacity of up to 50 kW), if certain conditions are met (such as location out of certain specially protected areas or out of certain special areas defined by the Ministries), or an occupancy permit (WPPs with a maximum capacity of up to 100 kW). To accelerate permitting processes, the determination proceeding on whether the project requires an EIA is not generally required for a WPP with a tower higher than 50 m if: (i) the WPP park contains a maximum of up to three WPP turbines, (ii) the WPP is not located in certain protected areas, and (iii) there is no other existing or planned WPP located within three kilometres. If the WPP is located in the specially protected area or in its protection zone and reaches at least 25% of the relevant limit volumes, the authorities may still require to carry out a determination proceeding on whether the project requires an EIA.

WPPs in undeveloped areas

WPPs with a maximum capacity exceeding 1 MW may be newly established in the areas not designated for construction under certain conditions (e.g. if the WPP is in line with the character of the area and is not expressly excluded by the spatial documentation) without the need for changes to the spatial documentation.

Financial support

Operational support for a WPP can take the form of green bonuses and auction bonus support. Investment support is provided through various subsidy schemes (national and EU funded).

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

The main obstacles to the WPP development are conflicts with third parties (in particular public opposition), the complex planning and permitting process, nature and landscape protection and grid capacity.

Conflicts with third parties

During the preparation phase for the construction of WPPs, municipalities often initiate public referendums on the planned installation of WPPs in their territory. If the WPP project is rejected by the residents of the municipalities, the WPP project cannot be permitted. There have already been a number of referendums in which the residents have rejected proposed installation of WPPs.

Complex planning process

The spatial documentation (see Part D for more details) issued by respective municipalities often sets very strict conditions for the installation of WPPs. In practice, it sometimes means the impossibility of WPP installations. Although the courts have repeatedly ruled that such a practice is illegal. Brighter future for WPPs regarding the planning process may thus be cautiously expected. Also, respective change of spatial documentation (which is often necessary) may generally take a year or even several years, depending on the size of the municipality.

Complex permitting process

The following overview is based on the New Building Act which is fully effective since 1 July 2024.

The complexity of the process leading to the installation of a WPP may vary, depending on the size of the WPP project. In case of complex WPP projects, the whole permitting process includes full EIA assessment, permitting proceedings, WPP trial operation and finally the occupancy proceedings. Such a process may include, at the different stages of the proceedings, obtaining binding opinions of the concerned authorities (in particular with respect to the nature and landscape protection, species protection, noise and air corridors), public hearings, dealing with objections and comments from the authorities concerned, as well as from NGOs and the public and related redesigning of the project documentation etc.

Grid capacity

The availability and capacity of the grid infrastructure is an important factor affecting a WPP development but the adequate grid connections with sufficient capacity may not always be available.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Eight.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Land purchase agreements

c) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

08 | under question 7 – What duration/ contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of 20 to 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of under one year.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after

identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Usually one month.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

It depends, in particular, on how the necessary land rights or the installation of WPP are secured.

In the case of the land purchase agreements, the topic is not of relevance, because the operator as the owner of the land has full rights to repower the WPP, provided that the any relevant public law permits are obtained, if applicable, and the repowering does not interfere with the private rights of other subjects (e.g. the rights of the owners of neighbouring parcels of land). The land lease agreements regularly contain clauses allowing replacements and, in some cases, a corresponding increase of the lease fee. The security in rem agreements typically define the scope of the activities and the purpose that the operator may carry out in relation to the land, including the maintenance or repowering of the WPP.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

When securing the land rights by the land purchase agreements, the registration of rights in an official register is required, otherwise the acquisition of the land is not effective.

When securing the land rights by the security in rem agreements, the registration of rights in an official register is required, otherwise the security in rem to the land is not effective.

When securing the land rights by the land lease agreements, the registration of the agreement in an official register is possible and recommended for higher legal certainty of the WPP operator.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

Overview is based on the New Building Act, applicable to certain structures since 1 January 2024 and fully effective from 1 July 2024.

Planning procedures: The spatial planning documents are generally encountered by investors in the course of reviewing an area for potential development. The most important are zoning plans adopted by a relevant municipality for its territory, containing the detailed information, such as whether areas are capable of being developed, and under what conditions. The process leading to the changes of spatial documentation may usually take a year or even several years, depending on the number of objections, the complexity of the proposed changes or the size of the territory.

Permit procedures: With some exceptions defined by the EIA Act, the EIA is a mandatory part of the WPP permit procedure prior to the construction permit procedure.

The procedure can be divided into three phases:

(i) Before the construction permit procedure is initiated, the relevant building authority will provide the preliminary information on conditions of use of the territory on the basis of spatial planning documentation to the applicant; criteria for assessment and the conditions under which the construction permit may be granted, and the range of concerned authorities..

(ii) In the construction permit procedure, the building authority decides whether a construction can be located on certain land and under what conditions. It usually decides on the conditions for the construction, the respective timeframe and other relevant requirements. The application must be accompanied by a number of documents relating to the documentation for the construction permit procedure (e.g. construction design, situational drawings, binding opinions from the concerned authorities and other documents required by legislation).

(iii) The purpose of the occupancy permit is to enable the final use of a construction. The permit sets out the conditions under which such a structure can be used.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 12 to 18 months.

Average duration of permit procedures: 12 to 18 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Nature conservation and species protection play the key roles in the planning and permit procedures. In order to obtain a construction permit, the binding opinions of concerned authorities in matters relating to the nature conservation, landscape and species protection must be issued. The application for a construction permit must be accompanied by the binding opinions from the concerned authorities.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

c) Conflicts with third parties

19 | Please describe the legal framework for the repowering of wind turbines.

The legal framework for the repowering of wind turbines is similar to the permitting of the initial construction, governed by the EIA Act and New Building Act, and it depends on the means how the land rights are usually secured.

In the case of the land purchase agreements, the operator as the owner of the land has full rights to repower the WPP, provided that any relevant public law permits are obtained, if applicable, and the repowering does not interfere with the private rights of other subjects (e.g. the rights of the owners of neighbouring parcels of land). The land lease agreements regularly contain clauses allowing replacements and, in some cases, a corresponding increase of the lease fee.

In any case, the public law provisions of the New Building Act must be complied with. The New Building Act distinguishes between four types of WPP structures according to their maximum capacity: minor structures (WPPs with a maximum capacity of 50 kW), simple structures (WPPs with a maximum capacity of 100 kW), reserved structures (all WPPs with a maximum capacity of over 1 MW) and other structures (structures that do not fall into any of the categories listed above). If the repowering results in an increase in performance and falls within the category with higher maximum capacity, the additional permits from the building authority may be required.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

Private grid operator.

21 | At which stage of a project do project developers have to apply for a grid connection?

As early as possible, i.e. right after identification of a suitable project site.

22 | Who has to bear the costs of the grid connection?

Depending on the circumstances of the case, the operator will either fully or partially bear the costs associated with the connection and provision of the required capacity. The amount of the share for a given type of connection and reserved capacity is set by the Decree on Access Conditions (16/2016 Coll.).

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

The most important aspect to assess is whether there is a sufficient connection capacity available at the site being considered for the development of a WPP.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

In most cases, the operators enter into power purchase agreements (PPAs) with off-takers for the sale of electricity.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

- *Contracts for difference (CfDs) (This subsidy model defines a fixed minimum remuneration per MWh of electricity. The level of this subsidy rate is usually determined by a tender procedure)*

Description:

Operational support for a WPP can take the form of green bonuses and auction bonus support. In addition to an operational support, an investment support is provided through various subsidy schemes introduced in the Czech Republic (national and EU funded).

26 | How does the application process for the promotion / subsidy scheme work?

a) Eligibility through tendering process,

b) Definition of eligible plants by statutory law, and

c) Application process with e.g. a governmental authority.

Description:

The operational support for a WPP can take the form of green bonuses and auction bonus support. The Government Regulation implementing the Renewable Energy Act defines the support schemes for renewable energy sources for the period 2022 - 2024. In addition to operational support, investment support is provided through various support schemes introduced in the Czech Republic (national and EU funded).

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

20 years.

Description:

The producers of electricity from plants using renewable energy sources will receive operating support for the lifetime of the plant in accordance with the relevant implementing regulation.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

- *Remuneration per kWh of electricity generated in the plant*
- *Remuneration per project*

Description:

The operational support for a WPP can take the form of green bonuses and auction bonus support. The investment support is provided through various support schemes introduced in the Czech Republic (national and EU funded). Of particular note, there is the so-called Modernisation Fund, from which funds can be drawn for, among other things, the production and use of electricity from renewable sources. One of the programs, financed by the Modernisation Fund in the Czech Republic, is the program to support new non-fuel renewable energy sources (RES+). The support is provided in the form of a one-off ex-post subsidy paid after providing documentation proving the completion of the project implementation and fulfilment of the conditions set out in the grant agreement.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

N/A.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

The law does not prescribe a particular type of legal entity for the implementation of WPP projects. Typically, a joint-stock company or a limited liability company is used to implement these projects.

What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

WPP operators are established as SPVs, provided that the ownership of the plants and the operational business (licences, contracts) are held in the same SPV. The existing WPP are under private control. The relevant EU legislation on the unbundling of the electricity sector has been transposed into Czech law. There are no specific unbundling rules for WPP operators.

Part H - Legal Certainty

31 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with nine,*

(ii) *planning law with seven,*

(iii) *permit situation with eight, and the*

(iv) *granting of subsidies with nine.*

Part I - Other Issues

32 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

However, after the New Building Act entered into effect on 1 July 2024, several issues related to the digitalization of construction administrative procedures have arisen. As a result, the impact on speeding up processes is not as expected.

Denmark

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

The onshore wind energy market in Denmark is subject to substantial regulation. The main law decrees are the Danish Act on Renewable Energy and the Danish Act on Electricity Supply.

The Danish Act on Renewable Energy establishes provisions to promote the production of energy through the use of renewable energy sources to help fulfil both national and international objectives to increase the share of energy produced through the sustainable use of renewable energy sources. The Act also establishes a range of initiatives aimed at fostering greater acceptance of renewable energy installations among neighbours and local communities. This includes municipalities being obligated to prepare amendments to municipal plans and incorporating provisions for compensation in case of loss of value.

The Danish Act on Electricity Supply implements several EU directives, including EU Directive 2012/27/EU dated 25 October 2012 on energy efficiency and EU Directive 2009/72/EF dated 13 July 2009 on common rules for the internal market for electricity.

Additional significant legislation includes the Danish Act on Environmental Assessment, the Danish Act on Electrical Safety, Executive order Act on Electricity Production and Energinet's Technical Standards.

Generally, the Danish government attempts to promote the production of renewable energy. The Danish government has a long-term goal of being independent of fossil fuels in 2050.

Although the Danish government attempts to promote the production of renewable energy, the onshore wind energy market is currently stagnant. This is primarily due to opposition from neighbours/local communities and restrictions in the legal framework for spatial planning and environmental permitting. This has resulted in a halt in development over the past years.

The Danish onshore wind market is characterised by a few main players, including Eurowind Energy, European Energy and Hofor. Furthermore, there are a number of smaller players.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 29.3% and the share of total domestic renewable energy coming from onshore wind was 53.6%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, Denmark has no binding targets for the expansion of wind energy.

04 | Which measures are being taken by the government to promote onshore wind energy?

The Danish Government entered an agreement 12 December 2023 on larger onshore energy parks and increased compensation for neighbours of solar panels and wind turbines. The agreement is an attempt towards quadrupling the total electricity production from solar energy and onshore wind in 2030. The agreement will be reevaluated in early 2025.

The agreement includes:

- A quadrupling of onshore renewable energy (1.3% of Denmark's area compared to the current 0.5%).
- Area protection for energy parks is relaxed, taking into account nature and culture, among other factors, to bring more areas into play for energy parks. Favourable conditions are also provided for the placement of Power-to-X facilities and businesses, such as production facilities, in connection with facilities in energy parks, where specific considerations support such placement.
- Identification of areas for larger energy parks is based on ongoing application rounds and dialogue with municipalities, with the possibility of faster and easier establishment through full or partial state takeover of planning and regulatory processes.
- The green fund is increased by 150% for the benefit of local communities.
- The renewable energy bonus for neighbours is increased by 50%, providing up to an extra DKK 5,000 per year in neighbour bonuses.
- A single-entry point is established for regulatory processes in the nature and environment sector.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

One of the main political and legal obstacles to onshore wind energy projects in Denmark is the local communities and local authorities. There is a large number of complaints from neighbours and surrounding houses when permits are granted for the construction of onshore wind turbines. The processing times for these complaints can be lengthy. However, efforts are being made by the Danish government to reduce these processing times.

In general, it is cheaper to construct solar parks than wind parks. This poses one of the major economic challenges, leading to a preference for investing in solar energy instead.

Another significant challenge is the lack of grid capacity, including waiting times for grid connection, as there may not be sufficient capacity where one intends to install wind turbines.

A major challenge, specific to offshore wind energy, is that recently, access to applying for permission to construct offshore wind turbines without a prior tender through an "open-door scheme" has been closed. It has, therefore, become more challenging to obtain permission, as it now requires a competitive bidding process.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Four.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Land purchase agreements

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of 20 to 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of under one year.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

The final registration often occurs immediately after the application is sent. If the application is selected for manual processing, the deadline is regulated by section 16, paragraph 4 of the Danish Registration Act, which stipulates that "examination of the document and its final or preliminary entry or rejection must take place as soon as possible and no later than 10 days after its receipt". However, exceeding this deadline does not incur any liability for damages.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Topic is not of relevance.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

We see no other special features which should be highlighted in general.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

- Prior to a wind turbine plant being established and operated in Denmark, it must be authorised in the local plan and the underlying municipal plan for the area in which the plant is intended to be built. If this authorisation does not already exist, it must be requested. The procedure contains several formal requirements concerning public hearings and publications.

- A Strategic Environmental Assessment ("SEA") must be conducted by the municipality pursuant to the Danish Act on Environmental Assessment. Based on the assessments, the municipality must compile an environmental assessment regarding the draft local plan and municipal addendum plan (subject to public hearing).

- An EIA-screening of the project shall be conducted pursuant to the Danish Act on Environmental Assessment. During this process, a technical EIA-report must be prepared, which contains assessments of the various environmental impacts, that the project may have, along with proposed, effective mitigation measures.

- Projects with an expected capacity above certain specified limits must obtain an establishment permit according to the Danish Act on Renewable Energy, section 25 and an electricity production permit, according to the Danish Act on Electricity Supply, section 11.

- Approval and building permits must be obtained to construct a wind turbine as well as accessory technical buildings.

- The one establishing the renewable energy project is liable for certain bonuses and compensation mechanisms entailed by the Danish Act on Renewable Energy. This includes three schemes for payment of compensation to nearby neighbours in the form of (i) a value loss scheme, (ii) an option to sell scheme, (iii) a renewable energy bonus and (iv) a requirement for the developer to pay an amount per MW to the local municipality pursuant to a green pool scheme. Depending on the site of the renewable energy plant, specific permits and dispensations must be obtained in accordance with environmental legislation.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 18 to 30 months.

Average duration of permit procedures: 12 to 18 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Nature conservation and species protection are mandated by law. Dependent on the site of the land, specific prohibitions, permit- and dispensation requirements apply. Examples of restrictions, permits and dispensations include:

(i) the Danish Nature Protection Act regarding protection of certain biotopes and species and including fixed nature protection lines, e.g., beach protection lines and forest protection lines;

(ii) the Danish Watercourse Act regarding regulation to ensure that watercourses can be used, i.e., for the drainage of water, in particular surface water, wastewater, and drainage water, including maintenance and restoration thereof;

(iii) the Danish Museum Act regarding the protection of cultural-historical places and artefacts etc., including fixed protection lines of prehistoric monuments;

(iv) the Danish Soil Contamination Act regarding regulation to prevent, eliminate, or reduce soil contamination and prevent adverse effects of soil contamination on nature, the environment, and human health;

(v) the Danish Electrical Safety Act regarding safety in connection with electrical installations and equipment;

(vi) prohibitions on changes to the physical conditions of protected nature areas. Consequently, wind turbines and other equipment may not be established in this area (within 10 meters) without a dispensation (obtainment of such dispensation is highly restricted).

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

- *The most common reason for the failure of wind energy projects is complaints from neighbours and the surrounding houses.*

19 | Please describe the legal framework for the repowering of wind turbines.

According to the Electricity Supply Act, a new wind turbine project with an output of over 25 MW requires an establishment permit before it can be established. A permit is also required for significant changes to existing plants over 25 MW (repowering). An application for repowering must be made under Section 25 of the Danish Act on Renewable Energy. If the plant has a capacity of between 10 MW and 25 MW, information about the establishment or change must be notified to the Danish Energy Agency and the Danish distribution system operator, "Energinet".

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

The electricity produced by a renewable energy plant shall be fed into the electricity grid. This can be achieved through a grid connection agreement between the producer of renewable energy and either a distribution system operator or transmission system operator (often referred to as “DSO” or “TSO”). To establish grid connection, a network screening shall be requested to the local DSO. The DSO and TSO decides jointly whether the project will be connected at DSO or TSO level. This depends on the size and potential capacity of the project etc.

The TSO, “Energinet”, is responsible for the daily operation of the electricity system and for maintaining security of supply.

The TSO, “Energinet”, operates as an independent public enterprise, owned by the Danish state and falling under the purview of the Ministry of Climate and Energy. The DSOs are private companies.

21 | At which stage of a project do project developers have to apply for a grid connection?

As early as possible, i.e. right after identification of a suitable project site.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

Processing times will vary significantly depending on whether connection to the grid requires an electricity grid expansion. According to information from Energinet, a standard project that does not require expansion takes approximately 30 months. A project requiring an expansion of the electricity grid typically takes around 60 to complete.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

The electricity produced shall be fed into the electricity grid. To establish grid connection, you must enter a grid connection agreement with either a DSO or TSO.

To do so, a network screening shall be requested to the local DSO.

The electricity generated and fed into the grid will be marketed through Power Purchase Agreements (PPAs) or similar contracts, or it may be sold on the power exchange.

25 | Is there an official promotion / subsidy scheme prescribed by law?

No, there is no official subsidy scheme prescribed by law.

26 | How does the application process for the promotion / subsidy scheme work?

- *There is no official promotion scheme prescribed by law.*

Description:

The initiatives and support schemes that were previously in effect have been repealed.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

0 years

Description:

There is no official promotion scheme prescribed by law.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

There is no official promotion scheme prescribed by law.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

There is no official promotion scheme prescribed by law.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

In Danish law, there is no requirement for a specific corporate form. The most commonly used corporate form is a limited liability company (LLCs). However, other forms of collaboration, such as limited partnerships, have also been observed.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

The most typical ownership structure of wind energy plants involves developers establishing LLCs and participating in a group structure. The wind farm is located within a Special Purpose Vehicle (SPV), encompassing all aspects. The shareholding structure within a SPV can be structured according to the preferences and requirements of the shareholders involved. Ownership and operational business are not divided. Only private operators are involved. There are no state-owned operators.

Legal unbundling requirements must be fulfilled. Additionally, there are requirements for independence between grid companies within a group and companies in the same group

engaged in electricity trading or production. This includes, for example, a requirement for independence among board members. Ownership unbundling is a requirement in Denmark. For this reason, there must be a separation of transmission and production activities, as these must be in separate entities. For this reason, no supply or production company is allowed to hold a majority share or interfere in the work of a transmission system operator.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with eight,*

(ii) *planning law with eight,*

(iii)*permit situation with eight, and the*

(iv)*granting of subsidies with eight.*

Part I - Other Issues

33 | Are there any other “hot topics” currently being discussed in your country in relation to onshore wind energy?

There are no other “hot topics” currently being discussed in Denmark.

Estonia

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

I. Four main categories: 1) energy law (Energy Sector Organisation Act, Electricity Market Act); 2) administrative legislation applicable to the planning procedure of the onshore wind park (Planning Act); 3) legislation applicable to construction works of the onshore wind park (Building Code); 4) legislation applicable to the operation of the wind park (i.e. Equipment Safety Act).

II. According to Clause 32.1 (1) of the Energy Sector Organisation Act, by the year 2030, renewable energy must account for at least 100% of gross final consumption of electricity. By this, the general governmental policy is favourable towards renewable energy. In addition, the government has held reverse auctions for CfDs in order for the market to bring about more renewable energy generation installations.

As for wind energy, according to the Ministry of Climate, the sector has the greatest growing potential of any energy sectors. The legislation does not specifically address the facilitation of onshore wind. However, the National Energy and Climate Plan submitted to the European Commission provides that the state sets a target for a total increase of 2 GW of capacity for both onshore and offshore wind energy production. This has not been implemented into national legislation.

The policy is set forth by laws applicable to the onshore wind energy projects and the local governments are the key implementers of legislation. This means that it is ultimately the local governments' discretion to bring effect such spatial plans which enable the construction of onshore wind parks. Within the course of previous years, the state has implemented laws which are aimed at encouraging local governments to allow the construction of onshore wind parks on their territories. An example of the aforementioned is the implementation of a charge for the production of electricity from wind energy, by which the owner of a wind farm is obliged to pay the local government a fee depending on the volume of energy produced and the market price of energy. In addition, the state has allocated monetary help for local governments for the purposes of overcoming legal issues in the course of planning procedures.

III. The draft update of Estonia's National Energy and Climate Plan for 2035 (dated 13 November 2024) provides that onshore wind energy production capacity is expected to grow from 519 MW in 2024 to approximately 3000 MW in 2035.

IV. The key players in the onshore wind energy market are 1) developers (private or state-owned); 2) financiers (mostly foreign, but also some Estonian); 3) grid operators (the TSO Elering and DSOs such as Elektrilevi etc).

Onshore wind projects are mostly financed through foreign investments, banks or trusts. The developers are either local companies or locally led subsidiaries of foreign companies. The generated electricity is sold either on the electricity market or by power purchase agreement.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 12% and the share of total domestic renewable energy coming from onshore wind was 24%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in Estonia.

04 | Which measures are being taken by the government to promote onshore wind energy?

I. There are reverse auctions to reach the objective of renewable energy accounting for at least 100% of gross final consumption of energy by the year 2030. The (potentially) last reverse auction is to be held in 2025.

II. The Planning Act has been amended to accelerate the procedure of municipal designated spatial plans and the aforementioned plan may provide an amendment to the comprehensive spatial plan in force.

Estonia will implement a specific regulation with regard to Council Regulation (EU) 2022/2577 of 22 December 2022 laying down a framework to accelerate the deployment of renewable energy. The Environmental Agency has mapped go-to areas on which auctions are held at the beginning of year 2025 for rights of superficies encumbering certain state-owned lands for the purposes of wind park development.

III. The principal purpose of land use may be set as the production of wind energy by a local government with their comprehensive spatial plan.

IV. While not aimed at specifically promoting wind energy, an amendment to the Electricity Market Act requires the applicant for a connection agreement to pay the TSO/DSOs a deposit in the amount of EUR 38,000 per MVA applied for. The TSO/DSOs are allowed to cancel connection agreements or refuse the application in case the developer has failed to provide the deposit. The amendment tries to tackle the issue of the grid being overwhelmed with unused connection points.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

Political and economic framework

The state level framework is relatively insufficient regarding the support for onshore wind energy projects. The state has set the national target for the growth of energy production from renewable resources, but the final decision to allow projects is up to local governments.

Market

Investors tend to favour the renewable energy projects which qualify for an older subsidy scheme (for projects that started no later than 31 December 2016), as the scheme provides a superior monetary guarantee. Nonetheless, over time the number of projects applicable to the older subsidy scheme shall fall to zero.

Administrative process

While standards have been set by the state with regards to the objective of reaching higher levels of renewable energy production in the upcoming years, many local governments lack resources, knowledge and motivation to conduct planning procedures for the construction of onshore wind energy projects. As such, decisions which require the consideration of opinions from different parties (the state, developers, local government itself, local residents, NGOs etc) are at times too compact for the local governments and therefore deter the local government from holding the planning procedure as a whole. The state has recently allocated resources in order to tackle the aforementioned issue.

Grid regulation and infrastructure

Problems mainly arise due to the costs, duration, and the necessary works to be conducted for gaining the grid access. As a rule, the developer has the obligation to pay for gaining the grid access, specifically the construction of the access point. Since March 2023, the developer has the obligation to provide the TSO/DSO a guarantee with the application for a grid contract in the amount of EUR 38,000 per MVA applied for. In practice, the TSO/DSO may provide a timeline ranging up to a few years for the possibility to access the grid in the full volume applied for, as the grid may need reinforcement works conducted by the TSO/DSO.

Other

The public stance “not in my backyard” is often seen as a problem. The implementation of the charge for the production of wind energy may resolve it partly, as local residents in close proximity to a wind park will get compensation from the developer.

A large territory in Ida-Virumaa County cannot be utilised for the construction of onshore wind energy parks, as the construction of wind turbines hinders national defence.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Seven.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land purchase agreements

b) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of more than 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Duration of the registration process: less than three months.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

In practice, the repowering of wind turbines is regulated in a developer-friendly manner in the agreements on securing the land. Usually, the agreements do not consist of an obligation for wind turbines to fit specific parameters, by which the repowering of a wind turbine should not be an issue in the sense of the agreement on securing the land.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

As a rule, agreements on securing the land are concluded at an early stage of the onshore wind energy project. Therefore, the right of superficies agreements usually provides a specific yearly payment mechanism, by which the payment amount is bound to increase by the development stage of the project. The payment obligation is usually secured by a real encumbrance. In addition, the termination of the right of superficies agreement is usually regulated in a developer-friendly manner, meaning it is rather simple for the developer to initiate the termination of the agreement in case the project should fail.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

Comprehensive spatial plan as specified in Clause 74 of the Planning Act, followed by a detailed spatial plan as specified in Clause 124 of the Planning Act: An onshore wind energy park is considered as "a construction work that has a significant spatial impact". As a rule, a construction work that has a significant spatial impact requires the enforcement of a municipal designated spatial plan. However, a local government has the right to choose within the comprehensive spatial plan the possible location on their territory suitable for a construction work that has a significant spatial impact. By this, the onshore wind park can receive a building right by a way of detailed spatial plan procedure.

Municipal designated spatial plan as specified in Clause 95 of the Planning Act: In case the possible location for an onshore wind energy park on the territory of the local government has not been chosen by a comprehensive spatial plan, a municipal designated spatial plan must be prepared. The procedure has two stages, with the first stage aiming to pre-select the location for the onshore wind park and the second stage providing a detailed solution by determining the specific building rights similar to the detailed plan procedure.

In 2023, an amendment to the Planning Act was enforced, by which the local government may skip the second stage of the municipal designated spatial plan prepared for the construction of an onshore wind park. The impact of the amendment to the acceleration of the planning process is currently uncertain.

The cooperation of the authority with the local residents and NGOs is a preponderant part of the procedure. The requirement of providing a strategic environmental assessment report applies to the creation of the planning of an onshore wind park. An environmental impact assessment is concluded during permit proceedings. Authorisation from different state agents is required.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 30 to 48 months.

Average duration of permit procedures: one month to six months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

The requirement of providing a strategic environmental assessment report applies to the creation of the planning of an onshore wind park. An environmental impact assessment is concluded during permit proceedings. An emissions assessment is concluded during the impact assessment. Onshore wind energy plants cannot be built in nature reserves or areas where protected species live as per Clause 14 (1)(6) of the Nature Conservation Act.

Numerous onshore wind projects have failed thus far due to insufficient impact assessments.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

c) Distance requirements

d) Interference with national security systems

e) Onshore wind park area overlapping mineral deposits

19 | Please describe the legal framework for the repowering of wind turbines.

This depends on repowering works. In case the repowering works exits the parameters set forth in the usage permit, a new usage permit is required to be applied for.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

State-owned grid operator and private grid operators. The TSO is Elering AS, who operates the high voltage transmission networks in Estonia. While there are numerous privately-owned DSOs, 95% of the distribution network system is still state-owned by Elektrilevi OÜ.

21 | At which stage of a project do project developers have to apply for a grid connection?

After securing the land.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

Construction of the access point paid by the developer. A deposit must be provided with the application for a grid contract in the amount of EUR 38,000 per MVA applied for. The full capacity of the connection point might be not available until the TSO/DSO has concluded reinforcement works on the grid, which might take up to a few years.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Grid feed-in and direct marketing by power purchase agreements.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

- *Contracts for difference (CfDs) (This subsidy model defines a fixed minimum remuneration per MWh of electricity. The level of this subsidy rate is usually determined by a tender procedure.)*

Description:

The state is likely to hold a reverse auction to bring about a further volume of renewable energy to the market in the year 2025. Reverse auctions are held with the purpose of reaching the objective of renewable energy accounting at least 100 % of gross final consumption of energy by the year 2030. The last reverse auction was held in 2023 with the purpose of bringing about 650 GWh of renewable energy per calendar year to the market. The expected volume of the next reverse auction currently unknown.

26 | How does the application process for the promotion / subsidy scheme work?

a) Eligibility through tendering process

b) Definition of eligible plants by statutory law

c) Application process with e.g. a governmental authority

Description:

Eligible plants are either new generation installations or a new supplementary generating installation built next as an add-on to an existing generating installation, which starts work after the winner of the tender is determined. Bids are ranked taking into account guaranteed return of sale, with the highest bidder being with the lowest guaranteed return of sale. When two bidders have identical guaranteed returns of sale, the bidder with higher production capacity shall be ranked higher on the list. The responsible Ministry reviews the bidders compliance with law and the State Government makes the decision on the payment of support.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

12 years.

Description:

The CfD applies for 12 years starting from the commencement of generation of electricity.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

The remuneration per kWh is not paid in the amount of generated electricity exceeding the amount provided by the bid for one year. Similarly, in case the amount of generated electricity is lower than the amount provided by the bid for one year, the winner of the tender has a one-time six month period in order to restore the proper amount of electricity generation.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in

general? Please specify.

N/A.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

Usually, they are operated as a private limited company or public limited company. No mandatory requirement regarding the choice of legal entity to operate wind energy platforms.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

Typically, two schemes: 1) assets and contracts regarding the project under one legal entity; 2) assets and contracts regarding the project under separate legal entities.

In Estonian practice, both private and state-owned providers/operators establish SPVs in a form of private or public limited companies. No specific method of unbundling applicable – assets and contracts transferred to the subsidiary if deemed necessary by the provider/ operator.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with nine,*

(ii) *planning law with six,*

(iii)*permit situation with seven, and the*

(iv)*granting of subsidies with seven.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

The ongoing comprehensive spatial plan creation procedures are a hot topic, as several would, in case of implementation, include areas with the interned use of on-shore wind energy projects.

Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

Planning and building of an onshore wind farm are regulated in the Finnish Land Use and Building Act (132/1999 “LUB Act”), complemented with special provisions regarding wind power in 2011. In addition, wind farm projects with at least 10 WTGs or a total capacity of at least 45 MWh require an environmental impact assessment procedure to be conducted under the Act on Environmental Impact Assessment Procedure (252/2017). The Nature Conservation Act (9/2023) is relevant e.g. in areas with special nature values or species and in Natura 2000 protection areas. Wind farm projects do not usually require an environmental permit under the Environmental Protection Act (527/2014), but a permit may be required if the project’s noise or flicker impacts cause unreasonable burden to nearby residents. Industrial wind turbines require a flight obstacle permit and a positive statement is needed from the Finnish Defence Forces for the project under the Act on the Finnish Defence Forces (551/2007), the Territorial Surveillance Act (755/2000) and the Aviation Act (864/2014). Grid connection is regulated in the Finnish Electricity Market Act (588/2013). In case an expropriation permit for power lines is needed, the expropriation process is regulated under the Act on the Right of Redemption of Immovable Property and Special Rights (603/1977), in addition to which the municipality may grant a right to place cables on private land under the LUB Act if the matter cannot be agreed on with the landowner.

The general governmental policy towards wind energy is set at the national level by the Government. However, both municipalities and Regional Councils have an important role in the development of onshore wind energy. The general governmental policy towards onshore wind energy development is very positive.

The political objective of the government is to make Finland a forerunner in renewable energy and climate matters, and wind power solutions are heavily endorsed to ensure clean energy production, and to strengthen the security of supply. According to the Government Program of Finland published in June 2023, the operating conditions for wind power shall be developed while ensuring its social acceptability and a favourable operating environment for investments.

According to the Finnish Wind Power Association, 42% of the wind farm projects built by the end of 2023 are owned by domestic project operators and the remaining 58% by European companies. Typically, the projects in Finland are funded by domestic and foreign investors, such as pension companies, insurance companies and institutional investors. Foreign investment comes mainly from the European Union, e.g. France, Germany and Great Britain. In 2023, the largest wind farm owners in Finland based on the cumulative share of wind farm capacity were Taaleri Energia Oy, Neoen and EPV Tuulivoima Oy and highest share of the wind farm capacity installed in 2023 were owned by Ilmatar, BlackRock Real Assets and Fortum Oyj.

Finland

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02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2022, the share of onshore wind energy in domestic electricity production was 16.7% and the share of total domestic renewable energy coming from onshore wind was 31%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in Finland.

04 | Which measures are being taken by the government to promote onshore wind energy?

The Finnish state has supported the production of electricity from renewable resources by organising a premium auction and granting feed-in tariffs. The premium and feed-in tariff systems concern only the projects that have been elected to these schemes. To our knowledge, new support schemes are currently not being planned.

The Finnish Government aims to continuously promote onshore wind energy development, and the Finnish Government Program published in June 2023 also highlights that conditions for wind power will be further developed, whilst also improving its social acceptability. The means already in action include the acceleration of the permit processes by removing duplicate appealing points and amending the Electricity Market Act to enable the distribution network companies to aggregate the access lines of wind power plants. Through the Act on the Coordination of Certain Environmental Permit Procedures (2019/764), the permitting procedure has been reformed to enable the applicant to submit and process several permits simultaneously by electronic means and is hence a so-called “one stop shop”-principle. The aim has been to streamline and speed up the permitting process.

In the National Climate and Energy Strategy, it is also outlined that wind energy will be promoted through the allocation of additional funding and grants to help in the guiding process and to speed up the permit and planning procedures in municipalities and regional councils. Measures that are put forward in the Government Program and ought to be taken to ensure that development and construction are done in a fair and socially acceptable way includes implementation of a demolition and restoration obligation of WTGs, lowering the EIA thresholds to cover all industrial projects and increasing the compensation for power corridors.

So far, wind farm construction has taken place primarily in the western parts of the country, but there is political will to expand wind energy production to the eastern parts of Finland as well. This would help strengthen the local energy systems and energy infrastructure, as well as bring new economic opportunities to Eastern Finland. The Government aims to promote wind power projects in Eastern Finland and a cooperation group set up to coordinate regional control is tasked to ensure both the rapid implementation of measures and a shared longer-term vision of the potential for wind energy siting, in particular for the purposes of investment planning.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

Lengthy land use, permit and appeal processes have generally been considered as one of the main factors undermining investments into large infrastructure projects in Finland. The average duration for the wind farm development process from the initial surveys to an operating wind park is approximately four to six years. The duration of the administrative processes related to planning and permitting may be lengthy, if the plans or permits are appealed against, usually with regards to the wind farm’s negative effects on the wildlife and natural values, disturbance to nearby residence or the landscape, and the validity of the land use or permit decision has to be assessed in court. Furthermore, combining reindeer husbandry and e.g. tourism with wind farm operation in the northern parts of Finland has caused conflicting interests. In addition, in the northern parts of Finland, the grid infrastructure and connectivity to the main grid have also been seen as a challenge to further develop the deployment of onshore wind energy in Finland.

In Eastern Finland, the main limiting factor for wind power construction are the constraints imposed by the Finnish Defence Forces’ regional supervision, as the wind turbines are considered to interfere with the Defence Force’s radar systems. However, both the Government as well as the Finnish Defence Forces are prepared to look for solutions to enable project development in Eastern Finland as well. This, however, requires more active political steering, development of legislation and i.a. technical development.

While promoting the wind energy production and providing for favourable investment environment, the Government aims to increase the legal requirements for wind farm projects to ensure the fairness and social acceptability of wind energy projects by e.g., lowering the threshold to conduct the EIA process to cover all industrial-scale wind power projects, increasing the compensation of the land expropriated from private landowners for power lines, and by defining national distance rules between wind turbines and settlement.

For the past years, onshore wind energy has grown on market terms, but the general economic situation has had an impact on the wind power market also in Finland. While there is ongoing construction and a large interest to expand production of wind energy, supply difficulties, price levels and rising interest rates are some of the factors that have affected investment decisions and caused slowdown of the wind power market.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Nine.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following type of security is typically used:

- *Land lease agreements*

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of more than 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Duration of the registration process: less than three months.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Topic is not of relevance.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

According to provisions of the Code of Real Estate (540/1995), a land lease or right of use must be registered in the Title and Mortgage Register as a special right if: (i) it is established for a fixed period of time; (ii) it is freely assignable by the tenant and (iii) the tenant has buildings or structures on the relevant area or if the tenant may, pursuant to the relevant contract, build or place constructions on the leased area. Such lease agreement will receive a unit identification code upon registration. A mortgage covering the right of possession and the tenant's buildings and structures in the leased areas can be established in the leasehold granted with a unit identification code. Based on our experience, wind turbine generator sites are usually secured by lease agreements that are mandatory to be registered in order to secure their bankability. In practice, such registered land lease right provides the tenant a right of use that corresponds to the property owner and excludes the rights of the owner and third parties in the leased area (other than the right to transfer ownership).

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

Under the Land Use and Building Act (132/1999, "LUB Act") regulating the building and planning of wind farm areas in Finland, the regional plan prepared by the provincial government guides the use of areas on a national and multiregional level. In practice, wind farm projects are most often based on a wind farm specific partial master plan prepared by the municipality. Building permits for a wind farm may be granted directly based on the partial master plan, if the plan has legal effect and specific orders allowing it to be used as a basis for wind farm permitting. Wind farm construction in the vicinity of urban areas may require a city plan prepared by the municipality, which is the most detailed land use plan in Finland.

The supervising environmental authority and the coordinating authority with respect to an EIA process, is the local ELY Centre. EIA process is required for wind farm projects with at least 10 WTGs or a total capacity of at least 45 MWh and is systematically applied to overhead power lines, which are at least 15 km long and have a capacity of at least 220 kV.

Under the applicable Finnish legislation, wind farms do not in general require an environmental permit. A wind farm may, however, require an environmental permit issued by the municipalities pursuant to the Environmental Protection Act (527/2014) if the wind farm is deemed to cause unreasonable burden to the neighbours. In addition, industrial size wind farms require a positive statement from the Finnish Defense Forces and Suomen Erillisverkot Oy and a flight obstacle permit by Traficom Oy as set out in the Aviation Act (864/2014), that is applicable to all over 30 m high constructions near airports or over 60 m high constructions anywhere. The need for other permits is evaluated on a case-by-case basis taking into account the size and impacts of the wind farm, its vicinity to certain valuable nature objects and sensitive operations as well as the characteristics of the surrounding nature.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 12 to 18 months.

Average duration of permit procedures: one month to six months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

The impacts of the wind farm project to the surrounding nature values and species shall be estimated in the EIA process and according to the legislation in force, wind farm projects with at least 10 WTGs or a total capacity of at least 45 MWh require the EIA process to be conducted. If the wind farm area is located on or near a Natura

2000-area and the wind farm project will likely significantly weaken the natural values in the Natura 2000 site, the project is subject to a Natura 2000 assessment within the EIA process.

Under the Finnish environmental legislation, the Finnish nature conservation regulation shall be taken into consideration in the planning and permitting of the wind farm project. According to the Nature Conservation Act (9/2023), e.g. any tree hosting a large bird of prey is protected, if the bird in question nests in it on a regular basis and the nest is clearly visible and thus, the deliberate disturbance of such trees is prohibited. Therefore, if based on the conducted environmental studies of the EIA, the planned wind farm project as such would cause such disturbance or e.g. a destruction and deterioration of breeding sites and resting places used by specimens of animal species protected in Annex IV of the Habitats Directive (92/43/ETY), such as flying squirrel or wolf, prohibited under the Nature Conservation Act, a master plan or building permit cannot be approved for the project.

The competent nature conservation authority, ELY Centre may, however, grant a deviation permit from the protection. Based on our experience, wind farm developers usually alter the projects if impacts that would significantly reduce the natural values of an area included in the Natura 2000 network, or protected animal and plant specimens and their habitats are detected in connection to preliminary investigations so that such deviation permits are not needed.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Distance requirements

19 | Please describe the legal framework for the repowering of wind turbines.

Topic is not of relevance.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

Fingrid Oyj is Finland's national transmission system operator, responsible for the main grid and operates the national high voltage grid, which includes 400 kV, 220 kV and certain 110 kV interconnected grid lines. The nationwide main grid is the backbone of the entire electricity transmission network, and further connects electricity producers with consumers and distribution network. Fingrid Oyj is owned by the Finnish state and various financial and insurance institutions and is a natural state-regulated monopoly.

Local distribution system operators operate the local distribution networks that connect to Fingrid Oyj's main grid via the 110 kV network and are owned by municipality owned or private entities. As the larger wind farms have higher technical requirements, they are normally connected to the main grid operated by Fingrid Oyj.

21 | At which stage of a project do project developers have to apply for a grid connection?

After securing the land.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

The permitting of an onshore wind farm grid cabling is largely based on the Finnish general land use legislation and the practice for onshore wind cabling is well established. The construction of a connecting power line (meaning a service line to connect a wind farm to the grid) of more than 110 kilovolts e.g. requires a project permit from the Energy Authority, and a cross-border connecting power line requires a permit from the Ministry of Economic Affairs and Employment of Finland. In addition, the project developer may need to apply for a permit for the expropriation of land required for the power line area. The legislation for wind farm expropriation permits has been recently amended, and according to the amendment the Finnish expropriation permit regulation (768/2004) valid since February 2024, the power lines for onshore wind projects, which require an environmental impact assessment to be conducted, will always require an expropriation permit granted by the Finnish Government, or the National Land Survey of Finland. In the expropriation permit process, the right to use the land for the power cabling is claimed and compensation for landowners is determined by the authorities.

In the recent discussion in relation to the green transition projects in Finland, a need to raise the compensation for land areas required for e.g. cabling of onshore wind farms has been identified to increase the social acceptability of the project and to ensure the protection of property.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

In Finland, electricity can only be sold and marketed as renewable if it is certified and issued with a guarantee of origin as set out in the Act on Verification and Notification of Origin of Electricity (1129/2003). A guarantee of origin specifies the production method, energy sources as well as the production period of the electricity. Guarantees of origin are only issued to electricity produced from a high-efficiency cogeneration and electricity produced from renewable sources, i.a., wind.

In Finland, long term power purchase agreements (PPAs) are concluded with large electricity users and the use of PPA-agreements within the onshore wind projects is estimated to increase significantly in the future. Since 2018, PPAs with power generators have been signed by large technology and industrial companies in particular, and it is predicted that medium-sized

companies will also be interested in PPAs in the future. The use of the power purchase agreements will guarantee a fixed price level for electricity as compared to selling the electricity in the electricity market, in which the price varies according to the market conditions and is thus vulnerable to market fluctuations.

In addition, there are multiple so-called Mankala-companies in the Finnish wind power sector. The shareholders of such companies are usually large companies using electricity, who jointly own the power plants and are committed to financing the costs of the wind farm operation in proportion to their ownership. As return for the investment, the shareholders receive produced electricity at cost price and may sell the excess electricity forward in the electricity market.

In Finland, new wind power plants have been built on market terms for several years. Currently, there are no state subsidy schemes in force but based on the feed-in-tariff system previously in force, the last wind farm projects included in the system will receive the tariff until 2030.

25 | Is there an official promotion / subsidy scheme prescribed by law?

No, there is no official subsidy scheme prescribed by law.

26 | How does the application process for the promotion / subsidy scheme work?

a) Eligibility through tendering process

b) Application process with e.g. a governmental authority

Description:

In 2011, Finland launched a feed-in tariff system for wind power produces. The total capacity of the wind power feed-in tariff system was 2,347 MVA and the guaranteed price for a wind farm EUR 83.5 per MWh. A guaranteed price means that the producer receives a subsidy on top of the market price for the electricity it sells, which is the difference between the market price and the guaranteed price. The subsidy level had been calculated to cover about 40% of the investment costs of the onshore wind turbines. The feed-in tariff system closed on 1 November 2017 and support for wind power plants approved under the feed-in tariff will end in 2030.

In addition, a technology-neutral tendering for operation aid was held in Finland in 2018. Producers of i.a. wind power were allowed to participate in the auction process with projects that had the necessary permits for construction at the end of the tendering process. The Finnish system was a so-called pay-as-bid, meaning that each successful bidder received the level of support they offered and each bidder indicated their yearly production rates and required subsidy at a market price of EUR 30/MWh. In 2018, a total of 1.36 TWh of production was tendered in one tendering round in Finland and out of 26 projects, seven received support, all wind-power projects.

Currently, Finland has no official promotion scheme in force and no new tendering processes are planned for onshore wind projects in Finland.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

12 years.

Description:

The term for both feed-in tariff and operation aid was 12 years. Currently, Finland has no official promotion scheme in force.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

N/A.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

Companies developing and operating energy projects in Finland often establish Finnish subsidiaries for implementing projects and owning all related assets. Special purpose vehicles (“SPV”) and other Finnish subsidiaries are typically limited liability companies to which the Finnish Limited Liability Companies Act (624/2006) is applied to, or limited partnership companies regulated under the Partnerships Act (389/1988).

In Finland, there are no mandatory requirements regarding the choice of legal entity to operate wind energy platforms.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

In Finland, the limited liability company or limited partnership company special purpose vehicles (“SPV”) are usually owned directly by one, or by multiple sponsors as joint venture. Furthermore, the sponsors may establish separate holding companies for the ownership of the SPVs.

In addition, there are multiple so-called Mankala companies in the Finnish wind power sector. The shareholders of the Mankala companies are usually large companies using electricity, who jointly own the power plants and are committed to financing the costs of the wind farm operation in proportion to their ownership. As return for the

investment, the shareholders receive produced electricity at cost price and may sell the excess electricity forward in the electricity market.

The Finnish wind power market is operated by both private and state-owned providers and operators. For example, Metsähallitus, the state-owned enterprise managing land and water areas owned by the state of Finland develops, and Fortum Oyj, energy group partly owned by the Finnish state develops and operates several wind power projects across Finland.

In general, the single SPVs are the owners of the wind farm plants and also own/hold all permits, licenses and contracts relating to the operation and business. Thus, the ownership and business are not separated in the Finnish wind power project companies.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with nine,*

(ii) *planning law with nine,*

(iii)*permit situation with eight, and the*

(iv)*granting of subsidies with nine.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

Lately, the wind power construction has grown rapidly in Finland and there is political will as well as concrete plans to further increase the development and wind power production in Finland. New policies to achieve these goals are set in the Finnish Government Programme published in June 2023 according to which the conditions for wind power shall be developed in a way that reconciles the social acceptability of wind power and the need for a favourable investment environment. Firstly, the Finnish Government aims to streamline permitting procedures by eliminating overlapping appeals. The potential of wind power will be utilised in various parts of Finland and the Government will take measures to speed up the progress of projects in Eastern Finland, where the construction of onshore wind power and regional supervision by the Finnish Defence Forces shall be coordinated.

Furthermore, a comprehensive implementation of the demolition and restoration obligation (including a fund) shall be included in the legislation. In 2023, the Ministry of the Environment commissioned a study of the legislation on the demolition of onshore wind turbines to assess whether there is need to amend the current legislation on wind farm demolition. In addition, the Finnish government aims to lower the limit for conducting the EIA to cover all industrial scale wind power projects. In addition, strengthening landscape assessment, increasing compensation for power corridors, and determining and introducing national distance rules are seen as means to ensure fairness in the wind power construction according to the Finnish Government Programme.

France

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

The construction and operation of a wind farm is subject to a number of regulations: the Energy Code, the Town Planning Code and the Environmental Code. Initially, governed by the building permit system, onshore wind turbines have also been subject to the regulations governing installations classified for environmental protection (ICPE) since the law of 12 July 2010 (Grenelle II). In order to simplify procedures and make things easier, the installation of wind turbines has, since Ordinance No. 2017-80 of 26 January 2017, been subject to a single environmental authorisation grouping together eighteen authorisations.

The operation of the electricity market in France involves a number of players, the most important of which are: energy producers, electricity transmission system operators, energy distribution system operators and electricity suppliers. The market is characterised by a strong state presence. The French state is the majority shareholder in France's two main energy producers: Engie and EDF Renouvelables. In addition, the electricity transmission network is the exclusive responsibility of RTE, a company half-owned by EDF. In addition, the main electricity distributor is Enedis, a public service company and subsidiary of EDF, which operates the low- and medium-voltage grid over a large part of the country.

France's wind park is the fourth largest in Europe, with a connected onshore capacity of 21.39 GW at the end of June 2023. In fact, despite strict siting regulations, these tend to favour the development of onshore wind power. Energy programming laws and multi-annual energy programmes (PPE) have set out and detailed European objectives, with plans for the various energy sources. For onshore wind power, the target to be reached by 2028 is 33.2 to 34.7 GW.

It should be noted that by the end of 2022, wind power capacity developed in France represented a total of 20.9 GW, or around 80% of the target set for 2023 in the 2019-2018 PPE (which was 24.1 GW), and had provided 8.3% of national electricity production. As a result, on 16 September 2022, the Ministers for Energy Transition, Ecological Transition and the Interior issued a circular to Prefects asking them to take all measures deemed necessary, in compliance with regulations, to facilitate and accelerate the processing of renewable energy applications. This desire to accelerate the development of renewable energies was reiterated by the 10 March 2023 law on accelerating the production of renewable energies.

The rapid development of onshore wind power is one of the main objectives of the country's energy policy. In a study dated 7 June 2023, RTE, which has revised upwards its 2030 ambition for CO2 emissions reduction from an initial target of minus 44% to minus 55%, emphasised that nuclear power and renewable energies are indispensable, but that onshore renewable energies, such as photovoltaics and wind power, will be the first to respond to this acceleration before 2030.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2022, the share of onshore wind energy in domestic electricity production was 8.4% and the share of total domestic renewable energy coming from onshore wind was 32%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in France.

04 | Which measures are being taken by the government to promote onshore wind energy?

Since the 2000s, the French government has stepped up its support for the wind energy sector.

This began with the compulsory purchase scheme. Since law no. 2000-108 of 10 February 2000, local electricity distribution companies (i.e. EDF OA) have been required to buy electricity generated from wind power from operators who request it, at a fixed price.

Since 2016, producers have been selling their electricity on the market while receiving additional remuneration from EDF OA. The feed-in tariff levels and remuneration supplement conditions are revised periodically to take account of the sector's level of development.

Except in the case of small-scale wind farms, to benefit from the feed-in tariff or remuneration supplement, applicants must submit bids in response to a call for tenders organised by government bodies.

However, these measures have not enabled France to reach its targets and meet its European commitments in terms of renewable energy.

That's why Law no. 2023-175 of 10 March 2023 on accelerating the production of renewable energies introduced new measures to speed up the development of renewable energies, particularly onshore wind power.

One of the main aims of the law is to simplify administrative procedures and reduce project appraisal times.

To this end, the law introduces a referent responsible for "facilitating administrative procedures" for project developers and "coordinating the work of the departments responsible for examining authorisations".

Similarly, to avoid the cancellation of authorisations granted to operators, the law requires administrative judges to regularize authorisations in the course of proceedings, whenever possible.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

In France, the first obstacle to wind power development is regulatory.

Regulatory easements are designed to prohibit or limit interference with radar and civil and military aircraft overflight zones, which limits the land available and the height of wind turbines. As a result, only 20% of the national territory is available for wind power.

Secondly, as noted by the Cour des Comptes in its recent report (Les soutiens à l'éolienne terrestre et maritime, 9 March 2023), the authorisation procedure is subject to considerable regulatory instability, and is characterised by a high number of appeals (+70%).

The procedure is particularly complex, as projects have to be assessed in the light of numerous interests: their impact on the neighbourhood (distance, noise), safety and risks, interference with civil and military aeronautical easements, siting on sites protected by the heritage code and the environmental code, the project's integration into the landscape and its impact on biodiversity. In fact, these last two grounds form the basis of most of the appeals.

Despite the introduction in 2017 of a single environmental authorisation – which includes a dozen other regulatory authorisations, making the process easier – obtaining this authorisation still takes an average of 22 months for onshore wind farms.

The average time taken to obtain a permit for a wind farm that has been cleared of appeals is seven years, twice as long as our European neighbours.

From an economic point of view, like many other sectors, wind power is not immune to rising costs (nearly 40% by 2023) and interest rates.

Some companies are currently in serious difficulty, such as Siemens Energy, whose share price collapsed by almost 40% in 2023.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Three.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Securities in rem (i.e., rights requiring registration in an official cadastral/land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of more than 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of more than three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Duration of the registration process: six months up to one year.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Topic is not of relevance.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

Projects' owners must secure (i) the right to access the plots of lands during the development phase (for studies and measures) as well as (ii) the right to obtain long-term leases and easements if such development is successful. Such contractual rights are secured through specific "promises" at a very-early stage which are not themselves notarised (mainly due to the associated costs and formalities) but constitute private deeds. It is only if and when the authorisations have been obtained and the project fully-developed that the project's owner "exercises" their option and proceeds to reiterate the deeds in the authentic form, through a notary. These authentic deeds can then be published by the land registry, making them enforceable against third parties.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

As far as planning is concerned, French law does not prescribe the siting of wind turbines in certain predefined zones.

There are, however, areas where the installation of wind turbines is restricted, notably in protected natural areas, radar operating zones or in the vicinity of freeways. Similarly, the law prohibits the installation of wind turbines in heritage protection areas or within 500 metres of dwellings.

To facilitate the implementation of new projects, Law no. 2023-175 of 10 March 2023 provides for the identification of acceleration zones for the production of renewable energies. These zones will be determined on the basis of the territory's development potential and the renewable energy capacity already installed on the territory.

These are areas with potential for the development of renewable energy production and recovery.

Concerning the authorisation procedure, since Ordinance No. 2017-80 of 26 January 2017, operators have been required to apply for an environmental authorisation from government departments.

There are three stages in the application process: examination, public consultation and decision.

During the examination phase, a number of government bodies and departments will be consulted and asked to issue an opinion on the project.

If the project is not rejected at the end of this phase, it will be submitted to a public inquiry, to gather the opinions of the local authorities and groups concerned.

Following this consultation, the prefect of the department concerned will be asked to make a final decision on the project. The decision-making phase itself comprises three stages: a consultative phase, a dialogue phase and the actual decision.

The authorisation order may be accompanied by additional requirements to ensure the preservation of interests covered by the Environmental Code.

On average, it takes seven years to obtain an authorisation that has been cleared of all appeals, twice as long as our European neighbours.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 12 to 18 months.

Average duration of permit procedures: 18 to 30 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Nature conservation and species protection constitute a main concern for the projects' owners. Planning and permit procedures include comprehensive environmental impact studies that should assess the potential impacts on nature and species and provide with specific

measures to avoid and mitigate ("Eviter, Réduire, Compenser") such impacts. Whenever the environmental study identifies a "significant identified risk" on protected species, the regulation requires obtaining a specific authorisation (so-called "Dérogation Espèces Protégées").

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Monument protection

c) Air corridors

19 | Please describe the legal framework for the repowering of wind turbines.

The principle of wind farm repowering is to partially or totally replace a wind farm in order to take advantage of technological developments and increase the park's yield.

There is no specific legal framework for repowering, which is treated as a modification of the wind farm. What's more, repowering usually requires a new authorisation, without being able to take advantage of the existing one.

Under current regulations (articles L.181-14, R.181-45 and R.181-46 of the French Environment Code), the operator of a classified facility subject to authorisation must declare to the Prefect any modification to the facility, its use or its surroundings that results in a significant change to the elements of the authorisation file.

The Prefect must establish whether the modification is substantial, i.e. whether it is likely to result in significant dangers or inconveniences for the interests mentioned in Article L. 18 1-3 of the Environmental Code, and whether a new environmental authorisation procedure is therefore necessary.

The Government instruction of 11 July 2018 on the assessment of onshore wind farm renewal projects aims to provide elements for assessing the substantial nature of a project's modification, in the specific case of wind farm renewal.

In order to assess the substantial nature of a renewal project, the operator provides a dossier de porter-à-connaissance to the Prefect, including an analysis proportionate to the issues at stake enabling the impacts of the planned modification to be assessed.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

State / public authority / state-owned grid operator

21 | At which stage of a project do project developers have to apply for a grid connection?

Where the grid connection is a "public transmission grid", project owners can apply only after securing land rights (through at least promises of such land rights). In the case of a connection to the "public distribution network", project owners can only apply after the permit has been issued (i.e. after environmental approval has been obtained).

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

No.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

- Producers conclude power purchase agreements (PPA) with offtakers. There are corporate PPAs when the purchaser is an electricity end-user, and utility PPAs when the purchaser is an electricity supplier.

- Producers sell their electricity production on the market, either directly or via an operator known as an "aggregator". In the latter case producers conclude contracts with aggregators.

- Where producers sell their energy directly on the markets, a premium is paid to compensate the difference between the revenues from the sale and a reference level of remuneration, set by the public authorities in a tariff decree or by the producer in a competitive bidding procedure. The aim of this system is to expose producers to short-term market price signals, while guaranteeing them reasonable remuneration.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

- *Contracts for difference (CfDs) (This subsidy model defines a fixed minimum remuneration per MWh of electricity. The level of this subsidy rate is usually determined by a tender procedure.)*

Description:

Since 2016, the feed-in tariff no longer applies to onshore wind energy. The support scheme consists in the allocation and the payment to renewable energy producers of a premium (or bonus) (Complementary Remuneration (CR)) for the energy produced (EUR/MWh). The premium is added to the revenue received by the producer through the sale of electricity production on the market. This premium is proportional to the energy produced and calculated as the difference between a reference tariff, similar to the current feed-in tariff, and a reference market price. This premium, like the feed-in tariff, must provide the producer with a level of remuneration that covers the costs of his installation while ensuring normal profitability for the project. The premium is paid "ex-post" and depends on the average market price. In such a system producer may have to pay back the difference between

the market price and and

The premium is paid by EDF Obligation d'Achat (EDF OA) pursuant a contract entered into by EDF OA and the producer (contract for difference). EDF OA is the only operator to sign CR contracts, and able to manage this type of contract.

The procedures for allocating such premium support are as follows:

(i) "open window" system which gives any eligible installation the right to receive support and the producer concludes a contract for difference with EDF OA;

(ii) Competitive tendering procedures, which may take the form of calls for tender (onshore wind) or competitive dialogues (offshore wind), with support being awarded only to the successful candidates designated by the Minister.

The "open window" system only applies to small onshore wind projects. The eligibility criteria for onshore wind projects are:

- six wind turbines maximum;
- each wind turbine is less or equal to 3 MW;
- a distance of 1.500 meters between installations is to be complied;
- environmental permit is required for application

Since 1 July 2022 citizen projects or subject to aeronatical height constraints less than 137 meters.

26 | How does the application process for the promotion / subsidy scheme work?

a) Eligibility through tendering process

b) "Open window" system for certain eligible installations (see Q25)

Description:

Except for eligible installations (see Q 25), contract for difference are attributed to producers through call for tenders organised by French Energy Regulatory Commission (CRE) based on the national objectives of multi annual energy programs (PPE). The Minister for Energy launched a call for tenders for the construction and operation of electricity generation facilities in mainland France that use wind energy and are located on land (also known as the "AO PPE2 Eolien terrestre"), in a notice published in the Official Journal of the European Union (OJEU) on 30 July 2021. On 17 June 2022, the French Energy Regulatory Commission issued an opinion on the specifications for this call for tenders and for the six other "PPE2" calls for tenders.

The conditions for participation and details of the documents to be supplied were defined in the specifications, which were approved by the Minister for Energy in the latest version published on the CRE website on 10 November 2023. 10 periods were initially planned, and CRE proposed to have another additional 11th period. The sixth bidding period closed on 15 December 2023. The requested power was 925 MW.

CRE proposed to select the best-ranked applications that meet the power demand, i.e. 57 applications representing a cumulative capacity of 1,006.8 MW. The weighted average price of the bids that CRE proposed to select is EUR 87.23/MWh, the highest since the "AO CRE4 Eolien terrestre" call for tenders was launched. It is relatively stable (+0.3%) compared with the previous period. his is an increase of 35% compared with the first period of the "AO PPE2 Eolien terrestre" call for tenders (November 2021), which was held at the very start of the energy crisis. CRE considered that this price was consistent with the increase in the cost of raw materials and financing that project developers were facing.

The criteria for selecting the winners is first and foremost the price. Participation of citizens in the project is also an important factor in the selection.

As part of the specifications, the candidates must provide a bank guarantee of performance for the benefit of the regional state authority. The guarantee amount is equal to EUR 30,000/MW. It shall take effect no later than three months after the deadline for submission of offers and shall not expire earlier than six months following the completion date of the installation.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

20 years

Description:

The contract for difference entered into between a renewable energy producer and EDF OA is a 20-year contract. However the producer may terminate the contract by anticipation, subject to the termination clause of the contract that very often provide for a compensation to EDF OA.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

The premium is proportional to the energy produced by the installation.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

- Regulatory easements, which aim to prohibit or limit interference with radar and overflight zones for civil and military aircraft, limit the land available and the height of wind turbines. As a result, only 20% of the land area is available for wind turbines. The law of 11 July 2023 contributes to the objectives for the deployment of onshore wind power by providing a legal basis for certain technical solutions.

- The introduction in 2017 of an environmental permit, which includes a dozen other regulatory approvals, facilitates the permitting process. Although it was supposed to reduce the time needed, obtaining this permit still takes 22 months on average for onshore wind power.

- The authorisation procedure is characterised by a high frequency of changes in the law which consequently result in instability and a high frequency of appeals. The time taken to process these appeals has been cut by two years as a result of regulatory measures taken in recent years. However, the average time taken to obtain authorisation to build a wind farm, after all appeals have been exhausted, is seven years for onshore wind power. The EAR Act of 10 March 2023 make simplifying procedures a priority.

- Apart from these comments, there are no specific major issues.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

There is no legal requirement regarding the legal entity operating a wind energy plant. onshore wind energy plants are generally owned through special purpose companies (SPC) dedicated to the ownership, construction and operation of wind projects. The use of project companies results from the requirements associated to non-recourse or limited-recourse project financing. The most commonly used corporate form for project companies in France is the société par actions simplifiée (simplified joint stock company). Other legal forms may legally be used. However, simplified joint stock company are subject to limited mandatory legal rules and the organisation of the SAS allows a great deal of contractual freedom and operating flexibility.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

No unbundling requirements apply with regards to the ownership structure of the wind energy plants. In a typical ownership structure of SPC, first shareholders of the SPC are developers (or affiliated companies of developers) that keep holding a majority stake in the SPC until V and a farm down process is usually engaged at commercial operation date with investors or investments funds.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with ten,*

(ii) *planning law with five,*

(iii)*permit situation with five, and the*

(iv)*granting of subsidies with eight.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

- Participation of public entities in the capital of renewable energy commercial companies ;

- The law on "Accelerating the Production of Renewable Energies" provides for the establishment of acceleration zones across the country. To this end, the government is making a mapping tool available to local authorities and the general public, providing information on the development of renewable energies in the region. the Ministry of Energy Transition has set up a portal to provide local authorities with data on renewable energies in their area, as well as the potential for the development of such renewable energies. The portal also enables local authorities to define their acceleration zones;

- New authorisation required for producers to market their electricity production under PPAs (other than financial PPAs) or under collective self-consumption mechanism.

Luther.

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

In Germany renewable energy sources regularly account for more than half of Germany's electricity production, with onshore wind energy playing the most important role. Onshore wind energy is the most promising renewable energy source and the one with the greatest generation potential in Germany. As of 2022, Germany had the largest onshore wind capacity installed in Europe and the third largest globally. At the end of 2023, 29,000 wind turbines with a cumulated capacity of 61 GW were in operation. Ambitious expansion targets promise these figures will continue to rise at a high rate.

The key piece of legislation in the German energy sector is the Energy Industry Act (*Energiewirtschaftsgesetz – EnWG*). The EnWG sets out the legal framework for energy supply. It regulates the organisation and tasks of energy supply companies, third-party access to the grid, consumer protection in the energy sector, and the supervision and regulation of energy markets. The aim of the EnWG is to ensure a secure, economic, environmentally friendly and socially acceptable energy supply.

With regard to onshore wind energy and renewable energy sources in general, another important piece of legislation is the Renewable Energy Sources Act (*Erneuerbare-Energien-Gesetz – EEG*). The EEG aims to increase the share of renewable energy sources in energy generation. It sets the framework for feed-in tariffs, grid access for onshore wind energy and other support mechanisms inter alia for onshore wind energy.

Other public law regulations must also be taken into account when planning, constructing and operating an onshore wind farm, most notably, the Federal Immission Control Act (*Bundes-Immissionsschutzgesetz - BImSchG*). The BImSchG deals with the prevention, reduction and control of harmful environmental impacts and requires onshore wind farm operators to obtain a permit, covering not only building law aspects but also environmental and ecological issues. In this context, wind farm operators may be required to carry out an environmental impact assessment under the Federal Nature Conservation Act (*BNatSchG*) in order to minimise the impact on nature and wildlife.

With regard to planning and construction of an onshore wind farm, the most important piece of legislation is the German Building Code (*Baugesetzbuch - BauGB*), which sets out the technical and structural standards that must be met when constructing wind turbines. It is also linked to land use regulations. Local planning authorities use the BauGB to draw up zoning plans that identify suitable areas for wind energy development.

In 2022, the German government introduced the so-called "Easter Package" ("*Osterpaket*"), which provided additional regulatory incentives for the expansion of onshore wind energy. Most notably, and in addition to increased expansion targets, the package established the principle that the expansion of renewable energy is "in the overriding public interest and serves public safety". This was intended to heighten chances of the interests of developers and operators of

renewable generation plants prevailing over environmental and other public law concerns. This change was generally viewed as a clear indicator that the development of renewable generation facilities in general and onshore wind energy in particular is an important political objective in Germany.

The most important regulatory authority in Germany on a federal level is the Federal Network Agency (*Bundesnetzagentur*). Regulations concerning onshore wind energy are regularly drafted by the Federal Ministry for Economic Affairs and Climate Action (*Bundesministerium für Wirtschaft und Klima*). Other legislative works at federal, state, regional or municipal level are also likely to play a role and to influence the viability of an onshore wind farm.

The German market for onshore wind energy is highly diversified. Next to "classic" large energy supply companies striving to enlarge their renewable generation portfolio to accommodate an ever increasing demand for green electricity from customers, there is a number of highly specialised players active in the development and operation of (inter alia) onshore wind farms and in the marketing of the energy generated. In addition, so-called community wind farms ("*Bürgerwindparks"*), where citizens get to be involved (financially) in wind energy projects in their local area, are increasingly coming into focus. Other key players include large industrial companies aiming at simultaneously covering their own energy needs with "green" energy as well as meeting their decarbonisation objectives through the development of their own wind farms or at least securing large portions of the farms' production via long-term power purchase agreements (PPAs).

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 27% and the share of total domestic renewable energy coming from onshore wind was 48.87%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

Yes, there are binding national targets for the expansion of onshore wind energy in Germany.

Description:

According to Section 4 of the Renewable Energy Sources Act (EEG), 69 gigawatts of onshore wind energy are to be installed in Germany by the end of 2024, 84 gigawatts by 2026, 99 gigawatts by 2028, 115 gigawatts by 2030, 157 gigawatts by 2035 and 160 gigawatts by 2040.

In addition, Section 3 of the German Wind Energy Area Requirement Act (*Windenergieflächenbedarfsgesetz – WindBG*) requires each federal state to designate a percentage of its land area for onshore wind energy. In total, two percent of the federal territory is to be designated as wind energy areas by 2032.

04 | Which measures are being taken by the government to promote onshore wind energy?

Financial support

Description:

Since 2014, the fixed feed-in tariff has been increasingly given up as the preferred subsidy scheme and replaced by the so-called market premium (*Marktprämie*). In order to be eligible for remuneration under the EEG, wind farm operators are generally required to "directly market" the electricity produced, i.e. the electricity must be fed into the grid and marketed via a third party, so-called "direct marketing company" (*Direktvermarktungsunternehmer*), or sold directly to a third party against payment of an average exchange price for electricity from wind farms "market value wind" ((*Monats-/ Jahres-)Marktwert Wind*) determined on a monthly/yearly basis by the TSOs in Germany. The operator may then receive a remuneration in the form of a so-called "market premium" (*Marktprämie*), the difference between the market value and a pre-determined maximum subsidy amount, the so-called "applicable value" (*anzulegender Wert*).

In the case of the feed-in tariff, the system operator provides the transmission system operator (TSO) with all the electricity generated, which the TSO markets on the exchange market. Regardless of the price achieved, the plant operator receives a legally guaranteed feed-in tariff. However, as the "fixed" feed-in tariff only applies to wind turbines with an installed capacity of up to 100 kW which only play a negligible role, the feed-in tariff system is practically irrelevant for the commercial development and operation of onshore wind farms.

Binding land use for onshore wind

Description:

In 2022, the German Bundestag has introduced new legislation to drive forward the energy transition by passing a law to increase and accelerate the expansion of onshore wind power, the Onshore Wind Act (*Wind-an-Land-Gesetz*). It also includes amendments to the German Building Code (*BauGB*) and the new Wind Energy Area Requirements Act (*WindBG*). For the first time, the Onshore Wind Act sets binding area targets for the federal states. In 2027, a total of 1.4% of Germany's land area will be designated for wind turbines, rising to 2% by 2032. The area targets are derived from the EEG expansion targets.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

Barriers in the grid regulation and infrastructure

Description:

One of the main obstacles to the expansion of wind energy in Germany is the growing shortage of grid capacity. As renewable generation capacities continue to grow in Germany, it is

important to note that the expansion of grid infrastructure has not been keeping pace. Grid expansion is generally time-consuming due to planning and permitting procedures, making a short-term expansion a challenging task for grid operators and affected market participants alike. The biggest issue from a developer's perspective may be that a binding reservation of grid capacity can only be granted once a certain level of "project maturity" has been demonstrated, potentially leading to uncertainties regarding the chances of realising, i.e. connecting an onshore wind farm to the grid. For other projects, the grid operator may only provide preliminary, non-binding status information. Some experts estimate that significant capacities of onshore wind power are lost or at least delayed due to the increasing shortage of grid capacity.

Barriers in the administrative process

Description:

In Germany, complex legal planning procedures and strict European environmental regulations have meant that only around 0.8% of the country is available for wind energy. By contrast, the political ambitions of energy system transformation, particularly in relation to climate change and the other policy objectives mentioned above, require around 2% of the country's land area. Literature points to case law that has created serious uncertainty with inappropriate guidance that was not useful in practice and failed to recognise the reality of complex planning processes. As a result, case law has never been able to develop predictable and stable criteria in this area. The legislator has responded with amendments to the law aimed at shortening the lengthy planning and approval processes, recognising that the case law of the Federal Administrative Court creates legal uncertainty. This simplification has already had a positive effect, with the share of renewable energy in Germany reaching a record high in 2023.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Eight.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Land purchase agreements

c) Easement agreements

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of more than 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

a) First step after identifying a suitable project site.

b) In parallel with planning and permitting process.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Duration of the registration process: Six months up to one year.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

In Germany, land lease agreements regularly contain clauses allowing such replacements and sometimes also foresee a corresponding increase of the lease fee.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

In Germany, we have a dual system for securing land. Land for the construction of onshore wind farms (both for the turbine site itself and for the access road and cable route) must first be secured under the law of obligations. As a first step, lease and permission agreements for land use have to be concluded with the respective landowners of the turbine sites and the respective plots of land for the cable routes. In a second step, the land required for the wind farm and the cable route, which is owned by private individuals or companies under civil law, must be secured *in rem* (usually by means of a limited personal easement in favour of the project company). Securing public land *in rem* is only necessary in exceptional cases. In order to secure that the land for the site of the wind turbine and for the cable routes is fully secured, detailed cadastral plans and current excerpts from the land register should be consulted in order to verify the ownership structure of the respective landowner. Such dual security (lease and security in rem) must also be provided for the entire cable route and lands for ancillary systems.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

According to the German Building Code (*BauGB*), wind turbines are so-called privileged projects, which are in principle admissible in outer areas without municipal or higher-level wind energy planning. However, the siting of wind turbines can be controlled through the preparation of local municipal and higher-level planning, such as land use, regional or state wide plans.

In order to accelerate the expansion of wind energy, the federal legislator established new planning regulations for wind turbines in 2022 as part of the so-called Easter Package. According to the new regulations, the federal states are obliged to designate a substantial amount of land for wind turbines in a first step by the end of 2027 and in a further step by the end of 2032. The overall aim is to achieve a national target of 2% of the federal territory for wind turbines by the end of 2032. To this end, planning procedures are currently being initiated or are already being carried out in the federal states, mostly at regional planning level.

In addition to planning law, wind turbines require a permit in accordance with the Federal Immission Control Act (*BImSchG*). The granting of a permit requires an application to the relevant permitting authority. The documents required to assess the project must be submitted with the application. This includes extensive expert reports on environmental aspects, shadow impact and noise protection, landscape protection and soil surveys. On this basis of the documents submitted, the authority examines, with the involvement of other authorities and bodies whose responsibilities are affected, whether the respective wind energy project complies with public law requirements or whether there are any public concerns that would prevent approval.

The requirements to be examined in the approval procedure include the permissibility of a wind energy project in accordance with immission control regulations, nature and species protection requirements, landscape protection regulations and monument law. Other public law regulations and concerns can also play a role in permit procedures, such as the safety of air traffic or the impact on civil or military radar systems. Furthermore, special requirements must be complied with if wind turbines are to be erected in forest areas.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 18 to 30 months.

Average duration of permit procedures: 12-18 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Nature conservation and species protection regulations play a central role in the planning and approval procedures for wind turbines. The Federal Nature Conservation Act (*BNatschG*) contains strict requirements for the protection of protected species, which must be observed when granting permits for wind turbines. Species protection assessments are usually time-consuming and costly. They require extensive investigations and mapping of protected species, bird and bat species in particular, and usually extend over long periods of time. If protected species are affected, this can lead to considerable restrictions on plant operation or even the refusal of a permit.

In order to mitigate the conflict between the expansion of wind energy and species protection concerns, the federal legislator introduced uniform standards for species protection assessments in 2023. With regard to planning procedures for wind turbines, temporary simplifications have been introduced at European level by the Council Regulation 2022/2577. Accordingly, under certain conditions, the environmental impact assessment and the species protection assessment can be omitted in permit procedures for wind farms if the project areas are located in a wind energy area that was already the subject of a strategic environmental assessment at the planning level.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Complexity and duration of planning and permit procedures

19 | Please describe the legal framework for the repowering of wind turbines.

When repowering wind turbines, as with their initial construction at a site, a wide range of planning and approval requirements must be complied with.

In order to make better use of the potential of repowering, the permitting of repowering projects is possible under simplified conditions following recent amendments to the law. Among other things, the federal legislator has introduced a modification approval procedure for repowering projects in which a complete replacement with a larger and more powerful type of turbine no longer requires a full official assessment, but only the requirements that go beyond the previous turbine operation need to be considered. In addition, simplifications have also been introduced for repowering projects with regard to species protection requirements.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

Private grid operators.

21 | At which stage of a project do project developers have to apply for a grid connection?

As early as possible, i.e., right after identification of a suitable project site.

22 | Who has to bear the costs of the grid connection?

Grid operators in Germany are obligated by statutory law, Section 8 of the Renewable

Energy Sources Act 2023 (*EEG 2023*), to connect renewable power plants to their grids at the request of the plants' operators. This obligation is flanked by a far-reaching obligation under Section 12 of the EEG to expand their grid to the extent necessary to accommodate new plants for which a grid connection has been requested. In terms of cost allocation, however, Section 16 of the EEG distinguishes between all measures and the corresponding costs up to the grid connection point, i.e. the point where the cables of a wind farm are connected to the general electricity supply grid, and – from the perspective of the wind farm operator – beyond this point. The costs of the grid connection itself, as well as all measures required to realise the grid connection, including transformer stations, substations and measuring equipment, are to be borne by the wind farm operator. Any costs resulting from measures that are not part of the actual grid connection, e.g. grid extension measures, are to be borne by the grid operator. Determining who is responsible for which measures and who has to bear which costs can be a complex matter in individual cases and should therefore be accompanied step by step and carefully analysed from a legal perspective.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

The biggest current challenge in connection with the realisation of wind farms and the grid connection is the scarcity of grid capacities. Due to the massive expansion of renewable energies in Germany, not only in the area of wind energy but also solar energy, the required capacity in the grid can often not be provided without time-consuming grid expansion. At the same time, many grid operators have started to implement a differentiated system for reserving grid connection capacities. A binding reservation of grid capacity may only be granted upon proof of a certain degree of "project maturity", i.e. the future operator has to demonstrate certain milestones in the development have been reached. For other – less "mature" – projects, a binding reservation of capacity is usually not possible, but only a preliminary non-binding status information, sometimes called a "current statement" ("*Tagessaussage*"), is given by the grid operator. Additionally, the extension of existing reservations requires proof of significant project progress in the meantime. The latter can be demonstrated, for example, in the form of permits or the establishment of planning law requirements for the construction of the wind farm or successful participation in a tender by the Federal Network Agency (*Bundesnetzagentur*).

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Windfarm operators in Germany are generally free to market the electricity from a windfarm through different marketing channels. They may either conclude a Power Purchase Agreement (PPA) or a similar agreement for the sale of electricity and guarantees of origin with a third party offtaker, supply the electricity to an offtaker in close proximity of the wind farm (Onsite/Local PPA) or even on the same plot, make use of a subsidy scheme under the German EEG or combine the aforementioned marketing channels. It is, however, not possible, at least for the majority of wind farms, to receive a remuneration under the EEG by simply feeding electricity into the grid and claiming a "fixed" feed-in tariff. Instead, and as explained in more detail in the answers below, almost all of the operators of wind farms in Germany will have to participate in the free market to a certain extent in order to generate income from the sale of electricity.

25 | Is there an official promotion/ subsidy scheme prescribed by law?

Yes, there are official subsidy schemes prescribed by law:

a) Feed-in tariff (involves the government setting a tariff price, or a set of prices for specific renewable technology, at which the country's supply companies or grid operators are obliged to purchase all renewable energy exported to the grid)

b) Other, namely Marktprämie

Description:

In the past, a fixed/guaranteed feed-in tariff, which only required electricity to be fed into the grid, was the standard subsidy mechanism foreseen in the EEG. However, it no longer plays an important role for wind farms. Since 2014, the fixed feed-in tariff has been increasingly given up as the preferred subsidy scheme and replaced by the so-called market premium (*Marktprämie*). In order to be eligible for remuneration under the EEG, wind farm operators are generally required to "directly market" the electricity produced, i.e. the electricity must be fed into the grid and marketed via a third party (so-called "direct marketing company", *Direktvermarktungsunternehmer*) or sold directly to a third party, usually against payment of an average exchange price for electricity from wind farms "market value wind" ((*Monats-/Jahres-)Marktwert Wind*) determined on a monthly/yearly basis by the TSOs in Germany. The operator may then receive a remuneration in the form of a so-called "market premium" (*Marktprämie*), the difference between the market value and a pre-determined maximum subsidy amount, the so-called "applicable value" (*anzulegender Wert*).

26 | How does the application process for the promotion / subsidy scheme work?

a) Eligibility through tendering process

b) Definition of eligible plants by statutory law

Description:

As explained in the answer to question 25 above, the applicable value (*anzulegender Wert*) is the decisive factor for the amount of remuneration the operator of a windfarm may claim for the electricity produced and fed into the grid. It is determined either by law or by way of successful participation in a tendering process by the Federal Network Agency (*Bundesnetzagentur*). As the applicable value must be determined by tender for all plants with an installed capacity of more than 1 MWp, a threshold typically exceeded by practically all wind turbines today, participation in a tendering process by the Federal Network Agency is mandatory for most wind farms in Germany if the operator plans to claim a subsidy under the EEG.

The Federal Network Agency's tenders are organised as a highly formalised competitive bidding process. In order to participate, bidders must meet a number of criteria and submit bids by certain statutory deadlines and on forms provided by the Federal Network Agency. The Federal Network Agency then evaluates the bids and grants awards (*Zuschläge*) to the bids until the maximum award volume is reached. The award mechanism means that the lower the bid price per kWh and the lower the bid volume, i.e. the to be installed capacity of the wind farm, the more likely the bids are to be successful. As the tender works based on a *pay-as-bid* procedure, the bidder either receives the award for the exact bid submitted or no award at all. After commissioning of the plant, the applicable value can still change by application of the so-called correction factor (*Korrekturfaktor*) in accordance with Section 36h EEG 2023. Depending on a so-called quality factor (*Gütefaktor*) of the respective turbine location, application of the correction factor may result in a decrease or an increase in the applicable value. An increase is intended to improve the profitability of wind farms at less windy locations.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

Section 25 of the German EEG generally foresees a funding period of 20 years beginning with the commissioning of the renewable plant. For some plants, namely those that are not required to participate in a tendering process by the Federal Network Agency, the 20-year period is extended to the 31st day of the twentieth payment year, i.e. up to a maximum of up to 21 years. For these plants, the funding period shall start at commissioning as well, but 30 months after publication of the award by the Federal Network Agency at the latest.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

Remuneration under the German EEG is paid per kWh of electricity produced and fed into the public grid. In principle, physical feed-in is required, except in certain cases where a so-called "commercial-balance-sheet feed-in" (*kaufmännisch bilanzielle Einspeisung*) is possible, i.e. physical consumption on site but "virtual" feed-in into the grid.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion//subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

The prerequisite for participation in the tendering process is that the permit for the plant has been granted by the permitting authority in accordance with the Federal Immission Control Act (*BImSchG*) four weeks before the bidding date. Based on experience, the permit procedures may take a very long time (see answer to question 16). This represents a major obstacle to obtaining remuneration under the EEG in terms of time.

German law foresees that an award achieved in a tendering process expires 30 months after the public announcement of the award if the turbines have not been commissioned by this time. The EEG provides for two options that allow the Federal Network Agency to extend this deadline if an appeal proceedings against the BImSchG permit is pending or if insolvency proceedings have been opened against the manufacturer of the generator or another essential component of the wind turbines. An extension may be granted for no longer than the period of validity of the BImSchG permit and may not exceed 18 months.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

There are no legal requirements as to the type of legal entity operating a wind farm.

In practice, wind farms are usually operated by project companies in the legal form of a GmbH (German Limited Liability Company) or a GmbH & Co. KG (Limited Partnership with a Limited Liability Company as general partner).

The GmbH is a limited liability company, i.e. liability is limited to the GmbH's assets. The shareholders are generally not personally liable for the GmbH's business activities and liabilities (provided that they have paid in the registered share capital). Courts will pierce the corporate veil, i.e. the limited liability status, only on very rare and exceptional occasions. The registered share capital of a GmbH needs to amount to at least EUR 25,000. The registered share capital can be divided into shares flexibly, but the minimum nominal amount of a share is EUR 1.00.

The daily business of the GmbH is run by one or several managing directors who are appointed and removed by the shareholders' meeting. Every natural person (but only natural persons), regardless of their nationality and whether they have a permanent residence in Germany or not, can be appointed as managing director. The managing director(s) represent(s) the GmbH and sign(s) for the GmbH. For internal purposes, the Articles of Association or rules of procedure can determine reserved matters which require prior approval of the shareholders' meeting. The shareholders' meeting, which is the central corporate body of the GmbH, can give instructions to the managing directors which the managing directors are obliged to follow (provided they are not illegal).

The GmbH & Co. KG combines certain advantages of a partnership (in particular tax transparency) with a limited liability comparable to a GmbH. In a GmbH & Co. KG, the general partner (which itself is a GmbH with limited liability) is personally liable for the KG's liabilities, whilst the limited partner(s) are generally not personally liable.

A GmbH & Co. KG must have at least one general partner and one limited partner. In the typical setup of a project company, the (sole) general partner of the KG will not participate in the KG's profits and will have no voting rights in

the partners' meeting. Usually, the shares in the general partner are held by the limited partner(s) of the KG. The nominal amount of the partnership interest held by each limited partner (which can be any nominal amount) is registered with the commercial register, liability of each limited partner is limited to such amount and is fully excluded if the limited partner has paid its contribution.

The GmbH & Co. KG is represented by its general partner. Internally, the partnership agreement (or rules of procedure) can determine reserved matters which require prior approval of the limited partners. Generally, the corporate governance of a GmbH & Co. KG can be largely structured in the same way as the corporate governance of a GmbH.

Typically, the project company is financed by shareholder loans.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

Project companies are often held by only one sole shareholder, but there are also projects which are set up as some form of joint venture, in which two or more shareholders hold the relevant project company. Interim holding company structures are quite common, e.g. a large energy and infrastructure investor holding several interim holding companies for different asset classes or different regions, with such interim holding companies holding shares/ interest in the project companies.

The sale and transfer of shares in a GmbH requires a notarial deed. The sale and transfer of partnership interests in a GmbH & Co. KG can be done by simple written agreement, but the transfer needs to be registered with the commercial register in order to keep up the liability limitation for the transferor and the transferee. If the shares in the general partner are held by the limited partners in the same participation ratio as the limited partnership interests, the shares in the general partner held by a transferring limited partner would usually be transferred to the transferee as well (which would require a notarial deed as the general partner is a GmbH). Alternatively, in particular in constellations in which there is only one limited partner intending to transfer its complete limited partnership interest in a GmbH & Co. KG to a transferee, the parties can agree to an exchange of the general partner, i.e. a company from the transferee's group of companies would replace the existing general partner as general partner of the GmbH & Co. KG, and the transferee would acquire the limited partnership interest of the existing limited partner.

In principle, unbundling requirements only apply to vertically integrated companies, i.e. companies in which the same legal entity is active in both grid operation and energy generation/distribution. As long as this is not the case, unbundling requirements in Germany do not play a role for developers of onshore wind farms. Should this be the case, the requirements for ownership, legal and operational unbundling in particular would have to be observed, the effects of which would have to be examined in detail from a legal perspective in each individual case.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with eight,*

(ii) *planning law with seven*

(iii)*permit situation with eight, and the*

(iv)*granting of subsidies with eight.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

In 2023, for the first time, more than half of the electricity consumed came from renewable sources, making up almost 52%. Additionally, more than half (56%) of the electricity was generated from renewable sources,.

Wind farms made the largest contribution to electricity generation, mainly onshore, accounting for 27% of the total energy produced. For the first time, wind power generated more electricity than lignite and hard coal combined.

Approvals for new wind turbines are already being granted more quickly and expansion is progressing: 50% more wind turbines were connected to the grid in the first half of 2023 than in 2022. 826 new wind turbines with a capacity of 3 GW were commissioned by the end of 2023.

Around 1,500 wind turbines with an output of 8 GW were approved. This is almost twice the number of approvals in 2022 and 2021, thanks to simplified permitting procedures. This paves the way for a dynamic expansion.

Hungary

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

The Hungarian legal framework on the installation of wind power plants has been significantly amended as of 1 January 2024,. The new provisions facilitate and support the installation of wind power plants in Hungary following a 15-year period when it was practically impossible to develop wind power plants and wind farms.

The regulatory background for wind power plants currently in force is set out in the Act LXXXVI of 2007 on Electricity ("Electricity Act"), Government Decree No. 273/2007. (X. 19.) on the enforcement of the Electricity Act ("Enforcement Decree").

According to the Electricity Act, electricity generated from small power plants with a nominal capacity of 0.5 MW or more are subject to a "combined small power plant permit", power plants with a nominal capacity of 50 MW or more are subject to an "operating license" for the generation of electricity. With regards to the above, the production of electricity from wind power is an activity requiring a license to be issued by the Hungarian energy regulatory body, the Hungarian Energy and Public Utility Regulatory Authority ("HEPURA") if the nominated capacity of the wind power plant exceeds 0,5 MW. The wind farms are considered as one single power plant for licensing purposes.

In this respect, two important entities should be mentioned: the Minister of Energy and HEPURA.

The Minister of Energy is, among others, the member of the Government responsible for energy policy. His responsibilities for energy policy include several tasks, the most important of which for wind energy is the preparation of legislation on electricity supply.

The HEPURA is the regulatory authority within the meaning of Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity. The HEPURA has competence in the whole territory of Hungary. The HEPURA, in its quality as an independent regulatory body, is responsible for the regulatory oversight of the energy and public utility sector in Hungary. The legal status, the operation and the procedure of the HEPURA are only subject to law.

Hungary's main objectives in the production and use of renewable energy are set out in Hungary's National Energy and Climate Plan, which includes targets for wind energy development, with a nearly threefold increase in wind power expected by 2030 (from 330 MW to 1,000 MW). However, it can-not be said that wind energy is Hungary's priority for renewable energy support, currently the photovoltaic power plants are more popular.

The key players in the onshore wind energy market are private foreign investors, mostly Spanish investors such as Iberdrola's Hungarian affiliate, and domestic private energy enterprises, like Alteo Nyrt.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 0.73% and the share of total domestic renewable energy coming from onshore wind was 1.7%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in Hungary.

04 | Which measures are being taken by the government to promote onshore wind energy?

Other, namely: easier installation of wind power plants.

As of 1 January 2024, the legislator has introduced provisions facilitating the installation of wind power plants.

A specific provision for wind power in the Electricity Act is that the Minister responsible for energy may designate a facilitated area to increase the installed capacity of a renewable energy power plant. A facilitated area may be designated in the administrative district where the energy density of the wind exceeds 500 W/m2 at a height of 150 m per district in the case of the installation or extension of wind power plants, or where the wind power plant already has a valid combined small power plant permit and a grid connection contract. In such facilitated areas, the permits relevant for the installation of the wind power plants (building and environmental permits) can be obtained in a 50 days accelerated procedure.

The legal provision under which the Government had limited by decree the number of building and occupancy permits for wind power plants that could be issued for a given calendar year was repealed.

Similarly, before 1 January 2024, the construction of wind power plants could only be carried out by winning a tender under the KHEM Decree 33/2009. (VI. 30.) on the terms and conditions of the call for tenders for the construction of wind power plant capacity, which also set out the minimum content of the tender and the rules of the tender procedure. The aforementioned Ministerial Decree was repealed with effect from 1 January 2024, so that there is currently no legislation requiring the construction of wind farms to be subject to a tender.

We also refer to our answer under the next question no. 5 regarding the protection zone which has been reduced from 12 km to 700 m.

Abolishing the above boundaries and the entry into force of the new rules, in our view, will lead to more investment opportunities in the wind energy sphere investment.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

In recent years, there have been no wind power plant developing projects in Hungary due to the fact that the regulations at the time made such investments impossible.

The legislation contained requirements that were impossible to meet and there was no area where wind farms could be installed, given that the protection zone was defined as 12 km from the municipal boundary. However, in practice, this means that, within such a protection zone, no wind power plants could be installed. If these areas were put on a map, they covered the territory of Hungary. Therefore, it resulted in a statutory ban on installing wind power plants. The recent change in legislation has removed these limits and the protection zone has now been reduced to 700 m.

Despite the above, there are still obstacles as the public grid has reached its capacity limits. Given that the grid has reached its maximum capacity, in certain cases, such as for combined small power plant permits, their request for connection to the grid must be submitted in a so-called capacity allocation procedure (i.e. a capacity tender). Anyone who would apply for free capacities at the capacity allocation procedure, shall only participate if provides tender security. The main risk of this procedure that in order to secure the connection right, the capacity tender has to be won.

If the connection requires upgrading the public network, which is usually the case, performing the works is usually undertaken and the related costs are borne by the system user, i.e. the licensee, who does not have to pay a connection fee in return. In this case, however, those elements of the completed network connection which are part of the public network has to be handed over to the competent distribution system operator (DSO) free of charge. If the network connection is constructed by the competent DSO, it could lead to a more time consuming and expensive procedure.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Eight.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Land purchase agreements

c) Securities in rem (i.e., rights requiring registration in an official cadastral/land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

d) Land use right (in Hungarian: "földhasználati jog")

e) Building right (in Hungarian: "építményi jog")

f) Easement right (in Hungarian: "szolgalmi jog")

g) Cable right (in Hungarian: "vezetékjog")

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

There are restrictions on the term of the utilisation of national property (generally 15+five years) which do not apply in case of private owners, in such case the acquisition of the underlying land is advised. Otherwise, there is no obstacle to conclude such agreements for the duration of the project (e.g. 20-30 years). In certain legal structures, for example in case of establishing a land use right for the benefit of the all-time owner of the wind power plant, statutory law also sets out as a default rule that the underlying land can be used until the given building is not demolished.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

In case of national property, public tender procedure may apply related to the sale/ utilisation of the given property prolonging the process, it could possibly take more than a year. In case of private owners normally the negotiation and contracting process is shorter, about three to six months.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Duration of the registration process: less than three months.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Based on our experience with wind projects in Hungary, the potential repowering of wind power plants was not agreed with the landowners at the time of the conclusion of the original agreements. However, it would be possible to agree such mechanism under Hungarian law and depending on the underlying legal structure, for example in case of the establishment of a land use right, it may be possible to rely on statutory default rule that the underlying land can be used until the given building is not demolished, therefore, the location of the project would be secured.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

Companies cannot acquire and cannot conclude lease or similar use agreements related to agricultural lands as per the Land Transactions Act. Real properties must be reclassified from agricultural cultivation into a cultivation not being subject to the Land Transactions Act (e.g. power plant exempted from agricultural cultivation) so that the investor can acquire them or conclude lease or similar use agreement related to them. Generally, reclassification is only possible once the given project has been constructed. In the construction phase, preliminary land purchase or land lease agreements are possible to be concluded. It is possible to secure such preliminary agreements with "in rem" securities as well (e.g. by securing potential claims of the investor by establishing and registering a mortgage right and a so-called "prohibition of alienation and encumbrance" over the underlying land). When the construction works are completed and the occupancy permit is obtained, the land can be reclassified from agricultural cultivation and the investor can conclude a final lease agreement or final sale and purchase agreement related to it.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

Key documents necessary to achieve RTB stage:

Building permit: The construction of wind power plants, substations, cables and generally other permanent structures require a building permit to be issued by the competent county level government office as construction authority. All competent special authorities (such as environmental authority, local municipality) participate in the building permit procedure to review whether the plans comply with the applicable sectoral regulations.

Amendment of the local zoning regulation: Compliance with the applicable local and county level zoning and building regulations are also reviewed as part of the building permit procedure, therefore, by the time of filing the permit request, the applicable zoning and building regulation shall accommodate the project.

Utilisation permits: In case the project would be built on agricultural lands, a permit for utilisation other than agriculture is necessary to be obtained from the land registry office indicating the exact purpose (e.g. wind power plant) of the utilisation.

Preliminary archaeological documentation report: This is necessary in case of any development projects that involve earthworks (i.e. works that are carried out below 30 cm of the ground level) and the budget of which exceeds HUF 500,000,000 (approx. EUR 1,300,000).

Environmental impact assessment: necessary in case of higher capacity wind projects, depending on the results of the impact assessment, environmental permit may be necessary.

Combined small power plant permit: If the built-in capacity of a power plant reaches or exceeds 0.5 MW but does not reach 50 MW, a simplified licensing procedure applies, where HEPURA issues combined small power plant permit which includes the license to (i) establish (construct) the small power plant and to (ii) generate electricity.

Network connection agreement: The network connection agreement is concluded between the system user and the and the competent distribution system operator.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: six to 12 months.

Average duration of permit procedures: one month to six months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

In case of wind projects, it is necessary to complete an environmental impact assessment procedure in case the given project exceeds 500 kW and it is located in protected ecological areas, “Natura 2000” areas or cave protection zones, and in such case a separate environmental permit will be necessary for the given project. Based on a preliminary decision of the environmental authority, it may be necessary to complete an environmental impact assessment procedure if the project (i) exceeds 600 kW or (ii) it would be located in protected ecological areas, “Natura 2000” areas or cave protection zones from 200 kW. Depending on the results of such environmental impact assessment, obtaining a separate environmental permit may be necessary for the given project.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

- *Distance requirements*

19 | Please describe the legal framework for the repowering of wind turbines.

Topic is not of relevance.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

In Hungary, the licensed network operator having territorial competence is responsible for the implementation of the grid connection. According to the Electricity Act, the licensed network operator can be a transmission system operator (“TSO”) and a distribution system operator (“DSO”). Hungary follows the ITO model, so there is only one TSO, i.e. MAVIR Zrt. (“MAVIR”), in Hungary, and the ultimate owner of the MAVIR is the Hungarian State, while there are several distribution system operators, including privately-owned companies (e.g. E. ON) and companies whose ultimate owner is also the Hungarian State. Overall, the ownership structure of DSOs is mixed.

With regards to the above, in Hungary a “connection permit” does not exist, the network connection rights are secured when there is an executed network connection agreement between the competent network operator and the network user, furthermore the predetermined securities are paid.

21 | At which stage of a project do project developers have to apply for a grid connection?

Producers wishing to connect to the medium or high voltage network can connect to the network through a capacity allocation procedure. As of 1 January 2025, the capacity allocation procedure shall be announced at most every 24 months followed by a public tender. The rules of the tender procedure are determined by a ministerial decree. The tender is issued and conducted by HEPURA. The tender must also be published on the HEPURA website.

22 | Who has to bear the costs of the grid connection?

The capacity allocation procedure also qualifies as a request for connection procedure, while it is a more complex tender than the one following a simple request for connection procedure (e.g. when a simple user wants to connect to the public grid). The capacity allocation procedure’s rules will be laid down in a ministerial decree. The applicant can be the wind power plant’s operator as well as the developer.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

There is no solid practice yet for connecting wind power plants to the grid, as the statutory ban on wind power plant developments has been just recently abolished. Accordingly, solid practice has not yet been established for wind power plants to enter the capacity allocation process.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

According to the available public data, which can be downloaded from the HEPURA’s website, the majority of wind power plants sold the electricity generated within the feed-in-tariff scheme (“KÁT”). The other, relatively small group of wind power plants are on the free market.

Under the KÁT scheme, the electricity generated is taken over by MAVIR (the TSO) during the term and in the quantities set out in the decision establishing the Feed-in-tariff entitlement resolution. The base prices for mandatory takeover were set in Government Decree 389/2017, which were previously indexed each year in line with the annual consumer price index. As of 31 January 2025, the annual indexation for the prices for the mandatory takeover will be discontinued (i.e. the prices are frozen) until the end of the state of danger, but no later than 2029. An exception to this rule is if the annual average inflation in Hungary exceeds 6 %, then this new rule does not apply for the given year. The mandatory take-over prices are uploaded to the website of the HEPURA and publicly available.

As of 1 January 2017, it was no longer possible to apply for KÁT support, which has been replaced by the METÁR scheme, but currently, no wind power plant is receiving METÁR support.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

- *Contracts for difference (CfDs) (This subsidy model defines a fixed minimum remuneration per MWh of electricity. The level of this subsidy rate is usually determined by a tender procedure.)*

Description:

The Hungarian renewable support scheme ("METÁR") has been approved by the European Commission based on the State Aid Guideline. Under the METÁR, the installations generating renewable electricity with a capacity above 1 MW and wind installations the aid is granted to the generators in the form of a premium on top of the market price. Under the premium model, the generator has to sell the generated electricity directly on the market (i.e. to a third party by a power purchase agreement or on the power exchange) and claim the premium subsidy.

As indicated in point 24 above, most of the wind power plants that are already producing electricity in Hungary are operating under the feed-in-tariff (KÁT) scheme, given these were built in those times when there were no other applicable support schemes. Please note that as the KÁT subsidy was terminated on 31 December 2016, it is no longer possible to apply for KÁT subsidy.

26 | How does the application process for the promotion / subsidy scheme work?

- *Eligibility through tendering process*

Description:

The announcement and the main conditions of a METÁR tender is up to the discretion of the minister responsible for energy policy ("Minister"). If the Minister, within its sole discretion, decides that a METÁR tender should be announced, then it has to be requested the HEPURA to announce the ten-der. Following its announcement, the METÁR tender is administered by the HEPURA. In the METÁR Tendering Scheme, the off-take price (i.e. the premium amount) is subject to competitive tendering. The bidders have to submit their bids with respect to the proposed off-take price, which cannot be higher as the maximum off-take price determined by the HEPURA. Bids exceeding the maximum off-take price cannot be taken into consideration. The evaluation of the bids is solely based on the off-take price. In the tender documents, two guarantees are determined, bidding security and performance security. Bidding security is the security for the implementation of the investment in the bid before selection, while performance security is the security for the implementation of the investment in the winning bid after selection of the winning bids.

Only such installations may participate during the METÁR Tender, which will be built as new investment or in the case of a refurbishment, the investment value of which exceeds 50% of the value of the existing installation.

27 | What is the foreseen funding period for the promotion//subsidy scheme described under question 25?

20 years

Description:

According to NFM Decree 62/2016 (XII. 28.) on the limits of support for the production of electricity from renewable energy sources and the application procedure for premium-type support, the Minister responsible for energy shall specify in the call for proposals the period of eligibility to be granted to applicants. However, under Government Decree 299/2017. (X. 17.) on the feed-in tariff for renewable electricity and the premium tariff, the period of eligibility shall not exceed 20 years.

The period of eligibility was 15 years for the 2022 tender, 15 and 20 years for the 2021 tenders, 15 years for the 2020 tender and 15 years for the 2019 tender. Therefore, it can be concluded that usually the funding period is 15 years.

28 | Does the promotion//subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

The METÁR tendering scheme is a so called "premium support scheme", whereby the aid is granted to the generators in the form of a premium on top of the market price. Under the premium model, the generator has to sell the generated electricity directly on the market (i.e. to a third party by a power purchase agreement or on the power exchange) and claim the premium subsidy based on the actual generated electricity data (i.e. kWh).

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

There is no solid practice yet for wind power plants as currently no wind power plant is receiving METÁR support. Wind power plants under the METÁR scheme do not exist and therefore we cannot assess if there are special features or specific hurdles.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

The Enforcement Decree specifies the form of company in which a licensable activity can be carried out. Accordingly, if a wind power plant has a nominal capacity of more than 0.5 MW but less than 50 MW, i.e. it has a combined small power plant permit, it may carry out its activity as a domestically established entity. Stricter rules are applied to power plants with a nominal capacity of over 50 MW. By means of this, if a wind power plant has a nominal capacity of more

than 50 MW, it may carry out its activity as a domestically established limited liability company or a company limited by shares. Currently, there is no wind power plant in Hungary with a nominal capacity of over 50 MW.

According to publicly available data, wind power plants that hold a combined small power permit operate as limited liability companies or limited partnerships.

Within the context of performing business activities, limited liability companies ("Kft") are primarily used in Hungary. Its equity based and has registered capital with a minimum amount of HUF 3,000,000 (approx. EUR 9,700) that is contributed by its founder. Capital contributions may be either cash contribution and/or in-kind contribution (e.g. real properties, IP rights). In Hungary, establishing a limited liability company is a fast-track procedure, provided that the deed of constitution is based on a template, in this case the company registry registers the newly established company in a few days from the submission of the corporate documents.

Companies limited by shares ("Zrt.") are also commonly used, however they are subject to stricter and more complicated regulations, as a Zrt. certain further obligations should be fulfilled (e.g. the minimum requirements of the registered capital is higher, Zrt. shall keep a register of shareholders). The minimum registered capital required to incorporate a Zrt is HUF 5,000,000 (approx. EUR 15,600), both cash and in-kind contributions can be provided.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

Companies operating wind power plants have different ownership structures. Among the companies with a combined small power plant permit, some are owned exclusively by natural persons, but several are owned by foreign investment companies. Only a small number of licensees are state-owned companies, the majority are privately owned power plant operators.

In general, the market practice is to hold the plants and operational business within a single SPV rather than separate ones. Given that the wind energy market has just opened again, we cannot foresee what will be the practice in the near future.

In Hungary, the unbundling of activities is regulated by the Electricity Act and the Enforcement Decree. If the licensee is engaged in any other licensable activity in the electricity industry other than the generation of electricity, the licensee is required to unbundle licensable activities and non-licensable activities in its internal accounting by the provisions of the applicable laws and requirements. We note that these obligations affect mainly large, state-owned companies such as MVM Group, in the private renewable energy sector we consider that it is rare to apply unbundling provisions.

In the case of transmission system management or distribution activities are carried out in the context of a vertically integrated electricity company, the legal, organisational and decision-making independence of transmission system management or distribution from non-transmission system management or distribution activities shall be ensured. As an example, a person with an employment contract may not hold a share or be the director in a license holder entity other than the network licensee. If the licensee has other authorised activities besides electricity generation, they must unbundle their assets and liabilities in their accounting records. They must also ensure that their non-licensed activities do not impact their licensed activities and there is no cross-subsidisation between them. We note that unbundling is a quite complex area of the energy laws in Hungary, the above is a high-level summary of the fundamental provisions.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with eight,*

(ii) *planning law with eight,*

(iii) *permit situation with eight, and the*

(iv) *granting of subsidies with eight.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

The current hot topic in Hungary concerning wind energy is the changes in the legislation from 1 January 2024. The amendment has removed significant obstacles that have prevented wind power plant investments in the last decade. However, at this stage, it is hard to predict whether facilitating the permitting process will result in an increasing appetite of the investors for wind-related investments, nor whether these investments will have the interest to receive any form of state aid.

Ireland

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

The Irish onshore wind energy sector is regulated by domestic and EU laws, guidance from regulatory authorities and industry rules.

The primary piece of domestic legislation governing the energy sector is the Electricity Regulation Act 1999 (as amended) ("ERA"). The ERA established the Commission for Regulation of Utilities ("CRU"), the independent regulator for the energy and water sectors. In accordance with the ERA, the CRU has responsibility for issuing licences to supply and generate electricity, and authorisations to construct electricity generating stations. The CRU is also empowered to issue binding decisions in respect of energy policy, within the remits of the ERA and other relevant national and EU legislation.

EirGrid plc ("EirGrid") is the Transmission System Operator ("TSO") and ESB Networks ("ESB") is the Distribution System Operator ("DSO"), responsible for connections and access to the transmission and distribution systems of the Irish electricity grid respectively. Both EirGrid and ESB are licensed by the CRU to perform these roles.

In terms of buying and selling electricity, the Single Electricity Market ("SEM") is the wholesale electricity market for the island of Ireland (both the Republic of Ireland and Northern Ireland). The SEM is jointly regulated by the CRU and the Utilities Regulator, and is jointly operated by SEMO, a contractual joint venture between EirGrid and SONI. The primary markets in the SEM are the Balancing Market, Day-Ahead Market, Intraday Market and Capacity Market.

Participation in the Balancing Market is mandatory for all generators greater than 10MW. Participation in the Balancing Market is regulated by the Trading and Settlement Code.

The Day-Ahead and Intraday Markets are operated by SEMOpx, a contractual joint venture between EirGrid and SONI. Participation in the Day-Ahead and Intraday Markets is regulated by the SEMOpx Rules and Operating Procedures, and is optional for generators.

Participation in the Capacity Market is regulated by the Capacity Market Rules, and is optional for generators. SEMO also operates the Capacity Market.

Within the Irish government, the Department for the Environment, Climate and Communications has responsibility for the implementation of policies concerning (amongst other things) renewable energy. Irish legislative policy is primarily driven by EU laws, such as the Clean Energy Package and REPowerEU. In line with EU measures, the development of onshore wind energy is a key objective of Ireland's energy policy. Ireland's Climate Action Plan 2024 aims to increase the proportion of renewable electricity to 80% by 2030 and sets an ambitious target of installing 9 GW of onshore wind by 2030. The development of offshore wind is a key focus for the Irish government currently, with new legislation (such as the Maritime Area Planning Act 2021) and policies being introduced to facilitate the development of offshore wind farms.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 36% and the share of onshore wind energy from other renewable energies was 49.9%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

Yes, there are binding targets for the expansion of wind energy in Ireland.

Description:

Ireland's Climate Action Plan 2024, introduced pursuant to the Climate Action and Low Carbon Development 2015 (as amended) ("Climate Act"), sets a target of installing 9 GW of wind energy by 2030.

The Climate Act also sets a legally binding target of achieving climate neutrality no later than 2050 with a 51% reduction in Green House Gas emissions by 2030.

The third Renewable Energy Directive (EU/2023/2413) sets a legally binding target on all Member States to increase the share of energy from renewable sources to 42.5% by 2030. Ireland is bound by this target, and this is anticipated to inform energy policy with respect to the development of renewable energy such as onshore wind.

04 | Which measures are being taken by the government to promote onshore wind energy?

The Irish government has introduced national subsidy schemes to promote the development of energy from renewable sources. The current scheme is the Renewable Electricity Support Scheme ("RESS"). RESS is structured as a two-way contract for difference ("CFD"), with participants winning support through a competitive auction process. Three auctions have been held to date (2020 – 2023), and the next auction is planned for 2024. Different terms and conditions apply to each auction, and the Irish government usually holds a public consultation on any proposed changes.

Before RESS, the Renewable Energy Feed-in Tariff (REFIT) scheme was in place. This was structured as a feed-in tariff support scheme, with two competitions held (2010 – 2012). Existing REFIT projects continue to receive support, however no new competitions are planned.

National subsidy schemes are also being developed for smaller scale projects, such as (a) the Small-Scale Renewable Electricity Support Scheme – for renewable electricity projects with output greater than 50kW. Terms and conditions are yet to published, and (b) the Micro-generation Support Scheme – providing capital grant support to domestic and non-domestic applicants for projects up to 6kWe, as well as feed-in tariff support (known as the Clean Export Premium) for projects 6kWe – 50kW in size.

From a planning perspective, the new Planning and Development Act 2024 aims to reform the planning process and introduces mandatory decision-making timelines (amongst other changes). Although not specific to onshore wind farms, these reforms have been welcomed by industry groups which cite issues with the Irish planning system as a major hurdle to renewable energy development. The third Renewable Energy Directive (not yet transposed in Ireland) also introduces new rules concerning enhanced permit-granting procedures which will be of particular interest in this context.

The Irish government is also designing a Renewable Electricity Spatial Policy Framework which will offer a plan-led approach to the development of onshore renewable electricity in local areas, and improve consistency between national, regional and local climate action policies. This framework will include the allocation of renewable electricity spatial and generation targets across three 'Regional Assemblies'.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

The primary barriers to the development of onshore wind energy projects in Ireland are:

(1) Planning concerns – A recent report commissioned by Wind Energy Ireland (the leading industry group for the wind energy sector) found that the Irish planning system was a major hurdle to renewable energy development and a critical area for improvement. The length of time it takes to obtain planning permission has been identified as a key risk for onshore wind farms, compounded by the judicial review process which can take many years.

The Planning and Development Act 2024 proposes to reform the planning system, introducing key changes such as (i) changes to the judicial review process – introducing clarity on sufficient interest and standing rights for applicants, (ii) mandatory timelines for decision-making, and (iii) reform of the Irish national planning authority (An Bord Pleanála).

(2) Grid infrastructure – Industry stakeholders are of the view that rapid expansion to the electricity grid, as well as flexibility, are required to achieve Ireland's renewable energy targets. The current System Non-Synchronous Penetration limit for the Irish electricity grid is 75%, meaning that up to 75% of Ireland's electricity generation can come from renewable energy sources such as wind and solar. However, in order to meet Ireland's renewable energy targets (ie, increasing the proportion of renewable electricity on the electricity grid to 80%), it has been suggested that this limit must increase.

EirGrid has recently published its Shaping Our Electricity Future Roadmap which outlines the steps it is taking to ensure that the electricity grid is strong and flexible enough to meet these targets, and this includes a number of network development projects.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Eight.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Land purchase agreements

c) Securities in rem (i.e., rights requiring registration in an official cadastral/land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

The term of such land use contracts typically aligns with the design life and / or planning life of a project, which is currently around 20 years. Recently however, we have seen longer terms for example lease terms of 25 and 30 years for windfarms, and 35 to 40 years for solar projects.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: in parallel with planning and permitting process.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Duration of the registration process: three to six months.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Repowering is not currently a feature of the Irish onshore wind energy sector, and in our experience, provisions regarding repowering are not typically found in Irish land lease agreements. However, repowering has been identified as an area for potential future development, as some wind farms reach the end of their operating life.

It is worth noting that planning permission (i.e., an extension to the existing planning permission or an entirely new planning permission sought), and landowner consent (i.e., by way of an amendment to an existing land lease agreement or a new land lease agreement) would be required in order to repower a wind farm.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

In Ireland, some land remains "unregistered", meaning that it is registered in the historic Registry of Deeds rather than with the Land Registry. Tailte Éireann is the new State agency responsible for all property registrations (i.e. both Registry of Deeds and Land Registry). In the context of the queries above, it should be noted that it can take significantly longer to register land rights (i.e., a number of years) if they relate to unregistered land.

Within the Irish planning system, local city or county development plans are prepared by local authorities which indicate the development objectives for the area in question. When developing wind farms, city/county development plans should be reviewed to identify any areas where wind farms are permitted in each city / county.

As set out in more detail in response to the queries in Part D, planning permission and relevant permits must be obtained.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

I. Planning – Under the Planning and Development Act 2000 (2000 Act), planning permission is required in order to develop a wind farm. Applications for planning permission are made to local authorities or the Irish national planning authority (An Bord Pleanála or ABP).

The 2000 Act permits applications for certain strategic developments to be made directly to ABP. This procedure can be used by wind farms with 25+ turbines or an output of 50MW+, where ABP considers that the project is of strategic, economic or social importance; contributes substantially to fulfilling the National Spatial Strategy or regional planning guidelines; or would have a significant effect on the area of more than one planning authority.

Certain wind farms are exempted and do not require planning permission (e.g., domestic microgeneration).

II. Grid – Generators must seek a grid connection agreement from EirGrid (if connecting to the Transmission System) or ESB (if connecting to the Distribution System). In keeping with current grid connection policy, generators must obtain planning permission before applying for a grid connection agreement, subject to certain exclusions.

III. Authorisation to Construct – Generators must seek an authorisation to construct or reconstruct an electricity generating station from the CRU pursuant to the Electricity Regulation Act 1999 (as amended) (ERA).

IV. Licence to Generate / Supply – Pursuant to the ERA, licences must be obtained from the

CRU in order to generate and supply electricity respectively.

V. Section 48 / 49 Consents – In some cases, developers may be required to obtain consent from the CRU (a) to lay electricity cables across or under any street, road, railway or tramway (and to break up any street, road, railway or tramway for this purpose), pursuant to section 48 of the ERA, or (b) lay electricity cables across or under any land not being a street, road, railway or tramway, pursuant to section 49 of the ERA.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 30 to 48 months.

Average duration of permit procedures: 30 to 48 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Conservation and species protection play an important role in the planning process.

In accordance with the Environmental Impact Assessment Directive 2014/52/EU (transposed in Ireland by the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018), applications for planning for wind farms in Ireland require an Environmental Impact Assessment (EIA) which sets out the potential impact of the wind farm on the environment. EIAs may not be required for wind farms smaller than 5MW.

As part of the EIA, applicants may be required to commission specialist studies such as an archaeology assessment; shadow flicker assessment; landscape and visual impact assessment; air quality and climate assessment; bird studies; a noise assessment; an ecological survey; or a traffic and transport assessment.

In accordance with section 177U of the Planning and Development Act, the Irish planning authorities must carry out screening to determine whether a project is likely to have a significant effect on certain European sites, and as such whether an Appropriate Assessment is required. Appropriate Assessments derive from the Habitats Directive (92/43/EEC) which identifies Special Areas of Conservation and Special Protection Area, collectively referred to in Ireland as 'European Sites'. Planning permission will only be provided if it is determined that the project will not adversely affect the integrity of such site, in view of conservation objectives. In many cases, wind farm developers will proactively submit an Appropriate Assessment screening report with their application for planning permission, however planning authorities are not legally required to consider such reports as part of the screening process.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

c) Monument protection

d) Distance requirements

e) Air corridors

f) Interference with electromagnetic transmissions

g) Landscape and visual impacts

h) Residential amenity impacts such as noise or shadow flicker

i) Proximity to cultural or heritage assets: an assessment of its impact on the asset must carried out and submitted with the planning application.

19 | Please describe the legal framework for the repowering of wind turbines.

As set out in our response to Q13, repowering is not currently a feature of the Irish onshore wind sector, however this has been identified as an area for potential future development, as some wind farms reach the end of their operating life.

There is no specified legal framework for the repowering of wind turbines. In the absence of any specific regulations, the planning and permitting procedures applicable to 'standard' wind farms would apply (with some modifications). For example, a developer may seek to extend an existing planning permission, rather than applying for an entirely new planning permission.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

State / public authority / state-owned grid operator

21 | At which stage of a project do project developers have to apply for a grid connection?

After receiving the necessary permit(s).

22 | Who has to bear the costs of the grid connection?

Grid connection works are performed either 'contestably' or 'non-contestably' in Ireland, and this will be specified in the grid connection offer issued by EirGrid or ESB (as the case may be). In either case, the cost of carrying out such works are generally borne by the developer.

Contestable grid connection works are carried out by the developer, and ownership of any grid infrastructure constructed as part of these works will be transferred to EirGrid or ESB (as the case may be) following completion of the works. Developers are typically paid a nominal amount for carrying out such works (i.e., they are not compensated for the costs incurred in carrying out such works).

Non-contestable works are carried out directly by EirGrid or ESB (as the case may be). In these circumstances, EirGrid / ESB will usually require payments to be made by the developer in accordance with the grid connection offer to recover the costs of carrying out such works.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

Under section 34 of the Electricity Regulation Act 1999 (ERA), the CRU may give directions to EirGrid (as Transmission System Operator) and ESB (as Distribution System Operator) regarding the terms and conditions of access to the transmission and distribution systems.

The latest Irish grid connection policy determined by the CRU (in accordance with this statutory power) is the Enduring Connection Policy – Stage 2 (ECP-2). This requires generators to submit applications for grid connections during specified annual application windows known as 'batches'. In other words, grid connection applications can only be submitted during certain windows identified by the CRU. EirGrid and ESB allocate capacity based on certain rules determined by the CRU with the goal of prioritising renewable generation projects, 'shovel ready' projects and community-led renewable energy projects.

The CRU is currently developing a new grid connection policy for onshore renewable and conventional generators, storage and other system services technology projects. This new policy will aim to, amongst other things, support the delivery of Ireland's renewable electricity targets. Public consultation in respect of this policy is ongoing, however one of the CRU's 'minded-to' positions is to "introduce a bi-annual batch application process without caps for renewable generators".

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Government subsidy schemes such as RESS and REFIT – see response to Q4.

The RESS terms and conditions require generators to enter into power purchase agreements (PPAs) with licensed suppliers in order to receive support. RESS support payments are made directly to the supplier, and there is no obligation on the supplier to pass through these revenues to the generator. As such, the allocation of RESS benefits is often a point of commercial negotiation.

Many RESS projects adopt a 'supplier-lite' structure where both the generator and supplier are ultimately owned by the same entity. In this instance, the PPA will typically provide for a straight pass through of RESS revenues from the supplier to the generator.

II. Corporate PPAs

Corporate PPAs (CPPAs) are agreements between a generator and a corporate offtaker to sell and purchase (a) environmental benefits in connection with the project (ie, Guarantees of Origin) (known as a virtual or financial CPPA) or (b) both the environmental benefits and physical electricity generated by the project (known as a physical CPPA).

For physical CPPAs, the corporate offtaker will require a licence to supply electricity and will be responsible for trading the electricity in the SEM. However, the corporate offtaker may outsource this to a specialist third party electricity trader.

In relation to financial CPPAs, generators will typically have a separate physical PPA with a licensed supplier in order to sell the electricity generated by the project in the SEM. It appears possible from a regulatory perspective for generators to sell electricity directly in the SEM (without a licensed supplier) however we are not aware of any projects that have adopted this structure to date.

III. Merchant PPA

Merchant PPAs are agreements between a generator and a supplier to sell and purchase electricity. Merchant PPAs are 'unsupported' by either government subsidies or CPPAs. The allocation of market revenues will be commercially negotiated.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

- *Contracts for difference (CfDs) (This subsidy model defines a fixed minimum remuneration per MWh of electricity. The level of this subsidy rate is usually determined by a tender procedure.)*

Description:

Please see response to Q4 which provides an overview of national subsidy schemes in Ireland.

26 | How does the application process for the promotion / subsidy scheme work?

- *Application process with e.g. a governmental authority*

Description:

As set out above in response to Q4, RESS operates by way of auctions held at frequent intervals throughout the scheme. The application process for each auction in the RESS scheme will be specified in the terms and conditions published by the Irish government. The following general principles apply (although are subject to change by the Irish government for each auction):

- Applicants must qualify to participate in RESS auctions, and there will be a specified application window in order to submit an application for qualification.
- Applicants must meet certain eligibility requirements set out in the terms and conditions (eg, projects must have obtained planning permission).
- Applicants must post cash security known as "Bid Bond" in order to qualify for RESS. The Bid Bond is based on an EUR/MWh amount specified in the terms and conditions. The MWh value is based on the "Deemed Energy Quantity" for one year of the project.
- Applicants which qualify for the auction are entitled to submit an offer, up to a maximum price (for RESS 3, the maximum offer price was EUR 110/MWh).

- Following the RESS auction, Bid Bonds will be returned to unsuccessful participants. Successful participants are required to post on-demand Performance Security in order to receive RESS support, and Bid Bonds will not be returned by the Irish government until this Performance Security is provided. If the Performance Security is not provided, the Irish government may draw down on the Bid Bond.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

16.5 years.

Description:

The European Commission State Aid decision in respect of RESS provides that support may be provided up to a maximum period of 16.5 years

In keeping with this decision, the terms and conditions for RESS 1, 2 and 3 provide for a maximum 16.5 year support period for successful projects.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

Support payments are paid under RESS auctions on an EUR/MWh basis, in accordance with the terms and conditions for RESS 1, 2 and 3. The weighted average strike price achieved in RESS 3 was EUR 100.47/MWh (increasing from EUR 97.87/MWh for RESS 2).

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

RESS support payments are funded through the Public Service Obligation (PSO) levy, a charge paid by all final electricity customers in Ireland. RESS support is calculated annually each PSO levy year (which begins on 1 October) based on forecasted energy prices, and is reconciled in the following PSO levy year.

This means that RESS suppliers are obliged to pay 'difference payments' to the Irish government based on forecasted pricing, rather than actual market revenues, and it can take up to two years (from one PSO levy year to the next) for reconciliation to occur.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

In general, wind farms are operated by private companies limited by shares. However, there is no specified type of legal entity which must be used to operate a wind farm (provided that all other permits and consents are obtained, as set out in our responses to this survey).

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

The ownership structure of a wind farm varies depending on the parties' commercial requirements. Typically a SPV will be incorporated to develop the wind farm, and apply for the relevant permits. Where multiple entities are developing a project (e.g., through a joint venture), each entity will typically hold a percentage of shares in the SPV.

Some projects adopt a 'supplier-lite' structure which involves an onshore wind developer setting up its own licensed supply company (SupplyCo) and licensed generation company (GenCo), where both SupplyCo and GenCo are controlled by the same entity. This structure emerged primarily as a result of the nature of the Irish government subsidy schemes for renewable projects (ie, REFIT and RESS) which required (i) a GenCo to enter into a PPA with a SupplyCo, and (ii) provided that subsidies would be paid directly to the SupplyCo. To ensure that GenCo receives 100% of such subsidies, it is beneficial for developers to incorporate their own SupplyCo (rather than entering into a PPA with a third party SupplyCo where they may need to share REFIT / RESS revenues).

The Irish onshore wind sector includes both private operators, and semi-State operators (ie, partially owned by the Irish government). Typically the SupplyCo and GenCo will be two separate SPVs. There is no requirement for the wind farm assets to be held separately (ie, these could be owned by GenCo, SupplyCo, a parent or subsidiary of such entities, or an entirely separate third party that leases the equipment to such entities). The standard arrangement would be for the GenCo (or its parent / subsidiary) to own the wind farm assets.

In terms of unbundling requirements, due to Ireland's current market arrangements (certified by the European Commission in 2013 as compliant with unbundling requirements), in broad terms this is not a concern for onshore wind energy developers (but this would need to be analysed on a case by case basis to the extent that for example a shareholder or owner of that onshore wind energy developer owned transmission assets in another jurisdiction). For context:

- ESB (a State owned entity) owns the electricity distribution and transmission systems, and operates the distribution system (under the relevant electricity legislation ESB is the only entity that can perform these functions in the Republic of Ireland). ESB (through a business division named Electric Ireland) also acts as

an electricity supplier. Another business division of ESB is active in power generation. Each of these divisions are separate, ring-fenced businesses within the ESB group.

- A separate State owned entity, EirGrid plc, is the transmission system operator (again under the relevant electricity legislation EirGrid is the only entity that can perform this function).

- Transmission owner and operator licences have not been issued to any other entity in Ireland. As such, is not possible for private onshore wind developers to 'operate' transmission assets.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with eight,*

(ii) *planning law with eight,*

(iii)*permit situation with eight, and the*

(iv)*granting of subsidies with nine.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

The Irish government recently held a public consultation on the development of private wires (or 'direct lines'), which is a live issue in the onshore wind sector. At its most basic, private wires refers to private individuals or undertakings laying their own electricity cables in order to transfer electricity to a single user. Private wires are used in Northern Ireland, Britain and other EU countries, however they are generally not permitted under Irish law. While a mechanism exists under the ERA for the CRU to grant permission to construct a private wire in certain circumstances where a grid connection offer is refused, in practice this does not permit development of private wires.

The Irish renewable energy industry has been calling for the development of a private wires policy, as it believes that the national grid could be developed more quickly and more cost effectively if private wires were permitted. There is also a need to facilitate private wires as a matter of EU law. Article 7 of the Internal Electricity Market Directive (EU) 2019/944 requires Member States to take all measures necessary to enable the supply of electricity through a 'direct line', without being subject to disproportionate administrative procedures or costs. It also requires Member States to set out objective and non-discriminatory criteria for granting authorisations to construct direct lines.

In this context, the Irish government held a public consultation on private wires which closed in October 2023. The Irish government recognised that while the national grid must be developed, the State should also seek to enable off-grid solutions, including developing a policy on private wires. The consultation raised over 100 questions regarding the feasibility of introducing private wires, with some questions alluding to potential risks to the grid if private wires were permitted.

Feedback is eagerly awaited and will inform the Irish government's future policy decisions. The Irish government approved a set of guiding principles for the development of its private wires policy in July 2024.

Italy

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

The European Electricity Review found that wind and solar generated 22% of the EU's electricity in 2022, surpassing fossil gas (20%) and coal (16%) for the first time due to Europe's political response to the Russian invasion of Ukraine, accelerating the electricity transition. Wind power covered 17% of Europe'selectricity needs in 2022 (+9% from 2021), thanks in part to the speed of new installations. However, wind power in Italy struggles to take off (only 7.5% of the electricity generated). Wind Europe data found that new wind farms in EU in 2022 totalled 19.1GW, +4% over 2021 despite economic and supply chain difficulties. Italy ranks ninth on the list (less than ½GW of new wind farms in 2022). The 27-member EU now has a total installed wind capacity of 204GW (188 onshore, 16 offshore). Compared to 2022, Italy installed additional 525 MW of onshore wind power capacity in 2023. Even thanks to that, in 2023 wind power in Italy reached a record output of 23.4 TWh, covering 7.6% of national electricity demand (the share on onshore energy was 8%) and 9.1% of total generation. Currently, wind power is the third largest renewable source by generation, accounting for 20.7% of total electric renewable sources. Italy has considerable wind potential, both onshore and offshore, well above the current operating capacity; however, wind sector in Italy suffers from difficulty in obtaining the necessary permits and resistance to wind power (bureaucratic, administrative, psychological and cultural, mainly linked to landscape and environmental impact).

Legislative Decree No. 28/2011 (LGD 28/11), implementing Directive 2009/28/EC on the promotion of energy from renewable sources, is the Italian main set of rules on onshore wind energy. It stipulates that setting up of plants:

- with total power up to 20kW, whether located outside protected areas or areas part of Natura Network 2000 (i.e. the EU ecological network established by "Habitats Directive 92/43/EEC" to ensure long-term maintenance of natural habitats and threatened or rare species of flora and fauna) are considered ordinary maintenance interventions, thus not subject to permits, authorisations or administrative consents (Art. 7-bis, par. 5-bis of LGD 28/11)

- with a total power up to 50 kW, where Regional laws provide for it, requires the prior communication regarding free building activity (Art. 6, par. 11 of LGD 28/11);

- with total power up to 60 kW requires the Simplified Authorisation Procedure (PAS) (Art. 6 of LGD 28/11). Single Regions or Autonomous Provinces can extend the PAS requirement to the setting up of plants having nominal potential power up to 1MW;

- with total power up to 1 MW (save for what above), requires the Regional Single Authorisation (AUR) (Art. 5 of LGD 28/11);

- with total power above 30MW (new plants) requires both AUR and State Environmental Impact Assessment (VIA) under Legislative Decree 152/2006 (LGD 152/06).

On 15 November 2021, Legislative Decree No. 199/2021, implementing Directive (EU)

2018/2001 of the European Parliament and of the Council on the promotion of the use of energy from renewable sources (LGD 199/21), came into force, with the aim of accelerating Italy's sustainable growth path and increasing energy from renewable sources, consistent with the European goals of decarbonisation of the energy system to 2030 and full decarbonisation to 2050.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 8% and the share of total domestic renewable energy coming from onshore wind was 20.7%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

Yes, there are binding targets for the expansion of wind energy in Italy.

Description:

In December 2019, Italy adopted EU Regulation 2018/1999, the National Integrated Energy and Climate Plan (PNIEC), which sets an overall national target of gross energy consumption met by Renewable Energy Sources (FER) by 2030, breaks down the overall target into specific targets by sector, indicates the measures useful for pursuing them, and trajectories for their gradual achievement.

The PNIEC sets the following targets for growth in power from renewable sources to 2030: reaching

- 15,950 MW in 2025; and
- up to 19,300 MW in 2030.

04 | Which measures are being taken by the government to promote onshore wind energy?

Measures and incentives aimed at promoting the expansion of wind energy provided by national Government are set forth in LGD 199/21, in the form of financial incentive instruments for plants powered by renewable energy. For plants with a capacity above a threshold of at least 1MW, the incentive is awarded through competitive bidding procedures carried out with reference to power quotas. For plants with a capacity of less than 1 MW, the incentive is awarded through invitation to tender, if the plant is innovative and has higher generation costs, or through a request to be made directly at the date of entry into operation for plants with generation costs closer to market competitiveness.

To accelerate authorisation processes, art. 7 of law decree No. 50/2022 (the so called "Aid Decree"), provides for special simplification measures: where the Environmental Impact Assessment (VIA) related to the wind power plant is under State jurisdiction, VIA can be replaced by a deliberation of the Council of Ministers, and the mechanism of tacit approval operates. This helped unblocking many projects and no less than 11 new wind power plants have been built between August and September 2022.

Furthermore, the recent Law Decree 13/2023, provides that:

- the installation of wind power plants with a total capacity of up to 20 kW, placed outside of protected areas or out of areas belonging to Natura 2000 network, do not require any authorisation, being considered ordinary maintenance work (art. 49); and
- the buffer zone of property subject to protection under the Code of Cultural Heritage and Landscape is reduced in favour of the installation of wind farms. Airport grounds, including those within the perimeter pertaining to airports on smaller islands, are now also considered eligible for the purpose, based on the same law provisions.

In addition, according to art. 1 of Law Decree No. 181/2023, in order to promote and accelerate investment in self-generation of renewable energy in electricity-intensive sectors, until 31 December 2030, in case of multiple competing applications for the concession of the same area pursuant art. 12, c. 2, LGD. 3 March 2011, No. 28, the granting entities, for the purpose of identifying the concessionaire, shall give preference to projects of wind power plants aimed at meeting the energy needs of entities registered in the list of energy-intensive enterprises established at the Cassa per i Servizi Energetici e Ambientali (CSEA).

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

The first obstacle to onshore wind energy projects is the time required to obtain permits, which depends and varies on the type of permitting process required (which, in turn, depends on the power output of the plant to be set up). The timelapse varies from the 90 days necessary for the Single Authorisation (AU) needed for smallest projects, to the more than 500 days needed for large projects which entail a Verification of Subjectability (VA), and an Environmental Impact Assessment (VIA). It is necessary to point out that these deadlines are not peremptory, and the principle of silent consent does not apply.

Second, the multiplicity of public entities involved in the permitting process can generate different opinions and consequent extensions of time to complete the procedure: one example regards wind turbines for which a certain colouring is required, so to make them highly visible, which fact generates a landscape impact that is evaluated negatively by the Superintendencies of Cultural Heritage.

Third, a material issue regards opposition to the installations by local political representatives and population of places where plants sites are located. For example, municipalities may file appeals with respect to permits that have been granted, questioning the suitability of the municipal area to host the plant. Such objections are sometimes supported by Nimby ("not in my back yard") and Nimto ("not in my term of office") committees. The former include private individuals who oppose the plant because of its proximity to their homes or businesses. The latter include local politicians who, in order not to lose support, decide not to approve the project.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Five.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Land purchase agreements

c) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

d) Lease and securities in rem shall include an obligation to restore status quo ante of the places at expiry.

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of 20 to 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Contemporarily with the designing of the project, as soon as the spot for the wind farm is chosen. Negotiations with owners can be time-consuming, particularly when considering that in many cases the properties suitable for the scope are farmlands, which could be co-owned by multiple subjects (e.g., heirs holders of undivided shares in real estate assets resulting from inheritance).

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

The transcription of the instrument chosen for securing the land has to be made by the notary public before whom the instrument is executed. It takes a few days as of the date of execution of the agreement in front the notary public.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Usually, it is freely negotiated by the parties.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

LGD 199/21 sets rules for the identification of areas "suitable" by virtue of law for the installation of renewable source plants, as well as administrative simplifications for such plants.

Pursuant to art. 20, par. 8, the following areas are considered "suitable":

- sites where plants of the same source are already installed and where alterations, including substantial alterations, for refurbishment, upgrading or reconstruction, possibly combined with storage systems, are carried out, which do not result in a change in the occupied area of more than 20%;
- the areas of reclaimed sites ("siti oggetto di bonifica");
- ceased, unrehabilitated or abandoned quarries and mines or those in a condition of environmental degradation, or the portions of quarries and mines not susceptible to further exploitation;
- sites and facilities at the disposal of the companies of "Ferrovie dello Stato Italiano" and of managers of railway infrastructure, as well as of highway concession companies;
- sites and facilities in the availability of the companies managing airports within the airport grounds, subject to the necessary technical verifications by the National Board for Civil Aviation Authority (ENAC);
- areas: (i) not included in the perimeter of property subject to cultural or landscape protection, including areas encumbered by civic uses, (ii) nor falling within the buffer zone of property subject to protection, determined by considering a distance from the perimeter of property subject to protection of 3km for wind power plants and 500 meters for photovoltaic installations;
- simplifications granted in such cases are: the opinion of the competent authority on landscape matters, including for VIA purposes, has mandatory and non-binding nature. After the time limit for expressing the opinion has expired unnecessarily, the administration shall in any case take action on the permit application (Art. 22, par. 1, lett. a).
- the reduction by one third of the terms of the permit procedure.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

If the wind plant has a total power greater than 1MW, this is subject to a Verification of Subjectability (VA), pursuant to Annex IV to Legislative Decree 152/2006 (LGD 152/06) in

order to ascertain whether the project needs to undergo the Regional Environmental Impact Assessment (VIA). The VIA is aimed at evaluating whether the impact has "significant and adverse effects on population and human health; biodiversity; land, soil, water, air, climate; cultural patrimony and landscape".

If the plant has a capacity of more than 30 MW, the environmental impact is presumed and the VIA is automatically needed and the responsibility escalates to the State, specifically to the Ministry of the Environment, subject to the acquisition of the agreement of the Ministry of Cultural Heritage and Activities, pursuant to art. 7-bis LGD 152/06. The subject who intends to build a wind power plant for which a VIA is required must draft an Environmental Impact Study (art. 22, LGD 152/06), the essential content of which is indicated by law: among others, it must contain a description of the project and its effects on the environment, as well as measures to avoid or reduce likely negative environmental impacts. When submitting a VIA application to the competent authority, the proponent will attach the final project, the Environmental Impact Study, a non-technical summary to be addressed to the public, and the notice to be published by the competent authority on the relevant website, pursuant to Art. 23 LGD 152/06.

The VIA procedure is concluded by an express and reasoned decision, which contains conditions for the construction, operation and decommissioning of the work, measures to avoid, reduce and prevent negative impacts.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: six to 12 months.

Average duration of permit procedures: 12 to 18 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

The wind farm project is subject to Environmental Impact Assessment, which is "a measure by which a real function of political-administrative direction is exercised, with particular reference to the proper use of the territory (in the broad sense), through the care and balancing of the multiplicity of (conflicting) public interests (urban, natural, landscape, as well as economic-social development) and private ones" (Council of State, Sect. V, 2 October 2014, No. 4928). The Council of State stresses that the VIA determines "a complex and in-depth comparative analysis aimed at assessing the environmental sacrifice imposed with respect to the socio-economic utility" consequently a "negative solution is reached where the proposed intervention causes an environmental sacrifice exceeding the one necessary to satisfy the different interest underlying the initiative" (Council of State, Sect. II, 7 September 2020, No. 5380).

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

19 | Please describe the legal framework for the repowering of wind turbines.

In the case of repowering, it is necessary to resubmit the application initially made, as case may be: Single Permit, Simplified Permitting Procedure or Communication to the municipality, and possibly VA and VIA.

It should be noted that repowering projects of existing wind power plants which do not provide for a change in the occupied area and with total power, as a result of the intervention, up to 50 MW, falling within the eligible areas listed by art. 20 LGD 199/21 and contemplated within plans or programs already submitted positively to VAS, pursuant to art. 47, D.L. 13/2023 are exempted from VIA until June 30 2024.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

Private grid operator.

21 | At which stage of a project do project developers have to apply for a grid connection?

After receiving the necessary permit(s).

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

A specific procedure for the grid connection exists, ruled by ARERA, the National Energy Networks and Environment Regulatory Authority, through the "Codice di Rete" and the "TIC - Integrated Text of economic conditions for the provision of the service of connection".

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Operators of wind power plants generally execute Power Purchase Agreements (PPA), a medium to long term agreement that governs the supply of energy between a generating party and a purchasing party. There are different types of PPAs, (on-site PPAs, off-site PPAs, Sleeved PPAs, Virtual PPAs) which differ based on how the electricity sold is supplied. On-site PPAs are used when producer and consumer are physically close, and typically entail a direct physical supply of electricity. Off-site PPAs are used when an on-site plant cannot be built, and typically entail that the producer supplies energy through the public grid and provisions exist through which the balanced purchase of a certain amount of electricity is ruled.

Sleeved PPAs are off-site PPAs which include an intermediary between producer and consumer. Virtual PPAs, do not involve the direct supply of physical energy, but replicate a financial contract associated with a physical

PPA, with an agreed price per kilowatt-hour of electricity.

The operator can also use the Dedicated Withdrawal Service (RID), through which it sells to the GSE the electricity fed into the grid by plants that can access it, at the request of the producer and as an alternative to the free market, according to principles of procedural simplicity and applying market economic conditions. The GSE pays the producer a certain price for each kWh fed into the grid.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

- The Simplified Withdrawal System (RID) - see comment below.

Description:

The Simplified Withdrawal System (RID) is provided. Through this system, wind power producers feed the energy produced into the grid, selling it to the GSE, which pays the producer a certain price for each KWh fed.

In addition, an official promotion scheme is provided by D.M. 4.7.2019 (FER 1); however, only operators who participated in one of the invitations to tender held from September 2019 to October 2021 have access to these incentives.

For the simplified withdrawal system (RID) is provided that within 60 days from the date of commissioning of the plant producers submit the application through the dedicated service – RID.

To access the incentives provided by DM 4.7.2019, it was necessary to participate in one of the invitations to tender held from September 2019 to October 2021.

26 | How does the application process for the promotion / subsidy scheme work?

- *Eligibility through tendering process*

Description:

For the simplified withdrawal system (RID) is provided that within 60 days from the date of commissioning of the plant producers submit the application through the dedicated service – RID.

To access the incentives provided by DM 4.7.2019, it was necessary to participate in one of the invitations to tender held from September 2019 to October 2021.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

One year.

Description:

For the Simplified Withdrawal System (RID) a contract is concluded with a term equal to the calendar year and is renewable tacitly.

The incentives provided by DM. 4.7.2019 are distributed by GSE from the date of entry into operations of the plant, for a period equal to the useful life of the plant itself.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

The Simplified Withdrawal System (RID) provides remuneration on the basis of kWh fed into the grid.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

Not applicable (see previous sections).

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

There is no law obligation to have a specific legal entity form to operate wind energy plants. The most common form is an Italian limited liability company (S.r.l.), or a joint stock company (S.p.a). The S.r.l. is a more flexible structure, both in terms of incorporation and of management.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

We cannot refer to any specific typical ownership structure. SPVs incorporated for the purpose of owning and building an onshore wind plant are typically held by private individuals, and there is no state or public participation.

The wind plant and the operational business (such as licenses and contracts) are typically held by a single SPV; therefore, no unbundling takes place when the SPV (holding the plant, all the necessary permits and licences, and all the contracts for the land) is transferred.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with 10,*

(ii) *planning law with seven,*

(iii)*permit situation with six, and the*

(iv)*granting of subsidies with seven.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

The rules and regulations in the sector evolve rapidly and have to be constantly monitored, since they could affect seriously the feasibility of the projects.

Latvia

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

Latvia's onshore wind energy sector is gradually developing towards unlocking its full potential. With a relatively low population density, beneficial topology and appropriate wind speeds, Latvia is suitable for onshore wind production development. In addition, there is an ever-growing demand for green energy and increased local production of energy, which will drive a successful development of the onshore wind sector in the coming years.

The regulatory framework is being constantly adjusted to rectify any identified shortcomings and achieve overall improvements towards a more efficient regulation of the sector.

The general governmental policy towards onshore wind energy is rather supportive, and it is set at the State level. The government acknowledges potential positive impact of increase in the wind energy on electricity prices, as well as on securing energy independence.

The key players in the onshore wind energy market are private investors/developers, and among them foreign investment prevails by far. At the same time, in 2023, a State-owned special purpose entity, tasked with development of onshore wind farms of significance for national interests, was created. It is expected that this entity will develop onshore wind farms on the State-owned forest lands. The role of the electricity transmission system operator has to be noted, too, as well as the active involvement of the government in shaping the necessary regulatory framework. The role of the Public Utilities Commission, the local regulator, is of less significance in the onshore wind energy development.

The main pieces of legislation, regulating onshore wind energy in Latvia, are:

- Electricity Market Law;
- the Cabinet of Ministers Regulations Regarding Permits for Increasing Electricity Production Capacities or the Introduction of New Production Equipment;
- the Public Utilities Commission's Regulations Regarding System Connection for Electricity Producers;
- the law "On Environmental Impact Assessment";
- Spatial Development Planning Law.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 4.24% and the share of total domestic renewable energy coming from onshore wind was 5.46%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in Latvia.

04 | Which measures are being taken by the government to promote onshore wind energy?

The Latvian government has introduced and is considering the following measures to promote onshore wind energy in Latvia:

- as of 1 January 2023, amendments to the Electricity Market Law came into effect providing for a so-called discomfort payment to local community, stimulating local municipalities and communities interest in developing new wind farms in their area;
- promoted the use of forest lands for onshore wind farm development. In this context:
- in 2023, two State-owned companies, AS Latvenergo (largest electricity producer in Latvia) and AS Latvijas valsts meži, a State forestry company, created a joint venture, SIA Latvijas vēja parki, to develop onshore wind farms of strategic national importance in State-owned forest land; and
- development of private capital onshore wind farms on lands owned by public (i.e., State and municipal) entities is being facilitated by organising public auctions for the acquisition of onshore wind farm development rights in State-owned forest lands. First such auction, organised by the State forestry company, AS Latvijas valsts meži, took place in December 2023;
- enabled onshore wind farms under development to acquire status of the object of national interest, thus facilitating the development process;
- updated the existing regulatory framework regarding spatial planning, environmental impact assessment (EIA), construction etc., to eliminate existing obstacles for an efficient development of onshore wind sector;
- determined rapid RES-deployment areas pursuant to the EU Directive 2018/2001, concentrating these efforts to, inter alia, onshore wind development.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

Onshore wind energy projects in Latvia generally enjoy political support. However, on the municipal level, the 'not in my backyard' approach is sometimes present, requiring from developers an extra effort in convincing local communities about positive impacts of onshore wind farms in their respective territories.

As to the economic obstacles, potential additional costs applicable to onshore wind farms might impact investment decisions, e.g.:

- a substantial grid capacity reservation fee is payable at an early stage of development (although it may be replaced by a bank guarantee);
- discomfort payment to local communities applies, the amount of which is currently unknown due to delay in adopting necessary regulations;
- lack of clarity regarding grid congestion management raises questions about potential compensations in case of grid access interruptions and re-dispatching;
- the government is looking at the option to increase electricity producers' payment for transmission services, which might eventually increase operational costs of onshore wind farms in future.

From a legal perspective, and as noted above, several regulations are still pending for approval (on the amount and payment order of the discomfort payment to local communities; on grid congestion management).

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Three.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land purchase agreements

b) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

Minimum duration of a superficies agreement is 10 years as of the date of registering the rights with the Land Book. However, in practice the duration is adjusted to a life cycle of a wind farm (from development until decommissioning), in most cases reaching 50 to even 70 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of under one year.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Duration of the registration process: less than three months.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Topic is not of relevance.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

When securing land for a possible wind farm development, the following should be considered:

- rights of superficies can only be registered on a land plot with assigned cadastral designation. Accordingly, if and when only a part of an existing registered land plot would be secured for the project purposes, legal separation of such parcel will be required first. This can prolong securing of the land (see also response to Question 9 above);
- registration of the right of superficies may be subject to third parties' consents (land-owner's creditors, spouses, co-owners etc.);
- initial research regarding potentially adjacent nature prohibitions and protection zones would be recommendable;
- regulatory enactments contain specific restrictions re distance of an onshore wind farm from dwelling houses etc. Thus, a wind turbine with generating capacity of up to 2 MW must be located at least 500 metres from residential and public buildings. Similarly, wind turbines with generating a capacity exceeding 2 MW must be located at least 800 metres from such buildings;
- initial assessment of spatial planning documents related to the area in issue is recommendable, as spatial plans may impose additional restrictions on the location of wind farms;
- regulatory enactments require specific assessment of the impact of wind turbines on the landscape if the wind turbines are planned to be located in the visual perception zone of State-protected cultural monuments;
- regulation requires to assess and set minimum distances for the location of wind turbines in EIA to protect bird species and natural values.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

For sitting of wind turbines, the following planning and permit procedures are required:

- EIA, which is mandatory for wind farms with a total installed capacity of 50 MW or more;
- capacity permit for introduction of new generating equipment;
- in local municipalities, whose spatial plan requires, or must be amended, for the construction of an onshore wind farm, a local plan (amending the spatial plan) or a detailed plan must be drawn up and adopted;
- construction permits.

EIA is funded by a proponent of the proposed activity. It consists of a series of consecutive steps – initial public consultation on the proposed operation, preparation of the program, preparation and public consultation on the report, the competent authority's opinion on the report, and the decision on approval of the proposed operation, which integrates the competent authority's opinion.

Capacity permits are being issued by the State Construction Control Bureau upon receipt of an application from a wind farm developer.

The development of a local plan and a detailed plan is a process financed by the proponent of the proposed action and decided by the municipality. The local plan is adopted as municipal level regulations, while the detailed plan is approved by an administrative act.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: six to 12 months.

Average duration of permit procedures: 30 to 48 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Nature conservation and species protection matters are being evaluated within the EIA process. In case of any adjacent protected territories, which might include also protective zones around habitats of protected species, competent authorities may set additional requirements for the wind farm developer by the EIA report approval decision.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

c) Monument protection

d) Distance requirements

19 | Please describe the legal framework for the repowering of wind turbines.

Repowering of wind turbines would, initially, require either simplified or full EIA, depending on the current and planned capacity of wind turbines. This is related to the fact that initial EIA is conducted on assumption that specific turbine model (or selection of models) would be installed. If the model changes, especially with respect to physical parameters of wind turbines, new EIA might be required.

Further, increasing generating capacity would require a new capacity permit covering the additional capacity to be installed.

Also, available grid capacity could eventually affect the intended repowering of wind turbines – in absence of free additional capacity, repowering might be jeopardised.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

State / public authority / state-owned grid operator.

21 | At which stage of a project do project developers have to apply for a grid connection?

After receiving the necessary permit(s).

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

In summer of 2023, the TSO announced that it has halted issuance of new technical conditions for the connection to the grid. The decision was based on the fact that the grid was overbooked at the time.

It is expected that the government shall, in the nearest future, issue new grid management regulations, including provisions on grid congestion management. The new regulation might eventually free some of the booked capacity, because it would reportedly account for generating profiles of various electricity production technology (e.g., photovoltaic and wind), which is allegedly impossible under the current regulation.

Reservation of the grid capacity is subject to payment of a special reservation fee, which is currently set at EUR 21.63 per kV; irrespective of the planned capacity of wind farm, grid reservation fee shall not in any case exceed EUR 2,163,000.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Relatively recently, certain electricity traders started to market their products with reference to electricity offered to customers being produced from renewable energy sources. However, since the volume of wind power generated electricity in Latvia is still low (see answer to Question 2 above), it is not yet singled out as a source of such energy.

In public debate, electricity price in Latvia is often compared to that in other Baltic and Scandinavian States, specifying that electricity price in Scandinavia is considerably cheaper due to considerable generating capacity being wind-powered. In addition, wind power generated electricity of local origin is often presented as a way to ensure energy independence. At the same time, environmental, health and landscape protection concerns of general public still prevails in public discourse.

25 | Is there an official promotion / subsidy scheme prescribed by law?

No, there is no official subsidy scheme prescribed by law.

26 | How does the application process for the promotion / subsidy scheme work?

- *Eligibility through tendering process*

Description:

Not applicable anymore.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

0 years.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

No remuneration.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

Not applicable.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

The wind energy plant is usually operated by a limited liability company, established and registered in the Republic of Latvia. There are no mandatory requirements regarding the choice of legal entity to operate wind energy platforms.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

As to the unbundling, it currently concerns only AS Latvenergo, an electricity producer, and AST, as both entities are State-owned. However, unbundling rules are duly observed, as each entity has been put under its own ministry (Ministry of Economics and Ministry of Climate and Energy, respectively).

Otherwise, wind energy plants are privately owned and developed by private investors. Usually, and as noted in answer to Question 30

above, each separate wind energy project is owned by a locally registered limited liability company, which has been founded specifically for the respective project needs (i.e., a so-called special purpose vehicle). A significant number of wind energy projects are being developed by local subsidiaries of internationally-recognised developers. The ownership of the plants and the licences and contracts is held in the same SPV.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with nine,*

(ii) *planning law with six,*

(iii)*permit situation with seven, and the*

(iv)*granting of subsidies with 10.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

The most pressing and discussed topic for some time already is the grid capacity. Currently reserved grid capacity exceeds the local electricity demand several times. In addition, the existing regulatory framework allegedly disregards generating profiles among different generation types. As a result, efficient grid management is hindered. While the government is working on solutions, including new regulations on grid congestion management, legal uncertainty slows down onshore wind energy development.

Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

The Government of the Republic of Lithuania has approved ambitious plans to make Lithuania an energy exporting country by 2030, with its electricity needs met by local generation, all of it green. The total installed capacity of green energy in Lithuania would reach 7GW, of which 1.4GW would be generated by offshore wind, 3.6GW by onshore wind and 2GW by solar power plants.

According to LITGRID, the Lithuanian transmission system operator, electricity production in Lithuania grew by one-third in 2023 and was the highest since 2010, with renewable energy power plants generating a record 70% of the country's total electricity production. In 2021, 48% of the country's electricity was generated by renewable energy plants, rising to 60% in 2022 and 70% in 2023. Wind power generation increased from 1.513 TWh to 2.524 TWh. The total installed capacity of wind power plants has reached 1 GW in 2023.

The "Breakthrough Package" adopted by the Seimas of the Republic of Lithuania in 2022 has fundamentally changed the entire energy sector – in order to achieve the Government's energy independence goals, there was a need to simplify the processes applicable for development of renewable energy sources and to reduce administrative burden.

Litgrid AB is the Lithuanian electricity transmission system operator ("TSO") engaged in managing electricity flows and ensuring the stable operation of the national electricity system. Energijos Skirstymo Operatorius AB ("ESO") is the main distribution system operator ("DSO") and controls the low and medium voltage electricity distribution network in Lithuania. Baltpool UAB is the operator of the Lithuanian Energy Exchange.

The regulatory policy for the electricity sector is determined by the Lithuanian Parliament, the Government and the Ministry of Energy, and is monitored by the National Energy Regulatory Council ("NERC").

The basic regulatory framework for the energy sector consists of the National Energy Independence Strategy, the Law on Energy, the Law on Electricity and the Law on Energy from Renewable Sources.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2022, the share of onshore wind energy in domestic electricity production was 13.5% and the share of total domestic renewable energy coming from onshore wind was 60%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in Lithuania.

04 | Which measures are being taken by the government to promote onshore wind energy?

One of the main tools for promotion of the development of renewable energy, including wind, in Lithuania is the aforementioned "Breakthrough Package" (a package of amendments to the laws in the energy sector adopted by the Seimas of the Republic of Lithuania), which was adopted in 2022.

The package is expected to encourage closer cooperation between residents and wind power developers. To this end, the establishment and registration of sanitary protection zones has been abolished, but a new requirement for a safe distance has been introduced.

The amendments release developers from the requirement to change the use of land and withdraw the requirement to prepare a spatial planning document. The amendments also introduce the new concept of hybrid power plants, thus creating efficient grid capacity. This allows different renewable power plants (e.g. solar and wind) and storage devices (batteries) to be connected at the same grid point without aggregating their capacities, thus allowing the most efficient use of the electricity grid and achieving maximum generation volumes. Among other things, the amendments provide that when a power plant is connected to the grid, it will be evaluated on the basis of the allowed generation capacity and not on the basis of the installed capacity of all the installed generation sources, which will allow for more capacity to be installed without straining the grid. Hybrid power plants will also be granted a single development permit and a generation permit, thus reducing the administrative burden.

Nevertheless, the amendments increased the amount of the performance security (guarantee). The purpose of this amendment is to clean up the real and "paper" developers who were merely reserving capacity on the grid without actually developing any projects. This amendment has only made it easier for the real developers.

There are no specific territories for wind power plant development where the construction of wind power plants would be prohibited, except for territories required for national security, special public infrastructure (e.g., airports), or territories that are not allowed for the development of wind power plants in accordance with the solutions of the General Plan of a particular municipality. The main decisive factor is the spare grid capacity in a particular territory.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

Need for consent from the owners of adjacent plots: The law provides that, where a person is interested in constructing a wind power plant with an installed capacity of more than 30 kW, he/she must inform the owners of the land plots falling within the distance around the planned wind power plant within the height of the wind power plant's mast, or within the area where compliance with public health safety requirements will not be guaranteed, if such area is greater than one mast height of the wind power plant around the planned wind power plant (hereafter in this article referred to as "the area with restrictions on construction") of the planned construction of the plant. If, after the notification procedures have been carried out, the owner of the adjoining land objects, the wind turbine shall not be constructed unless an agreement is reached between the person wishing to develop the project and the owner of the adjoining land.

Noise prevention: It is required that a dwelling house and/or a residential area should not be located in a noise zone above 45dB. A single power plant may have a noise level of around 90-100 dB, but at a distance of 500 m from the power plant, the noise level would be around 25-35 dB, depending on the wind direction, strength etc.

Environmental impact assessment: An EIA is required where three or more wind farms are to be built, at least one of which is 50 m or more in height, or where the wind farms are to be built within one km of a protected area. A full EIA will be carried out where seven or more wind farms are planned to be built and where they are planned to be built within 5 km or less of wind farms that have been built, are being built or are planned to be built. Nevertheless, EIA is a complex and often lengthy process which can not only increase the development time of a project, but can also lead to a number of obligations for the developer.

Aspects of national security: In the event that special land use conditions are applied to the wind turbine construction site due to national security issues, the Commander of the Lithuanian Armed Forces must be consulted on the construction of the wind turbine. If an agreement is reached with the Lithuanian Armed Forces, the person who wants to build the plant must pay compensation. The compensation is, among other things, quite substantial, with the project developer having to pay - EUR 18 per kW.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Eight.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Land purchase agreements

c) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of more than 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

The State Enterprise Centre of Registers, the manager of the Lithuanian Real Estate Register, has expedited a more expensive procedure, under which the registration can be completed in one day (with the condition that the applicant provides a complete set of the necessary properly prepared documents). Usually, in practice, we see that the registration is completed within one week or so.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

The technical parameters of the wind turbines in such agreements are usually described in a laconic manner, focusing more on the fact that the wind turbine will be built in the particular land plot. Some agreements (in our experience, a minority of them) may include clauses defining wind turbine height, power capacity, coordinates etc. Nevertheless, even if some technical parameters are included, usually, there are no restrictions for the developer to carry out the repowering.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

First, before securing land rights, we recommend performing a detailed analysis of the particular land plots to determine whether the construction is possible and/or not restricted there. Also, we always recommend having clauses allowing the developer to terminate the agreement easily if the project does not proceed.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

The development of wind turbine projects must be possible under the territorial planning documents of the particular municipality. The developer must receive written confirmation from the administration of a particular municipality that the construction of wind turbines is possible in the specific land plots.

Wind power plants with an installed capacity greater than 30 kW must be installed so that the shortest distance from the central axis of the mast of the wind power plant to garden houses, residential, hotel, cultural buildings, general education, vocational, higher education institutions, kindergartens, nurseries, educational buildings intended for educational purposes, other educational buildings intended for non-formal education, buildings for recreational, medical, sporting and religious purposes, buildings intended for special uses related to accommodation (barracks buildings, imprisonment institutions), premises intended for specified purpose in structures designated for other uses, recreational territories is not less than the height of the mast of the wind turbine in metres, multiplied by four, except that, if the owners of the buildings do not object and issue a confirmation to that effect in writing, wind power plants with an installed capacity of more than 30 kW may be constructed within a shorter distance, for which purpose an agreement regarding ensuring compliance with the public health safety requirements must be concluded with the person interested in the production of electricity in the wind power plant.

EIA screening must be carried out for wind farm development (details provided in answer to question No. 17).

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 18 to 30 months.

Average duration of permit procedures: six to 12 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

For the purpose of ensuring that the wind farm proposed to be developed complies with environmental protection requirements, it must be assessed whether an environmental impact assessment ("EIA") of the proposed economic activity is required.

An environmental impact assessment must be undertaken for wind power plants to be constructed: onshore, where seven or more wind farms are planned to be constructed and the distance between the wind farms planned to be constructed and those constructed, under construction or planned to be constructed is 5 km or less (measured between the centres of the masts), or, where such figures and distances have been achieved, including the wind farms already constructed, under construction or planned to be constructed.

Environmental impact assessment screening must be undertaken if:

1. Construction of three or more wind farms is planned, with one of them at least 50 m high or higher (measured to the highest point of the structures, including the height of the impeller), except for the activities specified in paragraph 3.10 of Annex 1 to the Law on the Environmental Impact Assessment of the Proposed Economic Activity;

2. Construction of a wind farm is planned within one km from the protected territory, except where not more than one wind farm and not higher than 25 m (measured to the highest point of the structures) is developed on a farmstead or next to outbuildings.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

c) Distance requirements

d) Interference with national security systems

e) Onshore wind park area overlapping mineral deposits

f) Restrictions on the height

g) Access to financing

h) Limited capacity of the grid

19 | Please describe the legal framework for the repowering of wind turbines.

It would depend on the particular repowering work. However, generally speaking, a wind turbine is an engineering structure; therefore, requirements for the structure's repair and/or reconstruction would apply.

In order to increase the capacity of an existing power plant, a person who has already obtained pre-connection conditions must submit a request to the grid operator to sign a letter of intent and a performance bond. The authorisation for the development of electricity generation capacity shall be modified for the purpose of increasing the installed capacity or the permitted generation capacity of a power plant.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

State / public authority / state-owned grid operator.

21 | At which stage of a project do project developers have to apply for a grid connection?

Formally, as soon as it has secured the rights to the land, but in practice, also at the stage of finalising or having also finalised the Environmental Impact Assessment.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

The developer signing the letter of intent with the system operator regarding the grid connection must provide the system operator with a performance security guaranteeing the fulfilment of the developer's obligation to the system operator within 10 working days from the date of signing the Letter of Intent. The amount of the performance security shall be EUR 50 per 1 kW (or EUR 50,000 per 1 MW).

The grid connection conditions may include additional specific requirements for line or substation upgrades or to adapt to the latest environmental requirements. There may also be situations where a developer will not be allowed to connect to the grid until the system operator has carried out certain network reconstruction works, which prolongs the overall process.

Other hurdles, in practice, relate to the capacity of available design and construction professionals holding a license to carry out design/construction work of high voltage equipment.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Direct marketing by power purchase agreements.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

- *Contracts for difference (CfDs) (This subsidy model defines a fixed minimum remuneration per MWh of electricity. The level of this subsidy rate is usually determined by a tender procedure.)*

Description:

Although there is an official scheme prescribed by the law, no auctions have been organised for a number of years, as the development of wind parks continues at a large scale and pace even without any subsidies.

26 | How does the application process for the promotion / subsidy scheme work?

- *Eligibility through tendering process*

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

0 years

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

No remuneration

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

N/A.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

There are no specific requirements for the entity that develops the wind turbines, but they are usually private legal entities.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

Typically, both the contracts needed to develop the wind turbines (e.g. long-term lease, development right agreements) and the assets (the wind turbines) are held by and the development is usually carried out by one company. Certain restrictions are in place due to Russia's aggression towards Ukraine – Russians and Belarusians are subject to restrictions on the acquisition of assets in Lithuania, including shareholdings in companies. Most of renewable energy plants belong to the private owned entities. However, some of wind, solar and batteries plants belong to the state controlled SPVs. The first off-shore wind park of 700 MW capacity also should be developed by state controlled SPV. The ownership (or other title) to the renewable plant must belong to the same owner as the licenses and contracts. This is mandatory requirement by Law. In case of transfer of the plant the licenses and contracts must follow, with an exception for the remoted renewable energy producers selling respective parts of the plants to the consumers and withholding the licenses/contracts on their own name.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with nine,*

(ii) *planning law with eight,*

(iii) *permit situation with six, and the*

(iv) *granting of subsidies with one.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

Despite the entry into force of the "Breakthrough Package", the difficult transition period is often discussed in the public sphere. Developers and lawyers criticise municipalities for ignoring the new regulation. Despite the fact that, for example, the amendments to the package of laws adopted the provision that the need to provide for the development of renewable energy in spatial planning documents is waived, local authorities tend to take a different approach – they continue to argue, in not a few cases, that without the provision of the development of renewable energy in the General Plan, the construction of wind turbines in the area is not possible. Thus, with the new amendments to the law in force, the main "hot" topics are the situations surrounding the implementation of the law.

Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

In the heart of Europe, Luxembourg is charting a course towards a sustainable future, with onshore wind power playing a pivotal role. Despite its small size and reliance on electricity imports, the country is making significant strides in harnessing wind energy, guided by a robust legislative framework and a clear vision for 2030.

Legislative Framework

At the forefront of Luxembourg's renewable energy efforts is a comprehensive legislative structure. Key among these are:

The Environment Code, the Electricity Market Law of 1 August 2007, as amended which orchestrates the organisation of Luxembourg's electricity market, crucial for integrating and regulating onshore wind energy, the Energy Rational Use Law of 5 August 1993, as amended which promotes the efficient use of energy, encompassing the adoption of renewable sources like wind power.

Additionally, two Grand-Ducal Regulations specifically address energy efficiency and renewable electricity production, laying the groundwork for operational aspects of wind energy deployment.

The Integrated National Energy and Climate Plan (PNEC) is also of importance.

Adopted on 20 May 2020, the PNEC is Luxembourg's roadmap for climate and energy policy up to 2030. It outlines strategies to reduce greenhouse gas emissions by 55%, achieve a minimum of 25% renewable energy in total energy consumption, and improve energy efficiency by 40-44%. The plan prioritises the expansion of wind power, especially in non-forest areas, aligning with the EU's "REPowerEU" plan.

Despite Luxembourg's limited land area, the onshore wind energy market is gaining momentum. The main players include:

Société Luxembourgeoise des Energies Renouvelables S.A. (Soler): A joint venture between SEO and Enovos Luxembourg, Soler stands as a major force in the sector.

Oekostroum: A subsidiary of EMCA SA, Oekostroum is expanding its footprint with current and future wind turbine projects.

SUDWAND S.A.: Established in 2018, this joint venture between SUDenergie SA and Soler is focusing on partnership-based wind farm development.

Luxembourg's journey towards renewable energy, particularly onshore wind power, is underpinned by a solid legislative and strategic framework. The country's approach balances technological advancement and environmental consideration, setting a precedent for sustainable energy development in the heart of Europe.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 27% and the share of total domestic renewable energy coming from onshore wind was 28%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

Yes, there are binding targets for the expansion of wind energy in Luxembourg.

Description:

The PNEC sets forth intermediate goals leading up to 2030 as milestones in Luxembourg's journey towards environmental sustainability.

Without specific binding target for the expansion of wind energy the plan emphasises the ambitious deployment of wind power, with an of objective Climate Neutrality by 2050.

04 | Which measures are being taken by the government to promote onshore wind energy?

The PNEC includes measures to promote wind energy in Luxembourg, such as:

- the promotion of large-scale installations, in particular by repowering older facilities;
- the possibility to authorise new sites;
- the identification and removal of barriers to the development of wind energy (e.g. wind turbine installations near business parks and along transport infrastructures);
- simplification of authorisation procedures.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

The main obstacles to onshore wind energy projects in Luxembourg are:

- Local communities may oppose the construction of wind turbines in their area due to concerns about noise, visual impact, or other factors;
- The process of obtaining permits and zoning approvals for wind energy projects can be complex and time-consuming;
- The land availability can be limited due to the small size of the country;
- The onshore wind energy projects can be expensive to develop and may require significant upfront investment.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Five.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Land purchase agreements

c) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of more than 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Given the limited number of wind farms in Luxembourg, it is difficult to give an average estimate of the time needed to secure lands.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Duration of the registration process: three to six months.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Agreements generally contain clauses allowing replacements of wind turbines.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

Not to our best knowledge. However, every developer of a wind farm project may be required to provide a bank guarantee for each planned wind turbine, covering and therefore guaranteeing dismantling and complete restoration of the land. As part of the authorisation procedure, it exists a bank guarantee system, for

covering and guaranteeing dismantling and complete restoration of the site.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

Setting up a wind turbine in Luxembourg requires a number of permits, issued by different authorities:

- A “commodo” class 1 operating permit (for wind turbines with an output of ≥ 100 kVA (0.1 MW)) in terms of classified establishments.
- Competent authority: ministry for the environment
- Competent authority: administration de l’environnement.
- A “nature protection” permit if the wind turbine is located in a green zone.
  - Competent authority: ministry for the environment
  - Responsible authority: administration de la nature et des forêts.
- A water licence.
  - Competent authority: ministry for the environment.
  - Competent authorities: water management authority.

If the wind power project comprises at least two wind turbines and the total power is more than 100 kVA, the project also falls within the scope of the amended law of 15 May 2018 on environmental impact assessments.

The Minister for Labour is also the competent authority for “commodo” matters.

When examining an application for “commodo” authorisation, in accordance with the amended law of 10 June 1999 relating to classified establishments 1, the Environment Administration pays particular attention to the noise impacts and the shadow cast by the rotor blades in the context of the wind farm project.

Any request for “commodo” authorisation for the installation of a new class 1 wind turbine is subject to public consultation (public enquiry) during which the public can make comments on the project in question.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 12 to 18 months.

Average duration of permit procedures: 12 to 18 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

In accordance with the amended law of 18 June 2018 on the protection of nature and natural resources, the Nature and Forestry Administration, as the competent authority in this area, examines the potential impacts of wind farm projects and siting areas on wild animal and plant species and their habitats, including breeding sites or hunting habitats.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

c) Distance requirements

d) Air corridors

19 | Please describe the legal framework for the repowering of wind turbines.

To our best knowledge, the re-powering is mainly based on contractual provisions. But principles that apply to the construction of wind turbines also have to be taken into consideration for re-powering.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

Private grid operator.

21 | At which stage of a project do project developers have to apply for a grid connection?

As early as possible, i.e. right after identification of a suitable project site.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

Developers of wind power projects in Luxembourg must apply for a connection to the electricity grid at an early stage in the project’s planning. The connection request must be sent to Creos Luxembourg, which is the operator of the electricity transport and distribution network in Luxembourg.

The financial terms and conditions of connection to the grid are determined by Creos Luxembourg and are subject to the approval procedure of the Institut Luxembourgeois de Régulation.

Since the entry into force of the amended law of 1 August 2007 on the organisation of the electricity market, the “Institut Luxembourgeois de Régulation” has been responsible for setting the method for determining tariffs for use of the network and ancillary network services.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Wind energy is marketed in Luxembourg in the following ways:

- electricity generated from wind energy and fed into the grid of a grid operator is remunerated according to a formula determined by grand ducal regulation;

- a market premium.

The levels of remuneration vary according to renewable energy source and the electrical output of the installation. They are guaranteed for a period of 15 years from the date of first injection into the electricity grid.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is are official subsidy schemes prescribed by law:

a) Feed in tariff (involves the government setting a tariff price, or a set of prices for specific renewable technology, at which the country's supply companies or grid operators are obliged to purchase all renewable energy exported to the grid)

b) Investment subsidies for companies in the field of environmental protection.

Description:

Official promotion scheme prescribed by law is laid down by grand ducal regulation and European regulation transposed into national law.

26 | How does the application process for the promotion / subsidy scheme work?

a) Definition of eligible plants by statutory law

b) Application process with e.g. a governmental authority

Description:

Applications for a premium incentive must be submitted to the Environment Administration no later than 24 months after the date of issue of the statement drawn up by the network operator via a specific platform.

Application for investment subsidies for companies in the field of environmental protection must be submitted necessarily via a specific platform. The subsidies provided for are granted by joint decision of the Ministers responsible for the Economy and Finance.

The request for assistance must relate to a stabilised project and be submitted before the work begins, in order to meet the eligibility criteria for the incentive effect.

The applicant companies must also have an establishment authorisation and operate on the territory of the Grand Duchy of Luxembourg. It is recommended that applicant companies take the legal form of a public limited company (S.A.) or limited liability company (S.à r.l.).

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

10 years

Description:

It is difficult to predict a funding period, but application for the premium incentive can be granted over a period of 10 years.

For investment subsidies for companies in the field of environmental protection, the payment request must be submitted before the cut-off date indicated on the decision granting the aid/ agreement.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

Official remuneration scheme is laid down by grand ducal regulation.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

Not to our best knowledge.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

In Luxembourg, the wind energy production unit is usually operated in the form of a commercial company, often in the form of a société anonyme (SA). The creation and management of such a company is governed by the Luxembourg law on commercial companies.

The choice of legal form will often depend on the specific circumstances of the project, as well as the objectives of its founders in terms of liability, governance.

There are no mandatory requirements regarding the choice of legal entity to operate wind energy platforms. However, It is recommended that companies applying for financial aid adopt the legal form of a public limited company (S.A.) or a limited liability company (S.à r.l.).

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

There is no typical ownership structure for these wind power plants/groups as it depends on the investors and stakeholders involved in each project. Joints-ventures may regularly be involved.

The ownership structure can vary considerably depending on the financial circumstances and interests of the parties involved in each individual project. The ownership of plants and operating activities is not necessarily held by separate SPVs.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with five,*

(ii) *planning law with five,*

(iii)*permit situation with five, and the*

(iv)*granting of subsidies with five.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

There is no hot topic, the latest governmental initiative was focusing is on the transparency accordingly two brochures have recently been published for anyone, private or professional, who has questions about wind power.

Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

Onshore wind is an important part of energy policy in the Netherlands. Onshore wind farms are considered an essential source of renewable energy to achieve the emission reduction targets. To this end, the Dutch government has made both national and international agreements. In 2013, the Dutch government signed the Energy Agreement. Following this, the Climate Agreement was signed in 2019, which builds on the Energy Agreement and contains specific measures and targets to reduce CO2 emissions. It should be noted that the current focus is on offshore wind energy, due to capacity objectives and fewer regulatory complications (e.g. procedural and nature complications).

Several players play a crucial role in the onshore wind energy sector. At the forefront are the private project developers and energy companies like Vattenfall and Eneco that operate large-scale wind farms. These projects are partly financed by a bank loan. The Dutch government further encourages these kinds of projects through specific policies and, for example, the granting of subsidies that are available for onshore wind projects to compensate for the so-called unprofitable portion. The Dutch government also tries to ensure that the local community participates in wind projects. This way, citizens get more say in projects and can also become partial owners, so they can share in the profits. Lastly, grid operators also play a crucial role in onshore wind projects by ensuring sufficient feed-in capacity. We refer to the grid congestion 'obstacle' as mentioned under question 5.

Since January 2024, the new Dutch Environment and Planning Act (the DEPA) has come into force, which applies to all new permit applications. Under the DEPA, four general governmental decrees and a ministerial regulation contain the rules for the practical implementation of the DEPA. In the Netherlands, building an onshore wind farm (three wind turbines or more) requires an environmental permit. With a so-called project decision or an amendment to the so-called environmental plan, wind turbines are allowed at a location. Various environmental topics, such as noise, play a role in this spatial integration and various instruction rules apply when allowing wind turbines. When allowing a wind farm with three or more wind turbines in an environmental plan or project decision, an Environmental Impact Report (EIA) must be made.

The national government has exclusive competence for onshore wind projects of at least 100 MW. Provinces formulate policy and determine locations for wind turbines with a capacity between five and 100 MW through careful consideration in the so-called environmental vision. Municipalities have authority for local smaller onshore wind farms and turbines with a capacity <5 MW, with emphasis on spatial integration and public support. This differentiated approach, laid down in the Dutch Electricity Act, aims to achieve national sustainability goals with attention to local interests and support.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 14.5% and the share of total domestic renewable energy coming from onshore wind was 30.5%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

Yes, there are binding targets for the expansion of wind energy in the Netherlands.

Description:

According to the Dutch Climate Agreement, 35 terawatt hours (TWh) of onshore renewable energy (wind and solar) must be produced by 2030. The national target set by the 2013 Energy Agreement of 6,000 megawatts onshore wind energy as per 2020 was met at the end of 2022 (6,045 megawatts).

04 | Which measures are being taken by the government to promote onshore wind energy?

Financial support

The Dutch government has several subsidy schemes to promote onshore wind energy. The most common one is the Subsidy scheme for Stimulation of Sustainable Energy Production and Climate Transition (Stimulering Duurzame Energieproductie en Klimaattransitie, SDE++).

The production cost of 1 kWh of wind power is higher than the production cost of 1 kWh of grey power. That is why the Dutch government subsidises the so-called unprofitable portion of each technology. This is the difference between the cost of the technology that reduces CO2 (the 'base rate') and the market value of the product that is generated by the technology (the 'corrective amount'). The base rate is fixed for the entire subsidy period, but the corrective amount is set annually. The unprofitable portion decreases when the market price rises, as does the amount of the subsidy. Subsidies are granted for periods of 12 or 15 years.

Subsidising the unprofitable portion makes it interesting for initiators and lenders to invest in the development of wind turbines. A wind project can only apply for the subsidy once the required permits for the wind farm have been granted.

Acceleration of planning and approval processes

The DEPA introduced the so-called project decision. The project decision is an instrument for enabling often complex projects with a public interest. It can also involve private initiatives that coincide with achieving public goals for the physical living environment, such as a wind farm. Like an environmental permit, a project decision can be used to grant a concrete permission. The advantage of the project decision is that it involves concentrated and coordinated decision-making that can include all permissions for a project in a single decision that then directly modifies the environmental plan, against which an appeal can be lodged in a single instance (the Administrative Law Division of the Council of State), and on which appeal the Council of State must rule relatively quickly. With the DEPA in general, the deadlines for making decisions is shorter than under its predecessor.

Other

The Dutch Climate Agreement also contains the ambition that wind energy projects and solar energy projects will be 50% owned by the local environment. Think of citizens and local companies becoming (partly) owners. The idea is that this increased public support, the lack of public support can be a big obstacle in realising onshore wind farms.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

The primary challenges facing onshore wind energy projects in the Netherlands revolve around gaining social and administrative support for the project, addressing spatial planning issues, and establishing connections to the power grid.

A pivotal concern is local resistance, where community members raise objections to the construction of wind turbines due to concerns about noise, cast shadow and the aesthetic impact on the landscape. This resistance often results in prolonged discussions, court cases and delays in the permitting process. Obtaining permission for land use, particularly on private properties or within nature reserves, can also lead to legal disputes and project delays. In the selection of a site, spatial constraints and planning requirement must be considered.

Administrative obstacles further complicate the landscape. Political divisions, changes in governance, and uncertainty regarding long-term policies can influence the level of support from public bodies for onshore wind projects. These challenges arise from the decision-making processes and the dynamic nature of politics.

Economically, a significant hurdle lies in the financial investments required for onshore wind energy projects. Questions regarding profitability and potential changes in subsidy schemes contribute to investor uncertainty. Next to that, the costs of technical personnel and the components of wind turbines have increased.

Grid congestion poses another major obstacle. The grid's near-full capacity across the Netherlands makes it challenging for new onshore wind power projects to obtain sufficient feed-in capacity. This directly impacts the business case. These challenges emphasise the importance of innovative solutions, such as integrating smart technologies like batteries and smart ways to share existing connections with excess capacity by means of 'cable pooling' or 'grid pooling'.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Five.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

c) The registration of ownership of cables on the basis of being the authorised contractor of such cables.

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of 20 to 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of more than three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Duration of the registration process: less than three months.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

In the Netherlands, a right to "repower" is not a market practice clause that is standardly included in the land lease agreements/rights in rem. However, some of the project developers try to negotiate such a clause.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

In the Netherlands, there are two special features that need to be taken into account when securing land:

(i) Approval of existing mortgage holder for the establishment of the right in rem and the change of the security rank.

(ii) In a lot of situations, the land (to be used) is already pre-encumbered with a mortgage right from the bank of the owner of the land ("Pre-existing Mortgage Right"). In order to successfully (and securely) vest a right in rem for wind turbines, permission from the holder of the Pre-existing Mortage Right is required and a change of the rank of the right in rem with the Pre-existing Mortgage Right should be applied. In the past, this often led to delays because there were no clear standards for a change in rank. The Dutch Banking Association has since published standards for this, which has led to an improvement in the process.

(iii) Leasehold: In the Netherlands, it is quite common for land to be issued in leasehold. This creates certain complexities, especially with regard to finance-ability. First and foremost, the bare owner will have to cooperate with the land lease agreements and rights in rem and also confirm to respect it, even in the event that the leasehold terminates in the interim. Furthermore, land authorities often negotiate a termination ground on the basis of the public interest without an adequate expropriation compensation provision. This requires an additional regulation to be negotiated and to be laid down in a direct agreement.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

In the Netherlands, the establishment of wind farms requires a series of regulatory approvals at the national, provincial and municipal levels. As mentioned under question 1, the process involves a project decision by the national and provincial governments, while municipalities can allow wind turbines or wind farms at a specific location through an amendment of the environmental plan. The decision-making process must be based on a balanced allocation of functions and adheres to instruction rules outlined in the Dutch Quality of the Living Environment Decree. These instructions deal, among other things, with noise and cast shadow.

Since the implementation of the DEPA, an environmental permit is mandatory for wind farms with more than three turbines. Permitting wind farms is only possible if it does not have a significant negative impact on the conservation of protected species and nature reserve areas. Additionally, for such projects, an Environmental Impact Assessment (EIA) is required. In cases where there may be a potential adverse impact on a Natura 2000 area, an appropriate assessment is necessary. This assessment outlines the effects on the Natura 2000 area and proposes preventive measures to avoid significant negative impacts, particularly on protected nature values within the area.

Under the regular procedure, the competent authority decides within eight weeks of receiving

the application. This period can be extended once by up to six weeks. In cases where an extensive procedure is applicable, such as for onshore wind farms requiring a comprehensive environmental impact assessment, the competent authority must decide within six months after the application date, with a possible six-week extension.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 12 to 18 months.

Average duration of permit procedures: one month to six months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

In the Netherlands, strict requirements govern the planning and permitting procedures for wind farms concerning nature conservation areas and species protection. The protected natural areas are (i) Natura 2000 areas, the Dutch Minister of Agriculture, Nature and Fisheries (LNV) designates these areas, (ii) National Nature Network Netherlands (NNN), the Province designates these NNN areas and (iii) areas with special natural values, the Province or the Minister of LNV designates these areas.

For a wind farm in or near Natura 2000 areas, it is mandatory to investigate whether there is a significant impact on the area. If it is demonstrated that wind turbines have no significant effects on the plant and animal species or the habitat for which the Natura 2000 area is designated, wind turbines may be allowed in or near this area. The Environment Regulation may designate a Natura 2000 activity as permit-free if it is a Natura 2000 activity of national importance or if there is an overriding public interest.

Furthermore, the DEPA protects many animal and plant species. These include species that fall within the scope of the European Birds and Habitats Directives and to certain species of national importance. The law sets high standards: any disturbance or killing of protected species and the disruption of resting places, nests or eggs is prohibited. This applies to nearly a thousand protected animal species. The risk of disturbance or harm is investigated in the aforementioned Environmental Impact Assessment (EIA), primarily for bird and bat species. If research indicates that there may be more than incidental casualties, a permit is required. The Environment Regulation may indicate that no environmental permit is required for certain flora and fauna activities, however, specific conditions must be met.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

c) Cast shadow requirements

d) Noise requirements

e) Nitrogen deposition measures

19 | Please describe the legal framework for the repowering of wind turbines.

Repowering of wind turbines is a potent instrument. Currently, several repowering projects have been successfully completed, with ongoing initiatives to replace existing turbines. For instance, the 17 wind turbines with a capacity of 25.5 MW in the Slufterdam wind farm have been replaced by 14 turbines with a capacity of 50.4 MW. However, operators are frequently discouraged from engaging in repowering due to slow and intricate permit procedures and evolving legislation. Consequently, many opt for extending the lifespan of existing turbines. Agreements often lack clauses allowing for such replacements and providing for a corresponding increase in lease fees.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

State / public authority / state-owned grid operator.

21 | At which stage of a project do project developers have to apply for a grid connection?

After securing the land.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

In many areas in the Netherlands, the electricity grid is either used at full capacity or nearing its limit. This complicates the connection of new wind farms and can result in significant delays. The transmission system operator TenneT and the distribution system operators are actively working on grid reinforcements, but in some cases, this process may take several years. Especially if the grid congestion is caused by congestion on the transmission system of TenneT. Currently, TenneT and the distribution system operators are working on smart solutions to still provide as many businesses as possible with sufficient transport capacity.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

In the Netherlands, wind farm operators have the option to enter into a Power Purchase Agreement (PPA) with an energy supplier/trader, ensuring a guaranteed off-take of the generated electricity. This agreement establishes a direct link between the wind farm and the buyer, facilitating a stable market for the produced energy. Wind energy is actively traded on both the APX and ENDEX, which serve as the national exchanges for energy trading. Moreover, wind farm operators can establish PPAs with a diverse range of consumers, including industrial businesses and even individual households.

In addition to these market-oriented mechanisms, wind farm operators can benefit from the SDE++ subsidy. This is an operating subsidy, meaning that a subsidy will be received during the operating period of the project. This subsidy can be applied for to generate renewable energy or to reduce carbon dioxide. The Dutch government subsidises the unprofitable portion of each technology. We refer to the financial incentives as mentioned under question 2.

Furthermore, wind farm operators increase their revenue streams through Guarantees of Origin (GoOs). The GoO certificates serve as tangible proof that the supplied electricity is sustainably generated. Issued by VertiCer, GoOs provide transparency and accountability in the renewable energy sector. Each generated megawatt-hour corresponds to one GoO, and these certificates can be traded separately. The market dynamics for GoOs exhibit variability, with prices influenced by factors such as the method of generation and the country of origin.

25 | Is there an official promotion / subsidy scheme prescribed by law?

There is no official subsidy scheme prescribed by law.

26 | How does the application process for the promotion / subsidy scheme work?

- *Application process with e.g. a governmental authority.*

Description:

An SDE++ subsidy has to applied for at a the Dutch Enterprise Agency (RVO). There is a certain period in the year when an application can be made. The applications are assessed in order of receipt. In doing so, a set total budget applies, which was EUR 8 million for all technologies in 2023.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

15 years.

Description:

The SDE++ subsidy is not prescribed but optional. The duration of the subsidy depends on the specific technique. For wind energy, this is generally 15 years.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

Please see the answer under question 5.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

N/A.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

Usually, in a private limited liability company – a "B.V.". In some cases, a cooperative association is used to pool local ownership. Such a cooperative association then holds part of the shares in the B.V. Furthermore, in the Netherlands there are no mandatory requirements regarding the choice of legal entity to operate wind energy platforms.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

The typical ownership structure is privately owned through a B.V. The B.V. will hold the relevant assets and project documents. The shares are (indirectly) held by the ultimate beneficial owners. Joint ventures are also frequently seen, the agreements between shareholders on continuation and termination are then often laid down in a shareholders' agreement (which is not publicly registered) and the articles of association of the B.V. (which are publicly registered in the Dutch Trade Register). Furthermore, wind energy platforms are privately owned for which there aren't specific rules regarding unbundling. There are only specific unbundling rules for the grid operators in the Netherlands.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with 10,*

(ii) *planning law with five,*

(iii)*permit situation with five, and the*

(iv)*granting of subsidies with 10.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

Many municipalities and provinces in the Netherlands see greater potential in large-scale energy generation through solar power than with wind turbines. Moreover, the costs associated with constructing wind parks have significantly increased due to higher interest rates, a shortage of personnel and rising material costs. Additionally, the national government is heavily prioritising offshore wind farms, causing onshore wind energy to recede into the background. As mentioned, offshore wind farms have the capacity to generate more wind power, while also causing less nuisance to the local community.

Norway

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

The Norwegian onshore wind regulatory framework is set on a state level through the Energy Act of 1990 and the accompanying regulations, and on a local level through municipal zoning regulations.

The purpose of the Energy Act is to ensure that energy is generated, converted, transmitted, traded, distributed and used rationally and in the best interests of society as a whole. According to the Energy Act section 3-1, an onshore wind farm would need a license from the Norwegian Water Resources and Energy Directorate (NVE) or the ME (Ministry of Energy), as well as a license for the grid connection.

Prior to NVE's handling of a license application, an onshore wind project would need a positive local planning decision from the local municipality according to the Planning and Building Act that allocates the planning area for onshore wind.

Onshore wind projects can have impacts on biodiversity, and developments must be assessed according to the principles set out in the Nature Diversity Act. This Act applies to all sectors during the exercise of public authority when the decisions being made may have environmental impacts. The Nature Diversity Act is intended to ensure that Norwegian nature is protected through conservation and sustainable use, and that the environment can continue to provide a basis for human activity. The Act includes provisions on priority species, selected habitat types and area-based protection, which must be considered when developing onshore wind projects.

Norway has an increasing need for renewable energy, and onshore wind is seen as one of several key factors in the Norwegian Government's energy policy, accompanied by upgrading of hydro-power, offshore wind and energy efficiency measures. Onshore wind is seen as a key factor in the policy for electrification of Norwegian oil- and gas installations in Norway, with several potential projects in northern Norway. The Government wishes to promote onshore wind power in areas with favourable wind conditions and local acceptance.

The key players in the Norwegian onshore wind energy market are private and publicly owned Norwegian energy companies as well as developers, foreign investors, hereunder investment fonds and banks, and Nordic developers.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 11% and the share of total domestic renewable energy coming from onshore wind was also 11%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in Norway.

04 | Which measures are being taken by the government to promote onshore wind energy?

The Energy Act and the Planning and Building Act was amended in 2023 with an aim to improve the licensing process. In the preparatory work for the legislative changes, the Norwegian Government stated that the overall purpose of the proposal is to strengthen the role of municipalities in the licensing process for onshore wind. The government expects that the proposal will reduce the level of conflict, thereby laying the foundation for further expansion of wind power, including strengthening the power balance and achieving national climate goals.

The Norwegian Government has furthermore, in an attempt to accelerate the processing time of onshore wind projects, adopted new criteria for NVE's handling of license applications for onshore wind. According to the new criteria, large onshore wind projects, projects with approved zoning plans in the local municipality and onshore wind projects in Finnmark will be prioritised. Additionally, according to the wind power message, license applications containing documentation of involvement from reindeer husbandry in the assessments and an agreement on mitigating and compensating measures will be prioritised in the licensing process over applications lacking proper documentation of these aspects.

In the state budget for 2024, the allocation to the Norwegian energy authorities increased significantly. Through the increased budget, the government aims to expedite the licensing process for electricity grids and renewable energy production, such as wind and solar power.

The Norwegian government has taken few other measures to promote onshore wind energy.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

Norway has faced local opposition towards onshore wind power projects, based on the perceived impact on landscape and ecology. Following a pause in handling of onshore wind license applications in 2019, the government announced in April 2022 that it would resume handling of license applications for new projects where local municipalities are supportive of the projects. With the regulatory changes referred to in question 4 above, there is a requirement for municipal approval, in order for NVE to take a license application into consideration. Given the public opposition to onshore wind, this could make it more challenging to obtain necessary approval from the local municipalities, effectively stopping a project that is otherwise perceived as a good project.

As regards to the administrative process, there are two main challenges. The first being that the requirement for municipal approval makes it difficult to obtain necessary permits. The other main challenge is the long processing time for both municipal and governmental approval for an onshore wind project.

Due to increasing demands for grid capacity and long planning and construction time for onshore grid development on both a transmission and distribution level, grid connection for a new project is not always guaranteed within a reasonable time and could hinder otherwise profitable and good projects from being developed.

In northern Norway, we have also seen an increasing level of conflicting interests, making it more difficult to obtain local support for the project, as well as a license.

The new ground rent tax for onshore wind with a tax rate of 25% could furthermore make Norwegian onshore wind projects less attractive to potential investors, although this is of course depending on the economic strength of the individual project.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Seven.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of 20 to 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

The land necessary for an onshore wind farm is often owned by several different persons, of whom some are not possible to reach an agreement with. This often (but not always) makes it necessary to obtain expropriation rights, and, if necessary, to hold an appraisal case for the courts, in order to obtain necessary landowner rights and a verdict on the compensation to be paid to the land owners.

If landowner agreements have been entered into with the respective landowners, the process of ensuring security for the necessary landowner rights will be finalised in a couple of months.

However, if expropriation is necessary to ensure the necessary landowner rights, the expropriation process will take place in parallel with the licensing process, with a similar timeline. When the expropriation process is finalised, it

may be necessary to undertake a legal process to obtain access to the expropriated land area. This process will most often take a minimum of three to six months.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Duration of the registration process: three to six months.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

An option for extension of lease period is usually (but not always) regulated in the land lease agreement.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

Other rights of use of the necessary land for onshore wind could be in conflict with the onshore wind project, making it necessary to expropriate these rights in an appraisal case. This requires in depth knowledge in how to handle such conflicts.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

According to the Norwegian regulations on onshore wind, an onshore wind project would need the following permits:

1. a zoning regulation pursuant to the Planning and Building Act

2. a license with relevant additional permits from NVE / the Ministry of Energy (in case of complaint) according to the Energy Act section 3-1

3. a detailed plan approved by the NVE / the Ministry of Energy (in case of complaint)

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 18 to 30 months.

Average duration of permit procedures: 18 to 30 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Onshore wind projects may have impacts on biodiversity, and developments must be assessed according to the principles set out in the Nature Diversity Act, cf. the Energy Act section 3-1. The Nature Diversity Act is intended to ensure that Norwegian nature is protected through conservation and sustainable use, and that the environment can continue to provide a basis for human activity. The Act includes provisions on priority species, selected habitat types and area-based protection, which must be considered when developing onshore wind projects.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Nature conservation

b) Conflicts with local/regional interests

c) Lack of grid capacity and infrastructure

19 | Please describe the legal framework for the repowering of wind turbines.

A license for an onshore wind farm is given with a term of up to 30 years. After the term, the licensee may apply for a renewed license according to the Energy Act section 3-1. The same regulatory procedure as for the initial license applies.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

This depends on the grid connection. Grid on the distribution and regional level is owned and operated by private entities, while grid at the transmission level is owned and operated by the state owned TSO, Statnett SF.

21 | At which stage of a project do project developers have to apply for a grid connection?

As early as possible, i.e. right after identification of a suitable project site.

22 | Who has to bear the costs of the grid connection?

The starting point is that the operator of the wind farm will carry the grid investments costs that arise as a consequence of connecting the wind farm. Note, however, that this starting point does have some exemptions.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

Development of necessary transmission grid takes several years in case of lack of grid capacity. This could hinder otherwise profitable

projects. It is therefore essential to identify whether there is available capacity where applicable.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

The power generated from the onshore wind farm is usually sold through a Power Purchase Agreement (PPA), often to different types of power intensive industries. This is done early in the project, and the PPA is often used to secure funding for the project.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

a) Incentives, e.g. lower VAT rate applied for renewable energy systems and dividends from renewable energy source investment made exempt from income taxes .

b) Elcerts, ref. below.

Description:

Onshore wind farms in production by 31 December 2021 are eligible for elcertificates (although not a subsidy scheme in the meaning of state aid, the market for such certificates is set out through law).

26 | How does the application process for the promotion / subsidy scheme work?

- *Application process with e.g. a governmental authority*

Description:

Elcerts are issued by the authorities. See answer to question 25.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

15 years.

Description:

Wind farms eligible for elcerts obtain such for 15 years.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

No remuneration.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

It is possible to obtain Guarantees of Origin.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

Limited liability company is the most common corporate structure. There are no legal requirements as to the legal organisation of the legal entity.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

The onshore wind energy plants are usually owned by entities that do not also own grid. The ownership to onshore wind farms are compliant to unbundling requirements in Norway. The typical ownership are private entities. The ownership and operation of a Wind farm requires license pursuant to the Energy Act section 3-1. If operational tasks regarding the wind farm are set out to a third party, the third party contract must ensure compliance with the requirements pursuant to the Energy Act.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with eight,*

(ii) *planning law with eight,*

(iii)*permit situation with six, and the*

(iv)*granting of subsidies with 10.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

Handling of indigenous people's conflicting interests in energy projects has an increased focus in the licensing processes pursuant to the Energy Act, and has also made its way into the Norwegian courts.

Poland

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more than law

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

I. The core legal act that regulates the development of onshore wind energy in Poland is the Act of 20 February 2015 on Renewable Energy Sources (hereinafter: the "RES Act"). From the onshore wind energy perspective, the RES Act regulates among others:

- rules and conditions for conducting business activity in the field of electricity generation from renewable energy sources, including wind energy,

- mechanisms and instruments supporting electricity generation from renewable energy sources, including an auction support system and a support system in the form of certificates of origin.

Connection issues, i.e. regulations relating to the connection of RES installations to the power grid, are governed by the Act of 10 April 1997 on Energy Law (hereinafter: the "Energy Law").

The Act of 20 May 2016 on investments in wind power plants (hereinafter: the "Wind Investment Act"), sets forth conditions and procedures for the location and construction of wind power plants. The act in question has impeded the development of onshore wind energy by introducing the 10H rule, which prohibits the construction of wind turbines at a distance of less than 10 times the total height of wind turbines from residential buildings, mixed-use buildings including a residential function, as well as forms of nature conservation and forest promotion complexes. Pursuant to the Act of 9 March 2023, amending the Act on Investment in Wind Power Plants and certain other laws, the legislature liberalised the 10H rule, in order to unblock onshore wind power investments. The amendment provides that the location and construction of wind power plants is continued to be carried out on a 10H basis, but a different distance, but not less than 700 meters, may be established in the zoning plan.

II. The government's policy toward onshore wind energy is set centrally, without provincial division. The current government is favourable towards onshore wind energy development.

III. The main document stating energy policy priorities is the National Energy and Climate Plan 2021-2023. According to projections to the national plan, onshore wind capacity is expected to increase to about 9.6 GW in 2030 and maintain the aforementioned volume until 2040.

Another main document is the Polish Energy Policy 2040, which marks an increase in the share of RES in all sectors and technologies as a key element. In 2030, the share of RES in gross final energy consumption will be at least 23% - no less than 32% in the electricity sector (mainly wind and PV). In recent years, according to major Polish documents, much more emphasis has been placed on the development of offshore wind power in Poland.

IV. Key players in the onshore wind power market (as of January 2023):

1. Grupa PGE/PGE Energia Odnawialna (Poland) – 772,39 MW

2. EDP Renewables Polska (Portugal) – 697 MW

3. RWE Renewables Polska (Germany) – 470 MW

4. Grupa Tauron (Poland) – 416 MW

5. Grupa Orlen (Poland) – 353.25 MW

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 14% and the share of total domestic renewable energy coming from onshore wind was 51%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

Yes, there are binding targets for the expansion of wind energy in Poland.

Description:

There is no binding target in the laws. However the target is imposed in Poland's Energy Policy until 2040, but it does not apply only to wind energy, but to RES as a whole.

In 2030, the share of RES in gross final energy consumption will be at least 23%

- not less than 32% in the electric power industry (mainly wind and PV).

04 | Which measures are being taken by the government to promote onshore wind energy?

On 23 April 2023, the long-awaited by the onshore wind power industry Act of 9 March 2023, on amendments to the Act on Investment in Wind Power Plants and Certain Other Acts came into force. This amendment stipulates that the location and construction of wind power plants still takes place on the 10H rule, however, a different distance, but not less than 700 meters, may be established in the zoning plan. The current government has plans to change the distance of locating wind farms. the 10H rule, however, a different distance, but not less than 500 meters, may be established in the zoning plan.

RES installations, including onshore wind farms, can be covered by the basic support mechanism, which is the auction system. Auction system is dedicated to RES installations, the level of support is determined through a competitive auction process, in which the aid is granted in the form of a variable premium to the market price based on a contract for difference (hereinafter: the "CfD") for a specific period of support.

We point out that there has been a recent change of government in Poland. The new authorities assure that, in the near future, they will focus on updating the Polish Energy Policy until 2040, and that wind energy is one of the pillars of the nation's energy policy.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

I. Major obstacle

The main investment barrier is the 10H rule, established in 2016 and lightly liberalised in 2023, which limits investment in onshore wind farms in Poland on a significant scale.

The 10H rule, in effect since 2016, means that the distance of wind turbines from buildings must be at least ten times the height of the wind turbines. According to an analysis prepared by Instrat, the Act has excluded 99.7% of the country's land area from onshore wind energy investments, leading to a slowdown in this fast-growing industry. In the original wording of the draft of Wind Investment Act proposed by the government, the minimum required distance that could be established in the local zoning plan was 500 meters. In the end, however, the Sejm (Polish parliament) adopted the aforementioned amendment with an amendment stipulating that 700 meters is the minimum distance from residential buildings or mixed-use buildings at which wind turbines can be located and built.

II.. Barriers to the administrative process.

Complex procedure. Cost of administrative procedure of adoption or amendment of the zoning plan in order to allow the location of wind power plants. Protests from local communities. The entire permitting process takes seven to nine years to obtain all necessary administrative documents.

III. Barriers of planning procedure

Recently, there has been a reform of spatial planning, which aims to simplify and speed up planning procedures. A general plan is to be introduced as a mandatory planning document with a commune-wide scope, which replaces the study of land conditions and directions, on the basis of which zoning plans have so far been drawn up.

Municipalities are supposed to adopt the new plans by 31 December 2025, which, given the financial constraints of municipalities and the insufficient number of urban planners in Poland, may be significantly difficult. This may result in a significant slowdown in the location for wind farms.

IV. Barriers to grid connection access

Another barrier is the high number of grid connection refusals for new capacity. The development of direct line and cable pooling is expected to mitigate this problem. However, regulations in this area have only just been introduced into Polish law, so this will not be an immediate solution to the problem of grid connection refusals.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Four.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of 20 to 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

As a rule, securing of the land does not require registration of rights in an official register. However, disclosure of the lease agreement in the land register brings it under the principle of substantive publicity of the land register, from which there is a presumption of credibility of the land register, based on the fact that the public right from the land register is recorded in accordance with the actual legal status, which gives the generator far-reaching protection and additional benefits.

It usually does not take more than a few months.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Topic is not of relevance.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

Due to the limitations arising from the Act on shaping of the agricultural system as to renting agricultural real estate, in certain circumstances the landowner may be required to obtain prior consent of the Director General of the National Support Centre for Agriculture (KOWR) before concluding a lease agreement. A lease agreement concluded without such consent is void (see Art. 9 (1) (2) of the Act on the Formation of the Agricultural System in Poland).

The most frequently occurring in practice in relation to the investor's right to use such properties concern among others technical infrastructure located in the public road lane.

In case of power and fiber optic lines located in the public roadway, the jurisprudential doctrine and subsequently the case law expressed the view that a limited property right, such as the transmission easement, cannot be established. In such a case, the only legal instruments that serve to secure the investor's access to such real estate for the duration of construction and operation of the power line is a decision issued by the competent road manager, i.e.: (i) decision on the location in the road lane of a device not related to the needs of road management or the needs of road traffic, and then (ii) a decision allowing for the occupation of the road lane for the purpose of carrying out construction works in the road lane or placing an object or device in it. Similar regulation has been introduced for the transfer of decisions authorising the location or reconstruction of an exit ramp issued under Article 29 of the Public Roads Act.

The prevailing market practice is that the investors disclosed the rights under the lease agreements in the land and mortgage registers maintained for the leased real estate.

Disclosing the rights under the lease agreements is not necessary, however it is profitable and increases protection.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

The location of a wind power plant is based solely on the zoning plan.

Choosing the location for the wind farm requires a detailed verification of the planning situation in the given area, i.e. whether there is a zoning plan in place and whether the existing zoning plan allows the location of the planned investment. If there is no zoning plan or there are no provisions allowing for such a possibility, it will be necessary to adopt or amend a zoning plan.

The procedure includes, but is not limited to publish in the local press and to announce and make available in the Public Information Bulletin on the website of the Commune Office or Municipal Office, as well as in the customary manner used in a given location in the municipality where the wind farm is to be located and in the neighbouring municipality, information on adopting a resolution on commencing the preparation of a zoning plan. The residents of the nearby municipality will also be informed about the deadlines for the assessment of the draft zoning plan. At the stage of adopting the resolution on commencing the preparation of the zoning plan, and subsequently after the public display of the zoning plan draft together with the environmental impact assessment, it is obligatory to organise at least one public discussion in the form of a direct meeting and at least one public discussion conducted by means of distance communication.

According to new provisions, spatial planning system will be supplemented by a new planning tool, Integrated Investment Plan (Pol: Zintegrowany Plan Inwestycyjny (hereinafter: "ZPI")). It will be possible to enact a special type of a zoning plan and, consequently, to develop a particular project with the participation of the investor. A ZPI is to be enacted by the commune/ municipal council at the request of the investor, after negotiations and the conclusion of an urban planning agreement, specifying the terms and conditions for the execution of the project and the obligations.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 12 to 18 months.

Average duration of permit procedures: one month to six months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Nature conservation and species protection have a significant role in issuing an environmental decision for a wind farm.

The purpose of the environmental decision is to assess the impact of the planned investment on the environment and to determine the conditions that must be met by the investor in order to minimise negative effects on nature and human health.

In the course of proceedings for issuing the decision on environmental conditions, it may be necessary to conduct the environmental impact assessment of the project (hereinafter: the "EIA"). EIA is a procedure which evaluates the impact of the planned project on the environment and includes verification of the environmental impact assessment report (hereinafter: the "EIA report"), obtaining required opinions and agreements and providing the possibility of public participation in the proceedings. Wind farms with a total capacity of up to 100 MW are classified as projects that may potentially significantly affect the environment. The authority, after consultation with specialised bodies (Regional Environmental Protection Directorate, the State Sanitary Inspectorate and the State Water Management Company), decides if it is necessary to conduct the EIA procedure.

The EIA report should describe at least three variants of the project: variant proposed by the applying party, rational alternative variant and rational variant which is the most beneficial for the environment. Moreover, the EIA report should contain information on the cumulative impact of the executed, completed or planned projects for which the decision on environmental conditions was issued, located in the area where the project is planned to be located and in the area of impact of the projects or which are within the area of impact of the planned project – to the extent to which their effects can lead to the cumulative impact with the planned project. It is also important to present the information on the acoustic impact of project on the environment.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

- *Distance requirements*

19 | Please describe the legal framework for the repowering of wind turbines.

Topic is not of relevance.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

State / public authority / state-owned grid operator.

21 | At which stage of a project do project developers have to apply for a grid connection?

After securing the land.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

There are two stages that constitute the process of connecting the installation to the grid – obtaining the connection conditions and then concluding the connection agreement. Grid connection procedure begins when the investor submits an application for the establishment of grid connection conditions. The conditions are valid for two years from the date when they were delivered to the investor, and during their validity period they constitute a conditional obligation of the power company to conclude an agreement for connection to the electricity grid. In case of connection of wind farms, the agreement shall contain additional provisions concerning the date of first energy supply. For onshore wind farms, the deadline cannot be longer than 48 months, counted from the day of signing the agreement. Failure to meet such deadline constitutes grounds for termination of the agreement. The RES Act provides for a mechanism of extending the deadline for first feeding electricity to the grid for projects that won the auction. The grid operators are obliged to adjust the deadline in the connection agreements for the winning projects to make them compliant with the auction deadlines – for onshore wind – 33 months from the auction closing date.

The problem with connecting new units has been particularly pronounced in recent years. In 2022, the number of grid connection refusals amounted to 7023, which translates into a total unconnected capacity of more than 51.06 GW.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Revenue sources can be separated into several when it comes to onshore wind power generation.

The most common is that sources benefit from some kind of support system, for example, an auction system. In this case, the source of revenue is the winning of the auction, where there is an obligation to contract the energy and

settle it according to the Contract For Difference mechanism. The auction system operates on the basis of bids submitted by generators to the auction organiser (in this case, the ERO), which selects the most favourable proposals (in terms of price and additional factors).

Moreover, there is a distinction between generating revenues from the sale of energy to the end user directly, as well as to a trading company, which may have capital relations with the generator (depending on the specific situation).

There is also a situation where contracted large RES sources are connected to the transmission grid, instead of the distribution grid, where they benefit from the capacity market support system, after winning the capacity market auction.

In the case of micro-installations, i.e. installations with a capacity of less than 50 KW, and small installations (with a capacity of up to 1 MW), it is possible to benefit from the sale of energy through an energy seller designated by the President of the Energy Regulatory Office, known as an obligated seller. Such an obligated seller is obliged to repurchase energy generated by RES. This applies to entities that do not benefit from other support systems.

In the case of micro-installations, it is also possible to sell energy in the form of net-billing. This method involves the sale of surplus electricity at exchange-determined prices. Currently, the sale is possible at the average monthly wholesale energy price of the previous month, but from mid-2024, it will be an hourly price in accordance with the tariff. The funds raised in this way are invested in the individual account of the micro-installation owner.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

- *Contracts for difference (CfDs) (This subsidy model defines a fixed minimum remuneration per MWh of electricity. The level of this subsidy rate is usually determined by a tender procedure.)*

Description:

The auction system is currently the basic support mechanism for RES installations. Auction system is dedicated to RES installations, the level of support is determined through a competitive auction process, in which the aid is granted in the form of a variable premium to the market price based on a contract for difference for a specific period of support.

Auction support is based on guaranteeing the producer a fixed minimum sale price for electricity generated in a given installation. The producer sells energy on the energy market for the market price and then may apply for a difference to the price indicated in the winning auction bid, if the market price (TGeBase daily price) is lower than the auction bid, or refunds the difference if the market price is higher than the auction bid (the so-called contract for difference model). I.e. this is about the right to cover the negative balance.

Auctions are conducted annually, at least once, specifically for the designated “auction baskets” outlined in the RES Act. These baskets relate to specific types and sizes of RES installations.

In onshore wind energy, two key baskets address different RES installation sizes. The first includes capacities up to 1 MW, while the second encompasses capacities exceeding 1 MW. This framework shows that wind farm and photovoltaic projects compete in both baskets during auctions.

26 | How does the application process for the promotion / subsidy scheme work?

a) Eligibility through tendering process

b) Application process with e.g. a governmental authority

Description:

Ready-to-build projects for onshore wind energy may participate in the auction if they:

- have a certificate of admission to the auction, and
- pay a deposit of PLN 60 (approximately EUR 14) per kW, or they provide an equivalent bank guarantee.

Issuance of a certificate of admission to the auction is preceded by a prequalification procedure conducted by the by the President of the ERO. Investors must prove that they have installations ready for construction, i.e. that the following criteria are met:

- have grid connection conditions or have a connection agreement in place,
- the investment has a final and valid construction permit (valid for at least six months)
- attached diagram of the RES installation,
- present the schedule material and financial implementation of construction.

After fulfilling the prequalification criteria, the President of the ERO issues a certificate of admission to the auction within 30 days. This certificate remains valid for 12 months from the date of its issuance. The auction shall be conducted in electronic form via an online auction platform. The auction is won by the producers which have offered the lowest price and whose bids together do not exceed 100% of the value or quantity of electricity specified in an auction notice and 80% of the amount of electricity covered by all bids.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

15 years

Description:

The support period lasts for 15 years from the date of sale of the first time of electricity after the date of winning the auction in question, but no longer than until 30 June 2047.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

No remuneration.

Description:

This is not renumeration. This support mechanism is based on the basis that a generator of energy in an installation (above 0.5 MW), which won the auction, sells the generated energy on the energy market for the market price, and then can apply for compensation up to the price accepted in the auction. It takes place by covering the so-called “negative balance”. The funds to cover it are paid by the Settlement Administrator S.A., a special-purpose company of the State Treasury, which acts as a settlement operator, and its task is to collect funds to cover and make settlements of the “negative balance”.

The volume of generated energy, which is subject to settlement, is determined on the basis of indications of metering equipment in a given month. The generator informs the Settlement Administrator, by the 15th day of the following month, about the volume and prices of energy sold in the previous month, energy value data (prices published on the Polish Power Exchange – TGeBase index), and submits an application to cover the negative balance.

The negative balance is the difference between the net value of energy calculated on the basis of the TGeBase index and the value calculated on the basis of the offer price of a given generator. The Settlement Administrator is obliged to verify the application for covering the negative balance within 30 days and pay the funds to the given generator.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

Winning the auction entails three primary responsibilities for the RES producer:

The devices that are part of an onshore wind plant cannot be older than 33 months immediately preceding the date of first generation of electricity in this installation.

The first sale of electricity under the auction system, i.e. after the installation has been put into operation and a generation concession has been obtained, should take place no later than 33 months after the auction session closing date; failure to meet this obligation results in loss of deposit/ cashing bank guarantee and in exclusion of the project from the auction system for the next three years.

The producer is also required to sell within the auction system the volume of electricity specified in the bid, with this obligation being settled after the end of each full three years of the support period. Failure to meet the stipulated volume requirement, falling below 85% of the energy specified in the bid, may lead to the imposition of an administrative fine.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

Generally, the most adequate legal form is the limited liability company, due to the limitation of liability of partners. However, the law does not prohibit or prescribe any legal form for wind energy plants.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

The most common ownership structure is the formation of a separate project company, in the form of a limited liability company, for one project or several projects in different locations that share the same grid connection point. The most frequent situation on the market is where a number of such project companies exist in a holding structure, being subsidiaries of the parent company, which is usually a joint stock company.

While this is the most common model on the market, it is not mandatory and the investor can choose another legal form.

Regarding operators, in Poland we distinguish between the Transmission System Operator, which is Polskie Sieci Energetyczne S.A. This is a state-owned company. The scope of activity PSE S.A. is the supply of electricity transmission services, while maintaining the required safety criteria for the operation of the National Power System. On the other hand, energy distribution is carried out through Distribution System Operators, and the main operators, of which there are five in the market, are state-owned companies. While the rest of the Distribution System Operators are private entities – they are usually smaller companies.

Power plant ownership and operations are usually kept in separate special purpose companies.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with seven,*

(ii) *planning law with four,*

(iii)*permit situation with five, and the*

(iv)*granting of subsidies with nine.*

Part I - Other Issues

33 | Are there any other “hot topics” currently being discussed in your country in relation to onshore wind energy?

Recently, the issue of alleviating the provisions of the Wind Act has been the trendiest topic. So far, the draft law has not yet been published.

From the talks at the political level, several options are in play, including keeping the 10 hr rule with the possibility for municipalities to determine the distance, but not less than 500 m from buildings. Also under discussion is a change based on which the location of wind turbines would depend on the intensity of the sound they emit, rather than the distance as at present.

Portugal

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

The Portuguese onshore wind electricity generation portfolio has grown significantly since 2000, particularly from 2000 to 2015, as a result of policies of promotion of renewable energy sources focusing in particular on wind power, which had been put in place in the 1990s.

Wind energy production is predominantly spread across the north and centre of the country. Portugal's onshore wind installed capacity in 2022 was around 5,600 MW. By 2023, this figure increased to approximately 5,900 MW. The future increase in wind capacity will be based on repowering and overpowering of existing wind farms, and on hybridisation of solar PV assets.

Today, Decree-Law 15/2022 – which regulates and organises the National Electricity System and incorporates the European Directives (EU) 2019/944 and 2018/2001 into Portuguese law – is the main piece of legislation governing the licensing and development of wind farms. This legislation aims to contribute to achieving the sustainability goals outlined in the European Ecological Pact, the National Plan for Energy and Climate 2030 and the Roadmap to Carbon Neutrality 2050.

Onshore wind energy in Portugal is regulated at national level and is primarily implemented by the Ministry of Environment and Energy.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 29% and the share of total domestic renewable energy coming from onshore wind was 42.3%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

Yes, there are binding targets for the expansion of wind energy in Portugal.

Description:

The National Energy and Climate Plan (NECP) 2030, as reviewed in June 2024, establishes as a national target the production of 10.4 GW of onshore wind by 2030.

04 | Which measures are being taken by the government to promote onshore wind energy?

The Portuguese strategy to reach the national targets for wind energy is mainly based on the promotion of repowering and overpowering of existing wind projects, and on hybridisation of projects generating power from other renewable energy sources, such as solar PV and hydroelectric projects.

As an incentive for the repowering of existing

renewable energy projects, Portuguese law allows for an increase of up to 20% of the injection capacity (over the original injection capacity of the project) in case of full repowering. This incentive will be in force until the targets for increases in installed capacity of each source of renewable energy set out in the NECP are met.

Furthermore, Portuguese law provides or the hybridisation of renewable energy projects of other sources, using the same grid capacity used for the hybridised project. This streamlines for process of grid connection for hybridised plants.

Finally, several measures have been taken to streamline the licensing process of new renewable energy plants, particularly through Decree-Law 11/2023, known as the environmental Simplex.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

The main obstacle to development of new projects is the lack of grid capacity. Both the transmission and distribution grids are highly congested and await new grid reinforcements in order to allow for the allocation of capacity for new projects, other than repowering or hybridisation projects.

Delays in licensing also pose an obstacle, although recent laws and the announced reinforcements of means of licensing authorities are expected to help tackle these delays.

Environmental constraints, particularly in environmentally protected areas, and compatibility with municipal zoning rules are other relevant challenges that projects need to overcome in finding a suitable location for greenfield onshore wind projects.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Five.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of 20 to 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

This typically happens at the beginning of development of the project, after a preliminary analysis of the suitability of the area in question from a legal and wind resource perspective.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Duration of the registration process: less than three months.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

The scope of a lease agreement will usually be broad enough to include the ability of the tenants to revamp the project. However, an extension of the agreement for the lifetime of the project after repowering will be needed in most cases, and the extension may or may not require the agreement of the landlord.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

No.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

The siting and design of wind farms involves the following key permitting procedures:

(i) Injection Capacity: the development of electricity generation projects connected to the public grid hinges on obtaining a Reserved Capacity Title (TRC), other than for projects for which grid capacity has already been granted (repowering, overpowering and hybridisation). The TRC may be obtained by competitive procedures or on a first come, first served, basis, depending on the case.

(ii) Environmental Licensing: the applicable environmental control procedure typically involves an Environmental Impact Assessment (EIA). EIAs are required for wind farms meeting specific criteria, such as those with 20 or more turbines within a 2 km radius (or 10 km for environmentally

sensitive areas). Wind farms not meeting these thresholds may still be subject to an EIA at the discretion of the electrical licensing authority if considered to be likely to cause a significant environmental impact. Other environmental procedures may apply depending on the restrictions applicable in the relevant area.

(iii) Production Unit Licensing: this involves obtaining a production licence for the wind farm from the DGEG (Directorate-General for Geology and Energy).

(iv) (iv) Municipal Licensing: this construction licence will be needed at the municipal level and will be issued if the project is compatible with local regulations and zoning rules.

Lines connecting the wind farm to the public grid will also be subject to an establishment licence and may be in certain cases subject to the environmental impact assessment or, depending on the existence of other environmental and zoning constraints, to additional permits.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: six to 12 months.

Average duration of permit procedures: 12 to 18 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Nature conservation and species protection play a crucial role in the planning and permit procedures for wind energy projects in Portugal.

Firstly, the threshold that a project needs to meet in order to be subject to environmental impact assessment (EIA) is reduced – to 10 turbines in a radius of 2 km – if the project crosses Natura 2000 network areas or other environmentally sensitive areas. Even if an EIA is not required, a lighter environmental effects assessment process will be required for Natura 2000 network areas. These procedures will determine whether the environmental impacts of the project can be sufficiently mitigated by the benefits of the project, together with mitigation and compensation measures proposed.

In addition, Portugal has protective laws regarding certain types of trees, such as holm oaks and cork oaks, requiring specific permits to be granted on the basis of discretionary criteria. Depending on their extent and on whether they are included in forestry reserved areas, non-protected trees, such as pine trees, can also be a challenge to renewable energy projects.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

c) Lack of grid capacity

d) Impacts on populations in the vicinity (mostly related to noise)

e) Lack of compliance with zoning rules

19 | Please describe the legal framework for the repowering of wind turbines.

The repowering of wind farms is considered a non-substantial change of the project. Therefore, it is not subject to a new licensing procedure but rather to authorisation by the licensing authority (DGEG), to be granted after the opinions from all relevant entities and grid operators are obtained or requested and not obtained within the legal deadline. An inspection of the installations may be made before issuing the authorisation for repowering.

As an incentive for the repowering of existing renewable energy projects, Portuguese law allows for an increase of up to 20% of the injection capacity (over the original injection capacity of the project) in case of full repowering. This incentive which will be in force until the targets of increase of installed capacity of each source of renewable energy set out in the NECP are met. The capacity corresponding to this 20% will be non-firm, i.e. it may be curtailed if grid operation so requires, and the generator will be required to participate in the ancillary services market as regards the electricity injected using the additional up to 20% of injection capacity.

Repowering will also require a municipal construction licence, that should be granted if zoning rules are complied with.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

The grid connection infrastructure is built and paid for by the generator, although its ownership will be transferred to the grid operator at no cost when operation begins. The exception are line panels or other works to be done within the infrastructure of the grid operator, which will be paid for by the generator but built by the grid operator. Grid operators are private entities with public service undertakings.

21 | At which stage of a project do project developers have to apply for a grid connection?

Grid connection is usually applied for at the beginning of the project, as the first stage for its licensing.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

No.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Most currently, operating onshore wind generators are still covered by a subsidy scheme, which is currently based on the application of a cap and floor, or only a floor, for the price per MWh received by the generator (between the cap and floor, or above the floor, the generator is subject to market prices). For the majority of projects, this subsidy scheme will be in force until 2027.

Currently licensed wind farms will not be covered by subsidy schemes, as they were eliminated in 2012. Hence, they will market their power according to market mechanisms, the most common being entering into physical or financial power purchase agreements and/or selling in the spot market (usually, a combination of both).

25 | Is there an official promotion / subsidy scheme prescribed by law?

No, there is no official subsidy scheme prescribed by law.

26 | How does the application process for the promotion / subsidy scheme work?

N/A.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

0 years.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

No remuneration.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

N/A.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

Wind energy plants in Portugal are typically operated by limited liability companies by shares (sociedade anónima) or limited liability companies by quotas (sociedade por quotas). Certain smaller wind turbines are owned by private individuals. Criteria regarding the choice of legal entity generally encompass the technical and economic capabilities of the promoters. Furthermore, Portuguese legislation stipulates that the percentage of electricity production capacity held by the promoters within the Iberian Electricity Market (MIBEL) must not surpass 40% as of 31 December of the year preceding the submission of the production license request. This dual approach ensures both the competence of the promoters and maintains a balanced distribution of electricity production capacity.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

The onshore wind market in Portugal is dominated by four to five companies. From a corporate structure perspective, the usage of special purpose vehicles (SPV) for each project is common, so as to ringfence the project and allow for project financing. Unbundling requirements in Portugal require ownership unbundling regarding the transmission grid operator, legal, organisational and decision-making unbundling regarding distribution grid operators and legal unbundling regarding electricity suppliers. Wind energy plants are primarily operated by private providers. Although there is no explicit prohibition against state-owned providers, to our knowledge, such cases are not existent. The ownership of the plants and the operational business (licenses, contracts) may be held in separate SPVs by typically it is not.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with six,*

(ii) *planning law with six,*

(iii)*permit situation with six, and the*

(iv)*granting of subsidies with six.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

Hybridisation of onshore wind with other renewable energy sources together with battery storage is probably the hottest topic regarding onshore wind energy. Remote self-consumption and renewable energy communities involving onshore wind are also significant topics which are evolving and are currently receiving attention from the market.

Romania

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

Generally, the renewable industry in Romania is mainly governed by Energy Law no. 123/2012 (the "Energy Law") and Law no. 220/2008, on promoting energy production from renewable energy sources. These regulatory acts transpose several EU directives relevant for the renewable field into Romanian law to which the EU Regulations directly applicable in Romania are added.

In addition, the specific legislation in the energy sector is supplemented by the general legislation (e.g. laws, ordinances, orders, and decisions) of various regulatory authorities, whereby regulations and/or technical standards are approved (e.g. in terms of securing lands, permitting, grid connection, environmental, operation and maintenance, electricity storage) for renewable energy projects.

The Ministry of Energy has general competences over energy matters in Romania (including renewable field) which include, for example, to enact secondary, to develop and apply long-term and short-term energy strategies and programs and to represent the state and the government, on a national and international level in relation to energy matters.

ANRE is an independent central administrative authority which regulates and supervises the energy sector. ANRE is responsible, among others, for developing, adopting and applying specific regulatory acts in the renewable field, for granting setting-up authorisations and commercial exploitation licenses, for establishing the corresponding conditions by which their holders must abide, for monitoring regulatory compliance of participants to the electricity sector with the relevant legislation and for applying sanctions. Renewable energy plays an important role in decarbonising Romania's energy system. Romania's target of 30.7% of share of energy from renewable sources in gross final energy consumption by 2030 included in the current National Energy and Climate Plan for 2021– 2030 translates into an additional capacity of renewable required to reach the 2030 objective, particularly 2.3 GW of wind and 3.7 GW of solar.

In terms of development of renewable energy projects (including wind), the current policies and measures are mainly in line with the reforms undertaken under the National Recovery and Resilience Plan ("NRRP"), REPower EU Plan, the European Green Deal and Fit for 55 Package.

Authorities with attributions in the energy sector (including the Ministry of Energy, ANRE and the Competition Council), the transmission system operator (the "TSO") – namely CNTEE Transelectrica SA, a majority state-owned company, the regional distribution networks managed by regional distribution system operators (the "DSOs"), renewable energy investors, developers, off-takers (traders and corporate) and financing institutions, represent the key players on the renewable energy market.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 14.13% and the share of total domestic renewable energy coming from onshore wind was 33.47%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

Yes, there are binding targets for the expansion of wind energy in Romania.

Description:

Romania has undertaken to achieve a quota of 30.7% for renewable energy within the total energy mix by 2030, according to the National Energy and Climate Plan for 2021-2030. Romania seeks to set more ambitious national targets in the draft of an updated National Energy and Climate Plan to reflect the more ambitious EU climate and energy targets in the Fit for 55 Package and in the Repower EU Plan. Romania's 2030 ambitious targets under the updated draft envisages an increase from the actual 30.7% target to 38.3%.

04 | Which measures are being taken by the government to promote onshore wind energy?

The last years have been marked by major changes in national legislation to accelerate the process of attracting investment in the renewable field. Hence, the regulatory framework has been changed recently in a significant manner, aiming to facilitate and speed-up the permitting process for renewable energy projects (as further detailed below). For example:

- competitive grid allocation mechanisms starting in 2026 (enabling producers to book grid capacity through auctions), unlike the current approach of granting grid capacity bilaterally on a first-come, first-served basis.
- Romanian authorities have started shaping new support schemes following the appetite of investors to develop renewable projects based on the Contracts for Difference mechanism, the Modernisation Fund and the National Recovery and Resilience Plan ("NRRP") targeting, for example, wind and solar renewable energy production, battery energy storage systems.
- Renewable projects may be developed on agricultural lands, located outside a built-up area, just based on an agricultural removal endorsement, without further the urbanism zonal plan ("PUZ"). This exception applies to lands with a surface not larger than 50 ha and with the soil quality class category III-V ("50ha Exception") - basically the target lands are removed from agricultural circuit, but remain extramuros with constructions.
- Developers may request separate building permits based on a single urbanism certificate previously obtained for that land plot in case the construction works envisage several investment objectives on the same land plot.
- New provisions relevant for new developments have been introduced which require for the building permit to be obtained by a certain date. Such deadlines were imposed to ensure that investors progress with the permitting process and avoid blocking projects (including the reserved capacity in the grid) due to insufficient funds for development.
- Cubstantial changes were made to the energy regulatory framework in the last years, the purpose of the legislative amendments being to unlock the renewable energy investments by partially lifting the financial burden of the network operators for reinforcement costs.
- An obligation has been introduced to set up a financial guarantee of 5% of the value of the connection tariff when applying for grid connection permits for all projects (previously required before concluding the connection agreement), irrespective of whether or not reinforcement works are required for the development of the new power-generation capacities. This should act as an instrument against speculative investments.
- Bilateral power purchase agreements ("PPAs") for renewable production have been again expressly allowed starting with 2020, after a 10-year ban where electricity trading was mandatory to be carried out only on the centralized markets.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

Barriers in the political and economic framework

Insufficient and unclear legislative frameworks still create difficulties for investors. 50 ha exception became the general rule due to the refusal of the Ministry of Agriculture to issue agricultural removal endorsements for the general procedure with PUZ (for renewable projects larger than 50 ha). This led to a 50 ha maximum limit for project lands.

Difficulties in securing lands

The process for securing lands (especially for cables and poles) for renewable energy projects is still a cumbersome and time-consuming process, as each owner needs to be identified individually and agreements have to be made with each and every owner (which is particularly difficult for lands under inheritance with multiple heirs). Developers do not benefit from a legal right of way in the development phase to bypass all these hurdles.

Barriers in the grid regulation and infrastructure

Limited capacity of the grid to absorb additional power, due to insufficient new investments in upgrading and developing the existing transmission and distribution networks. Considering the limited available funds of the network operators and the very difficult market conditions, many renewable energy projects have been delayed or blocked, the tariff component related to the reinforcement works representing an obstacle for the development of new generation facilities.

Barriers in the market

Agricultural lands located outside the built-up area are subject to use/construction restrictions and special sale conditions (mandatory pre-emption rights). Sale restrictions do not apply in case of a share deal. However, certain taxes may be applicable if such land is sold before the expiry of eight years from its purchase or in the case of the sale of the control package of legal entities that own one or more entities of agricultural land located outside the built-up area and that represent more than 25% of the assets of the entity.

Other

The lack of expertise among personnel involved in the various stages of the permitting and development process.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Seven.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) *Ownership right – this is acquired usually through a land purchase agreement via: (i) an asset deal – direct purchase from the land owner by means of a notarized purchase agreement; (ii) a share deal – purchase of the company holding the land (usually a SPV – special purpose vehicle company) by means of an agreement signed under private signature.*

b) *Long term superficies right (special land lease) – the developer acquires the right to use the land plots, to build and own a construction on the respective land plots, while the owner keeps the "bare ownership" of the land. The beneficiary of the superficies will be the owner of the constructions and can sell/mortgage the construction together with the superficies right on the land to third parties. The superficies agreements must be signed in authenticated form, in front of a public notary, for validity purposes.*

c) *Concession right (special land lease for lands owned by the state/municipality) – regime is similar to superficies right, difference being public nature of the land ownership. Specific regulations are applicable for this type of contract, and public procurement tender is necessary to award the concession right.*

d) *In addition, developers must secure land rights for connection cables, crossing aerial space with wind blades, etc., part of the grid connection installation - developers should secure passage or easement rights by agreements concluded with landowners or managers of public roads).*

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of more than 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Usually, the timeline for securing the necessary land is between six to 12 months and more in some cases, depending very much on how long it takes to identify the relevant landowners of the target land, the number of persons owning the target land, negotiations with the relevant landowners, signing the relevant agreements and registration formalities with the relevant Land Book.

Also, prior to signing the relevant agreements, some formalities must be performed, including obtaining fiscal certificates/ownership titles over the target land, corporate approvals/powers of attorney for signatory parties, conducting a legal due diligence to verify the ownership title, any encumbrances over the target land and risks associated with such.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Duration of the registration process: less than three months.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Generally, the agreements based on which the target land are secured foresee the developer's right to repower all components of the wind energy project, to execute the works required for the reconstruction or refurbishment of the wind energy project, as well as for ensuring its normal operation, for the necessary overhauls, repairs and interventions, respectively for the execution of demolition works.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

Considering that renewable energy projects are usually developed on agricultural lands, investors and developers must pay attention to the ownership title over the target land, namely if such land or any part thereof are the subject of any restitution claims, litigation, cadastral overlaps, special restrictions or use (like permanent pastures, communal associations, special vegetation or infrastructure, underground pipes, irrigation channels, archaeological sites, expropriations etc.).

Also, in case the subject matter of the acquisition is an extramuros agricultural land, the sale purchase agreement may be concluded subject to performing certain formalities (observing the pre-emption rights under the law, obtaining the prior approval of certain authorities – e.g. the approval of the Ministry of Defense in case of agricultural lands located in the extramuros, within 30 km from the Romanian border and/or from the shore of the Black Sea or at a distance of up to 2,400 m from a special facility or the Ministry of Culture, if the lands have archaeological sites or are located in areas with archaeological patrimony or with archaeological potential).

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

The construction of wind electricity generation capacities requires various sector-specific permits and approvals.

From a civil construction perspective: the main steps to reach the ready-to-build stage are (a) obtaining an urbanism certificate, which essentially is a checklist setting forth the zoning parameters and the main necessary approvals and endorsements required to be obtained from the local authorities and utilities providers and the necessary studies and technical documentation, (b) removal of land from the agricultural circuit; (c) obtaining all other approvals and endorsements and preparing the specific studies and technical documentation set out by the urbanism certificate; and (d) applying for the building permit based on the documentation mentioned at points (a) – (c) above.

From an environmental perspective: it is required to obtain the environmental endorsements required under the law / urbanism certificate following a strategic environmental assessment (if applicable) and an environmental impact assessment.

From an energy perspective: the main steps are (a) obtaining the grid connection permit through which the operator of the power grid approves the maximum generation capacity that the wind project can feed into the grid and the grid connection solution; (b) signing the grid connection contract; and (c) obtaining the setting-up authorization issued by ANRE granting the permission to set up a new power generation capacity.

Following the construction of a wind electricity generation capacity, several approvals are necessary for its operation, mainly governed by the relevant environmental and energy-specific regulations.

From an environmental perspective: it must be obtained an environmental authorization and a water management authorization (if applicable), through which the local authorities will impose various obligations that should be observed during the functioning period of the project.

From an energy perspective: the connection process would include the following key steps: (i) obtaining the connection certificate and the license for the commercial operation of the generation capacity (applicable to installations with a capacity above 1 MW), (ii) registration as a balancing responsible party and (iii) registration and execution of the participation agreement for the relevant electricity market.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: one month to six months.

Average duration of permit procedures: 12 to 18 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

The nature conservation and species protection are assessed by the relevant environmental authorities during the development phase and operation of renewable energy projects. In case the project is located within or in the vicinity of natural protected areas, further impact studies and reports are required.

In case the development of a wind project has a potential impact on neighbouring waters or water bodies (such as rivers, lakes, water channels), additional permits from the National Administration "Romanian Waters" or the regional basin water administrations are necessary.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

c) Monument protection

d) Distance requirements

e) Air corridors

19 | Please describe the legal framework for the repowering of wind turbines.

Depending on the type of extension of the repowering works and the change of construction parameters of the wind turbines, the developer

will have to go through some of the permitting steps provided at point 15 above (e.g. obtaining building permits and underlying documents, including environmental permits/approvals, setting-up authorisation etc.). Also, it may be required to up-date the grid connection permit according to Order no. 59/2013 approving the Regulation on the connection of users to public electrical networks. The environmental authorisation may include several provisions regarding the repowering of the wind turbines, which can include obligations regarding site restoration or disposal of equipment. Also, the disposal of wind turbines and related equipment may be subject to waste management regulations.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

The national power grid is comprises: (i) the national transmission network, managed by the TSO – namely CNTEE Transelectrica SA, a majority state-owned company; and (ii) the regional distribution networks managed by the DSOs. Both the TSO and the DSOs have a natural monopoly on the transmission and distribution systems and services, based on concession agreements concluded with the Romanian state. Access to the power grid is granted by the network operator (TSO or by the local DSO) of the grid to which the project is envisaged to be connected, based on a specific procedure to be followed by developers.

21 | At which stage of a project do project developers have to apply for a grid connection?

Prior to starting the grid connection procedure, developers must first secure the lands and obtain the urbanism certificate issued for the building permit. Generally, developers submit the grid connection application immediately after obtaining the urbanism certificate.

22 | Who has to bear the costs of the grid connection?

The costs for the grid connection are fully borne by the company requesting connection, the amount being specified in the grid connection permit and includes (i) the value of the works for the connection installation, (ii) the value of the verification of the installation file and for powering up the installations, and (iii) the value of the reinforcement works (if any).

Prior to the issuance of the grid connection permit, the developer must constitute a financial guarantee of 5% of the value of the connection tariff. Also, in case reinforcement works are required, the developer must constitute an additional financial guarantee (in a form to be agreed upon with the network operator) for a value set as a percentage of 5% of the connection tariff before concluding the grid connection agreement.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

As a general rule, the reinforcement works are executed by the network operator. In practice, things may happen differently and generally depend on the financing available to the network operators for the reinforcement works required by a specific project. The investor in the vast majority of cases ends up selecting and paying for the EPC contractor.

Also, there are certain technical standards / coexistence norms that should be considered for the construction of new facilities. The Energy Law imposes protection and safety areas for the normal functioning and protection of energy capacities and for the avoidance of harming persons, assets or the environment. The protection and safety areas are determined for each energy capacity according to ANRE Order no. 239/2019.

New provisions relevant for new developments have been introduced which require for the building permit to be obtained by the date of conclusion of the contract for the execution of the connection installation (if it is concluded by the grid operator), but not later than (i) 12 months from the date of conclusion of the connection agreement; and (ii) 18 months from the date of issuing the grid connection permit. The grid operator may agree to extend such deadlines in certain cases (i.e. in case the delays were outside investors' control and receives proof of an additional financial guarantee amounting to 5% of the connection tariff).

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Producers can generally sell the electricity generated through the following types of transactions on the wholesale electricity market, in all timeframes: (i) directly negotiated transactions by the conclusion of PPAs, (ii) transactions concluded following auctions on organised markets, including the electricity balancing market, (iii) electricity import and export transactions.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

- *Yes, there is an official subsidy scheme prescribed by law:*

Description:

Romanian authorities have started shaping new RES support schemes. These would mainly include new contracts for difference support mechanism ("CfD Mechanism") for renewable energy projects (including onshore and offshore wind), as well as particular support schemes financed from various sources, including NRRP or the Modernization Fund. These are one of the most eagerly awaited funding programs and the interest is very high.

The first auction of the CfD Mechanism was held at the end of 2024 and 1,500 MW were auctioned and awarded (1,000 MW onshore wind and 500 MW solar). Romania is expected to hold its second round of auctions for the remaining 3,500 MW in 2025.

26 | How does the application process for the promotion / subsidy scheme work?

■ *Eligibility through tendering process*

Description:

Support schemes financed from CfD Mechanism, NRRP, and the Modernization Fund are expected to be awarded through competitive tender proceedings.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

Projects under the CfD Mechanism will be funded up to 15 years.

Further support schemes are expected to be launched under NRRP and Modernization Fund in the near future and further details in respect to the funding period should be published when the support schemes will be launched.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Through the CfD Mechanism, producers' revenues will be stabilized at a fixed price level known as 'striking price'. The striking price will be the final price per MWh to be obtained by an investor following the CfD application and would not exceed the 'reserve price'. These must never exceed a cap specified in the order for the initiation of the CfD auction. For the first auction launched in 2024, the maximum strike price which could be offered by investors was 82 €/MWh for onshore wind and 78 €/MWh for solar.

The funds accessible from NRRP or the Modernization Fund are expected to be paid per project.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

Eligibility of projects should be assessed on a case-by-case basis, based on their permitting status and eligibility criteria under the support schemes (which may (i) include requirements regarding the minimum capacity produced and caps on the maximum amount of the State-aid per installed MW and/or project, (ii) to be eligible, may require for the project to have the grid connection permit, but should not have reached COD, etc.).

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

There are no mandatory requirements regarding the type of legal entity to choose. The overwhelming majority of the legal entities usually operating wind energy plant units in Romania are limited liability companies. This is because such companies are governed by relatively straight-forward rules and they limit the liability of their shareholders to the share capital contributions.

A limited liability company ("LLC") is a corporate entity where the shareholders are liable for the obligations of the company up to the amount of their contributions to the company's subscribed capital (the minimum share capital requirements for LLC is of RON 1 (approx. EUR 0.20)). 30% of the share capital of a limited liability company can be paid after the registration and before the LLC commences operations (without however exceeding three months from incorporation) with the balance to be contributed in (i) 12 months in case of cash contribution and (ii) two years in case of in-kind contributions, in both cases as of incorporation.

However, even if the preferred choice is to operate through an LLC, there are other types of legal entities that can be used for wind energy plant units such as joint stock companies.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

Both Romanian and foreign investors may develop renewable energy projects. Companies developing renewable energy projects may also be state-owned through direct or indirect shareholding. Usually, the investments are being developed through a special purpose vehicle ("SPV") which will own the plant and will hold all the required authorisations and licenses for its operation.

In practice, we have met various types of ownership structure (such as sole individual or sole entity shareholder up to multiple shareholders both individuals and entities with one holding company in tax friendly jurisdictions). The holding structure is usually determined by tax consideration.

Romania has implemented unbundling rules for market participants, which must ensure operational and accounting separation between the various activities they carry out (production, transmission, distribution, supply, trading) per the relevant EU legislation.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with nine,*

(ii) *planning law with eight,*

(iii)*permit situation with eight, and the*

(iv)*granting of subsidies with seven.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

One of the "hot topics" in Romania is the simplified legislation in favour of national interest projects and State entities. It is now easier for State entities to develop renewable projects located outside the built-up area, for surfaces exceeding 50 ha, located on land from public and private domain of the State and under the

administration of the Agency of the State Domain, having quality class IV and V. For these objectives, the removal of the land from the agricultural circuit will operate automatically (basing on the normative act), without having to follow the classic procedure.

Entities in which the Romanian state is the sole or the majority shareholder will have the right of direct concession (by bypassing the tender and public procurement rules) over land in the public and private domain of the State for renewable projects.

State owned entities and local and central public administration authorities will also be able to conclude superficies agreements regarding certain types of land located in the public or private domain of the State for the purpose of developing renewable projects with financing from no reimbursable external funds.

In order to benefit from this fast track procedure, the private companies are considering the possibility of entering into joint venture agreements with the State-owned entities for developing renewable projects.

Another “hot topic” in Romania is dual use of the land for both agricultural purposes and renewables development. An important aspect to be considered is the fact that, for some lands and in some conditions, the dual use for both agricultural purposes and renewables development is possible, but practice is scarce (if at all). In addition to vineyards and orchards, the dual use was recently regulated also for pasture lands. Based on the current regulation, dual use would only be in place until the end of 2026. The advantage of dual use is that developers need to pay agricultural removal tariff only for the sqm of the footprint of the equipment and infrastructure – footprint is calculated based on the technical project plans.

Another “hot topic” refers to the lands managed by the communal forests associations (in Romanian ”composesorate”) which were previously prohibited for granting superficies for developing renewable projects due to the specific regime of such lands (i.e. these lands cannot be subject to transfer of ownership). However, the High Court’s new interpretation clarifies that granting superficies for renewable projects does not equate to a transfer of ownership, allowing the land to be used for energy development without affecting the association’s exploitation rights. Basically, the development of such renewable projects based on a superficies has been recognized as compatible with the regime of communal forests, provided that the status of the associative form is observed.

Finally, foreign direct approval plays a significant role in the energy sector in Romania and investments as well as changes of control must be taken into account well in advance and factor in all the time and risk with foreign direct investment approvals.

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

The core law governing the energy sector in Serbia is the Energy Law. The Energy Law regulates energy related policies, conditions for performance of energy activities and construction of energy facilities, organisation and functioning of the markets etc. Apart from the Energy Law, the development and operation of power plants is regulated under the following main laws and regulations:

- Law on Use of Renewable Energy Sources which regulates use of renewable energy sources (RES), incentive schemes for use of RES, special instruments for promotion of RES etc.
- Decree on Conditions for Delivery and Supply of Electrical Energy regulating the procedure for the connection of, among others, RES power plants to the distribution and transmission system
- Rules for the Connection to the Transmission System adopted by the Transmission System Operator
- Procedure for the Connection of the Facilities to the Transmission System and part of the Distribution System operated by the Transmission System Operator
- Electricity Distribution Network Code, which lays down rules and requirements that must be fulfilled by the grid user to connect and operate facilities for the production of electricity on the distribution grid
- Law on Planning and Construction laying down rules in general for the construction of the facilities including construction of the onshore wind farms, and
- Law on Environmental Impact Assessment.

The state-level authorities determine and implement the general governmental policy towards onshore wind energy. Key authorities are:

- Government of the Republic of Serbia,
- Ministry of Mining and Energy,
- Energy Agency of the Republic of Serbia.

Serbian Government supports the development of onshore wind energy power plants and has developed a subsidy scheme in the form of the market premium Contracts for Difference that will be awarded in 2023, 2024, and 2025 for the construction of wind projects with a total available quota of 1,000 MW. So far, Serbia awarded all 400 MW offered in its first onshore wind auction. The average strike price achieved by the four winning projects was 68.4 EUR/MWh, while in Q4 2024, a public call for applications for a new auction was announced, with 300 MW of offered quota.

In general, Serbia is oriented towards increasing the share of renewable energy in the country`s energy balance, however, the focus is on both onshore wind and solar energy. There is no specific focus on the onshore wind energy as the main objective of Serbia`s energy policy.

Key players in developing onshore wind projects are foreign private developers specialized in the wind energy sector, however, there have been rumors that the Government of the Republic of Serbia intends to develop 1,000 MW of onshore wind projects through strategic partnership. In 2025, the first wind farm owned by the Elektroprivreda Srbije (EPS) as a state-owned energy supplier, the "Kostolac" wind farm with a capacity of 66 MW, will be connected to the grid.

The only organized intraday and day-ahead market of electricity is managed by SEPEEX a.d.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 6.2% and the share of onshore wind energy from other renewable energies was 13.67%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in Serbia.

04 | Which measures are being taken by the government to promote onshore wind energy?

Most recent developments are related to the:

- Long-awaited implementation of financial support (i.e. incentive) scheme for RES projects in form of market premium through launching and successful completion of first auctions in Q3 2023. The wind quota for the first auction was 400 MW, with a maximum offered price set by the Serbian Government of 105 EUR/MWh for wind farms. A total of 400 MW in onshore wind capacity was awarded across four projects, with winning prices varying from EUR 64.48 to EUR 79 per MWh. According to the Plan of the Incentive System for the Use of Renewable Energy Sources for the Period 2023 – 2025, which was adopted by the Ministry of Energy, apart from the auctions held in 2023, the second and third auctions are planned for Q1 2024 and Q1 2025, respectively, where the quota will amount to 600 MW (in total for both auctions, i.e. 300 MW per auction) for wind farms.

- The second auction started in Q4 2024, and the offered quota amounts to 300 MW, which is in accordance with the amendments to the set of regulations for solar and wind auctions, adopted in Q4 2024, which, among other things, set such a quota for 2024. The minimum offered price for the second auction for onshore wind farms is 72 EUR/MWh.

- elimination of waiting times and congestion caused by the processing of grid connection applications (which occurred in April 2021, following the adoption of the new RES Law), through adoption of several bylaws aimed at introducing stricter conditions for connection, which would effectively remove the created congestion by eliminating those projects that are not serious enough and thus not likely to become operational.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

Until recently, one of the biggest obstacles was the standstill in the processing of applications to connect new power plants to the transmission grid, which started in April 2021 and lasted until November 2023.

This suspension primarily occurred due to the interplay of the following factors: (i) delay in adoption of new bylaws that are supposed to further elaborate the rules for connection (although such bylaws should have been adopted by October 2021, they were ultimately adopted in October/November 2023), and (ii) an imbalance of the electrical energy system from the perspective of key players – in particular, from EMS (transmission system operator) and from "Elektroprivreda Srbije" (EPS) which was encouraged, under the 2021 RES Law, to assume responsibility for the balance of all RES projects (those within the incentive scheme and those on open market), which ultimately led to EPS expressing a concern that such drastic increase of its balancing costs would be detrimental to its business operations. On the top of this, following the adoption of the 2021 RES Law, the transmission system operator received an abundant number of connection requests to the grid relating to power plants using RES (for the sake of illustration, the submitted requests accounted for more than twice as much of the already existing installed capacity of all power plants in Serbia). This caused a concern at the transmission system operator's end that the grid would not be able to integrate all such projects into the system without affecting its safety and stability, which is why it suspended processing connection requests until the adoption of the new bylaws that would precisely define the connection procedure and introduce stricter conditions for connection, which would effectively remove the created congestion by eliminating those projects that are not serious enough and thus not likely to become operational.

Still, while introduction of such stricter conditions has practically removed the standstill, it also made the connection procedure more expensive (among other things, the investors are now required to submit performance bank guarantees) and put additional pressure on the investors to comply with deadlines in fulfilment of certain development milestones, with failure to do so resulting in discontinuance of the connection procedure.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Five.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Land purchase agreements

c) Easement agreements

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

Usually, the targeted duration of land agreements corresponds to the duration of the project itself and to a certain ("grace") period before the project starts. Minding the bankability criteria, the land rights should be established for a period expiring within 35 years as of the commercial operations date of the project. Possibility of multiple extensions should also be envisaged.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: parallel to the planning and permitting process.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

In principle, the prescribed deadline for the land registry to decide upon a request for registration of a certain land right is up to five business days as of receipt of the request. However, in practice, registration of a certain right may take longer than the prescribed deadline (this deadline mostly tends to be extended when, due to the principle of priority (meaning that registration in the land registry and determination of priority of rights with respect to a particular real estate will be carried out according to the timing of the receipt of the submitted request) there are requests that have been priorly filed for a certain real estate).

What can significantly delay the finality of registration is initiation of appellate proceedings (this happens in case the land registry has made mistakes in registration that cannot be corrected by filing a simple request for correction of technical mistake). In practice in Serbia, appellate proceedings can even last for several years.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Land agreements concluded for the construction of wind projects usually do not contain any particular provisions regulating repowering. Land agreements are usually concluded in the form of lease agreements (most commonly used for the construction of the wind turbine generators (WTGs) or easement agreements (most commonly used for the ancillary infrastructure).

These agreements usually do not contain any specific information on the WTGs that will be installed on the designated land lot save for the number of the WTG (e.g., WTG T1, or T2 etc.) but instead only stipulate that the investor is entitled to install a WTG on the designated area during the duration of the lease/easement right. This allows investors to change the type of the WTG during the development process without the need to amend or change already concluded land agreements or pay any additional fees save if due to the change of the WTG additional land area is needed.

Procedurally, a new construction permit for repowering can be issued based on the existing land agreement that allows the investor to construct a WTG on a particular land lot for a particular power plant (conditioned that the land agreement does not contain a specification of the WTGs, and that the number of the old WTG and new WTG in the project documentation and land agreements correspond), however, considering the lack of repowering practice in Serbia, Serbian authorities could potentially take a different approach.

On the other hand, the relation with the owner of the land regarding repowering would depend on the provisions of a land agreement in particular, however, we believe that there is room for interpretation that the repowering would be permitted even if not explicitly envisaged by the land agreement.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

There are certain considerations that should be taken into account when it comes to differentiation between different types of land (i.e. construction, agricultural, forest) and whether the land is publicly or privately owned.

By way of example, public land can be disposed of only in special procedures which exist for each type of land, but all usually involve a public bidding (direct agreements are possible only under specific circumstances).

The use of agricultural land and forest land is regulated in specific regulations that encompass different regimes of usage requirements. The agricultural land might be used for non-agricultural purposes with the obligation of paying the fee for the use of the land for non-agricultural purposes. Additionally, the agricultural land must be cultivated.

When it comes to the use of forest land, the change of purpose must be carried out in order to use it for the construction of the forest land.

Moreover, for lease agreements (which are the most dominant manner for securing of land rights), fulfilment of bankability criteria should also be taken into account (relating to, among others, duration of the lease period, existence of pre-emption rights, possibility of conclusion of

direct agreement with the lender, adequate representations and warranties etc.).

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

The main stages involve, among others:

- Ensuring that there is an adequate planning document in place that allows construction of the wind project – the authority for adoption is vested to local authorities
- Preparation of project-technical documentation – can be prepared only by entities which hold the relevant licences
- Obtaining of location conditions, which set out the information and parameters for preparation of the project technical documentation – issued by either Ministry of Construction or Provincial Secretariat of Vojvodina, depending on the location of the wind project
- Initiation of connection procedure through submission of the request for preparation of the grid connection study – the process takes place before the Serbian transmission system operator
- Obtaining of the energy permit, required for plants with capacity above 1 MW – issued by the Ministry of Mining and Energy
- Preparation of the environmental impact assessment study (EIAS) and approval of the EIAS (or obtaining of the decision that EIAS is not required)
- Obtaining of the construction permit, as key permit for construction of facilities– issued by either the Ministry of Construction or the Provincial Secretariat of Vojvodina (depending on where the project will be located)
- Obtaining of the connection approval, as legal ground for connection of the power plant to the transmission system – issued by the transmission system operator
- Performance of construction works - can be done only by entities which hold the relevant licences
- Obtaining of the use permit, as requirement for use of the power plant – issued by the authority which issued the construction permit
- Obtaining of the production licence, which is required for power plants above 1 MW – issued by the Energy Agency.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 12 to 18 months.

Average duration of permit procedures: 18 to 30 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Having in mind that wind projects are likely to have an impact on nature, environmental protection is recognised as one of the most important aspects that should be taken into account in the context of wind farm development and is addressed throughout the entire planning and permitting process, from the earliest stage (i.e. preparation of planning documents) until the final stages (i.e. obtaining of the use permit).

The key environmental related document is the environmental impact assessment study (EIAS). In respect of EIAS requirements, projects are categorised into two groups: (i) projects for which EIAS might be required (for the power plants with a capacity of more than 10 MW EIAS may be required; on the top of this, the power plants located in special environmental protected areas need to go through the procedure on necessity of the preparation of the EIAS irrespective of their capacity; for projects for which the EIAS may be required, the project company would firstly need to file request for issuance of the decision on necessity of the preparation of the EIAS to the competent authority, and (ii) projects for which EIAS is always required (power plants producing more than 50 MW).

If the conduction of the EIAS is mandatory, or if the competent authority finds that EIAS is required, the further procedure includes the following:

- Establishment of scope and content of the EIAS
- Preparation of the EIAS
- Approval of the EIAS by the competent authority.

EIAS related activities are important to have in mind in terms of the timeline - according to latest amendments of the legal framework governing construction matters, EIAS must be prepared and approved prior to submission of the request for issuance of the construction permit. Moreover, construction works of the power plant must commence within two years following the issuance of the approval on the EIAS. Otherwise, the EIAS might have to be updated or a new EIAS might have to be conducted.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

c) Failure to secure project financing

19 | Please describe the legal framework for the repowering of wind turbines.

Repowering would include separate procedures initiated before the authority in charge of approving the performance of the construction works and before the grid system operator in order to allow the connection of the repowered wind project to the grid. In essence, repowering entails renewing permits.

To obtain the construction permit for the repowering, certain prerequisites must be met:

(i) Planning basis construction of the wind project with increased installed power and new WTGs can be done only based on the appropriate planning document. If the

existing planning document prepared for the wind project does not allow repowering, the owner of the wind project will have to initiate a procedure for the change of the existing planning document.

(ii) Energy permit – an energy permit is necessary for the construction of the energy facilities with installed power above 1MW. Energy permit is one of the documents necessary to be delivered with the request for issuance of the construction permit.

(iii) EIAS – the project company would have to notify the competent authority for environmental protection in order to receive information if due to the repowering a new EIAS or update of the existing EIAS will be needed. EIAS and the confirmation of the EIAS represent an integral part of the design documentation prepared in order to obtain a construction permit.

Furthermore, due to the change in the data of the wind project with repowering, the project company will have to initiate the procedure before the system operator in order to determine the procedure of the connection of the repowered wind project. This procedure would most likely involve the preparation of the new grid connection study and obtaining of the new connection approval, however final decision on the exact procedure and necessary documentation would depend on the outcome of the analysis performed by the system operator.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

State / public authority / state-owned grid operator.

21 | At which stage of a project do project developers have to apply for a grid connection?

As early as possible, i.e. right after identification of a suitable project site.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

In Serbia, processing of requests for connection of new power plants to the transmission system in practice has, until recently, been on hold since April 2021, practically as of the adoption of the amendments to the Energy Law and RES Law due to, among other things, concerns that the grid would not be able to integrate all new projects into the system without affecting its safety and stability. With the amendments to the RES Law in April 2023 and the adoption of the new bylaws in October/November 2023 which introduce stricter conditions for connection (encompassing, among others, obligation to deliver a bank guarantee to the transmission system operator, serving as security that the investor would comply with its obligations and milestones in the course of the connection procedure), to comply with deadlines in fulfilment of certain milestones, as well as to install a battery storage in order to be exempt from the measure of delay in connection to the transmission system), the standstill in the connection procedure has been removed.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

When it comes to offtake arrangements, on one side of the spectrum, the investors can turn to state support and apply for state incentives (in Serbia, following the adoption of the RES Law in 2021, there has been a shift towards market-based incentives (in the form of contracts for difference (CfD), whereas state support in form of feed-in-tariffs remains available in a limited number of cases (for small-scale and demonstration projects). On the other hand, there is a possibility for the project company to enter into an entirely private power purchase agreement (PPA), on a long-term basis.

Having an offtake arrangement in place is highly important in terms of bankability of the project, as it serves as a clear indicator to banks as potential lenders that the project will generate cashflow in the long run and will therefore be able to repay the loan.

Finally, operators can also resort solely to selling the entire amounts of produced electric energy on power exchange, but, unlike the private PPAs and state incentive scheme, such structure, without having previously adequately hedged the price fluctuation risk, is usually not considered bankable.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there are official subsidy schemes prescribed by law:

a) Feed in tariff (involves the government setting a tariff price, or a set of prices for specific renewable technology, at which the country's supply companies or grid operators are obliged to purchase all renewable energy exported to the grid)

b) Contracts for difference (CfDs) (This subsidy model defines a fixed minimum remuneration per MWh of electricity. The level of this subsidy rate is usually determined by a tender procedure.)

Description:

Feed-in-tariffs are a type of incentive granted in the form of an incentive purchase price guaranteed per kWh for electricity delivered to the electrical power system during the incentive period. They are now available only for small-scale projects (power plants using RES with capacity below 500 kW and for wind farms whose capacity is below 3MW) and demonstration projects (non-commercial projects relating to

RES that demonstrate certain technology as the first of its kind and represent a significant innovation greatly exceeding the highest level of existing technology for use of renewable sources, and which as well have the status of an innovation project in line with the law governing innovation).

Market premiums are incentives representing an addition to the market price of electricity supplied on the market, determined in euro cents per kWh. The market premium agreement is envisaged as contract for difference, i.e. CfD. This means that if the price that the winning bidder has offered is higher than the market reference price, the winning bidder will have to pay the difference to EPS. However, it goes both ways – if the winning price is lower than the reference price, the winning bidder is the one who should receive the payment of the difference from EPS. The reference price is determined according to the price on the day-ahead organised electricity market SEEPEX and the winning price will be adjusted for inflation in the Eurozone.

26 | How does the application process for the promotion / subsidy scheme work?

a) Eligibility through tendering process

b) Definition of eligible plants by statutory law

Description:

Both market premiums and FiT are acquired in the public auctions organised by the Ministry of Energy, based on the availability of a market premium quota set by the Serbian Government.

In principle, the auction procedure can be divided into the following main stages:

(iii) Initiation of an auction. An auction is initiated on basis of a public call prepared by the Ministry of Energy, outlining, among others, the conditions that the participants in the auction must satisfy, available quotas per type of a plant, manner and form for application for participation in the auction, list of required documents etc;

(iv) (Qualification phase. Qualification phase is the elimination phase of the auction procedure in which registered participants are selected based on the fulfilment of the criteria set in the RES Law.

(v) Bidding phase. During the bidding phase, bidders that have passed the qualification phase compete with their bids based on the criterion as to which bid offers a lower market premium compared to the maximum market premium or, in case of FiT, a lower purchase price in relation to the maximum purchase price;

(vi) Selection of the best bids. After reviewing and considering the bids, the Ministry of Energy issues the resolution on granting market premiums or the FiT. The winning bidders obtain the status of the preliminary privileged power producer on the date on which this resolution becomes final and enforceable.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

15 years.

Description:

The incentive period for both market premium and FiT is 15 years calculated from the date of payment of the first market premium/FiT.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

Under the FiT scheme, the guaranteed supplier purchases electrical energy delivered to the grid from the producer entitled to FiT at the incentive purchase price determined per kWh during the incentive period.

Market premiums, representing an addition to the market price of electricity supplied on the market, are also determined as renumeration per kWh.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

Both FiT and market premiums can be acquired for the part or whole capacity of the power plant. However, in the case of the market premium, the minimum capacity that must be offered in the public auctions amounts to 70% of the power plant's capacity.

Concerning the guarantees of origin, the guarantee of origin may be transferred only via the Guarantee of Origin registry operated by the transmission system operator. However, the possibility to transfer the guarantees of origin to another country depends on whether there is reciprocity established between Serbia and the designated country. For example, reciprocity still does not exist between Serbia and EU which is necessary in order for Serbian guarantees of origin to be recognised and accepted in the member countries of EU.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

There are no particular legal requirements regarding the type of legal entity for the operation of wind energy plants save that such an entity must be incorporated in the Republic of Serbia in order to acquire an energy license for the production of the electric energy which is necessary for the operation of wind projects. The license can be granted to any legal form recognised by Serbian regulations, but, in practice, almost all wind projects in Serbia are developed, constructed, and operated by the legal entities incorporated in the form of limited liability companies.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

Ownership unbundling is envisaged by the Energy Law as the obligation to unbundle the transmission system operator (TSO) by

prohibiting the same person from exercising control over entities that perform production or supply activities while simultaneously exercising control over the transmission system operator or the transmission system. In addition, the Energy Law envisages the unbundling of the distribution system operator (DSO), which is part of a vertically integrated company, meaning that the distribution system operator must be independent in terms of legal form, organisation and decision-making and other activities that are not related to the activity distribution of electricity. TSO and DSO are not engaged in Serbia in the development, operation and owning of the wind projects (or otherwise electric energy production facilities).

Currently, all constructed wind projects are in private ownership, and almost all wind projects in development are developed by private investors, save for the one wind farm developed by Elektroprivreda Srbije (EPS) as state-owned electrical energy supplier acting as a guaranteed supplier. EPS is also the largest RES producer in Serbia operating more than 3,000 MW of hydropower plants, and it is expected that in future operations of EPS will extend also to wind projects.

When it comes to ownership of the plants and the operational business (licenses, permits, contracts, etc) - the entire project is almost always held by a separate project company (i.e. an SPV) incorporated for that purpose and all operational large-scale power plants in Serbia have implemented such structure. This is especially important in terms of project financing, as one of its basic principles is ring-fencing of the project being financed.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with six,*

(ii) *planning law with seven,*

(iii)*permit situation with seven, and the*

(iv)*granting of subsidies with nine.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

Public buzz around first RES auctions, that were launched and successfully completed in 2023, has been replaced by the newest hottest topic – development of corporate PPA market.

Although the concept of corporate PPA has existed in Serbian legislative framework since the adoption of RES Law (April 2021), it has not yet taken root in practice in Serbia. There are several reasons for this underdevelopment, attributable both to the investors and businesses. Some of delay factors include general standstill in the connection procedure lasting over two years, which affected a large number of projects, continuous postponement of auctions for awarding of market premiums (which also led to numerous investors temporarily putting off the business decision on how to structure the future offtake of produced electric energy, depending on the results of the auctions). Finally, it seems that local companies were not familiar with PPA mechanism as option to satisfy their energy consumption needs – for years, companies remained on the passive side as they have been almost exclusively turning to the state-owned supplier (EPS).

However, this is expected to change in the upcoming period, as it has become evident that the prices charged by EPS are continuously increasing, as well as that companies can no longer count on long-term supply contracts lasting several years with EPS (but are able to conclude contracts that last only a few months), and the companies have become aware they can no longer feel safe when it comes to securing continuous supply of electric energy, at steady prices and in the long run. An additional motivation for the economy lies in the growing need to reduce the carbon footprint and turn to green energy, especially bearing in mind the recent introduction of CBAM. This serves as a reliable indicator that the demand for corporate PPAs will increase and that we will soon be able to see the first corporate PPAs on the domestic market.

Slovakia

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

The Slovak onshore wind energy market is relatively undeveloped, with only 3 MW of installed wind capacity. No new wind power plants have been built since 2004, but there are currently 24 projects under environmental impact assessment for the construction of new wind power plants with a total planned installed capacity of more than 942 MW.

The main pieces of Slovak legislation are:

Act no. 251/2012 Coll., on Energy;

Act no. 250/2012 Coll., on Regulation in the Network Industries;

Act no. 309/2009 Coll., on Promotion of Renewable Energy Sources and High-Efficiency Cogeneration (the RES Act);

Act no. 24/2006 Coll., on Environmental Impact Assessment;

Guidelines of Ministry of Environment of the Slovak Republic no. 3/2010 laying down standards and limits for placement of wind power plants.

National Energy and Climate Plan indicates that Slovakia expect to reach installed capacity of 500 MW from wind power plants by 2030.

Although no firm commitments have been made regarding the minimum level of installed wind power capacity, the Slovak Government has entrusted Jadrová energetická spoločnosť Slovenska, a. s. (JESS) with the preparation of measures to accelerate the development of wind power plants. As one of the objectives, JESS shall identify and prepare at least two “go-to” zones with capacity for at least 50 wind turbines.

Currently, the most active players (based on a number of the projects notified for the purpose of obtaining the EIA assessment) (the EIA) are Green Energy Holding, s.r.o. (4), WSB Invest j. s. a. (4), Eurowind Energy s. r. o. (3), ENERGIEPARK, s. r. o. (2), and Slovenský plynárenský priemysel, a.s. (2).

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 0.01% and the share of total domestic renewable energy coming from onshore wind was 0.0436%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in Slovakia.

04 | Which measures are being taken by the government to promote onshore wind energy?

I. Financial support in a form of feed-in surcharge for sources with installed capacity of 10 kW up to

50 MW based on auctions performed by the Ministry of Economy of the Slovak Republic (the MoE). The financial support is provided for the standard period of 15 years.

II. As outlined in response to question 1, the Slovak Government asked JESS to prepare measured to accelerate the development of wind power plants. One of such measures shall be preparation of two "go-to zones" however, at the time being no such measured were adopted yet.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

The main obstacles for development of wind power plants are: distribution grid capacity, grid fees, the complex planning and permitting process, outdated standards and limits for placement of wind power plants and conflicts with third parties (in particular public opposition).

Grid preparedness

For several years, Slovakia had a so-called "stop status" for connecting new renewable sources to the grid due to various reasons, the main one being grid capacity. We understand that despite the lifting of the "stop status", there is still a lack of available capacity for connecting new sources. Usually, distribution system operators allow new sources to be connected, provided that the applicant undertakes to consume all electricity produced. In addition, suitable locations for wind power plants are often too far away from the existing grid, and the cost of developing new grid connections is considerable.

Environmental Impact Assessment

Construction of every single wind power plant (irrespective of size/installed capacity) is subject to the EIA which prolongs the construction period even by years. The biggest issue is that certain public parties enter into the EIA proceedings and prolong them by requesting "unreasonable" obligations and subsequent appeals within the proceedings.

Health regulations

Under a guidance on noise and vibration assessment in respect of wind power plants issued by the Public Health Authority of the Slovak Republic , the wind power plants with a height of 150 meters must be at least one kilometre away from inhabited areas.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Two.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Land purchase agreements

c) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

Currently, for example in case of photovoltaics plants we see the targeted duration such contracts of 15 years which is linked to the duration of the financial support provided in respect of renewable power plants. Having regards to the duration of the financial support, standard term for return of the investment, as well as lifespan of the equipment we assume that similar approach would be also in case of wind power plants, i.e. targeting duration of such instruments for 15 to 20 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

The existence of multiple co-ownership of land plots is a usual problem for land located outside of the borders of municipalities. Therefore, the process of securing of land plots may be time consuming and may take a couple of years

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Usually one month.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Topic is not of relevance.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

In case of lands owned by the state, the investor shall enter into agreement with the Slovak Land Fund and shall meet statutory requirements for entering into such agreement.

The suitable lands for construction of wind power plants are usually located outside the cities. Due to historical reasons, such land plots are usually owned by multiple co-owners, sometimes up to 50 owners per one land plot. Securing the relevant land may thus prolong as the investor would need to communicate with dozens of land owners.

Lands located outside the cities are usually agricultural land plots and thus, in order to use

them for different purpose, the investor shall pay specific fee for removal of such lands from the agricultural land fund

When securing the land rights by the land purchase agreements, the registration of rights in an official register is required, otherwise the acquisition of the land is not effective.

When securing the land rights by the security in rem agreements, the registration of rights in an official register is required, otherwise the security in rem to the land is not effective.

When securing the land rights by the land lease agreements, the registration of the agreement in an official register is possible and recommended for higher legal certainty of the wind power plant operator.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

Planning procedures

The most important spatial planning documents to be checked by investors are zoning plans adopted by a relevant municipality for its territory, containing among others the conditions for the development. The process leading to the changes of spatial documentation may take up to several years, depending on the proposed changes and the size of the developed territory.

Certificate for construction of energy source

Prior to applying for the zoning permit, wind power plants with planned installed capacity exceeding 5 MW shall obtain the certificate for construction of energy source. The certificate is issued by the MoE within 60 days as of the application. Basis for the obtaining the Certificate are, among others, statements of (i) the relevant distribution system operator, and (ii) transmission system operator.

Permit procedures

With some exceptions defined by the EIA Act, EIA is the mandatory part of the wind power plant permit procedure prior to the construction permit procedure. The construction permit procedure is divided into three phases:

(i) Zoning permit procedure currently constitutes an integral part of the construction permit procedure.

(ii) Construction permit procedure commences following issuance of the zoning permit. The mandatory annexes are set out by the building legislation, and usually include the construction design, situational drawings, binding opinions from authorities and other documents. In the construction permit procedure, the Building Office decides, based on the submitted application and statements of the authorities and persons concerned whether a construction can be located on certain land and under what conditions, including the respective timeframe, and other relevant requirements.

(iii) Occupancy permit procedure follows after a construction is completed, usually with the purpose is to enable the final use of the construction; the permit sets out the conditions under which the structure can be used.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 12 to 18 months.

Average duration of permit procedures: 12 to 18 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

The nature conservation and species protection play the key role in the planning and permit procedures. In order to obtain a construction permit, the binding opinions of concerned authorities in matters relating to the nature conservation, landscape and species protection must be issued. The decision of the Building Authority in EIA and the construction permit procedure is based on binding opinions submitted by the concerned authorities in the proceedings.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Nature conservation

b) Distance requirements

c) Length of permitting processes

d) Conflicts with third parties

19 | Please describe the legal framework for the repowering of wind turbines.

The legal framework for the repowering of wind turbines is similar to that for the initial construction, which is governed by the EIA Act and the Building Act, and depends on the means by which land rights are usually secured.

In the case of the land purchase agreements, the operator, as the owner of the land, has full rights to repower the wind power plant subject to meeting public law requirements such as new building permit etc. (if applicable). In case of lease agreements/in rem rights, the underlying agreements shall contain clauses allowing replacements and, potentially also a corresponding increase of the fee.

In any case, the public law provisions of the Building Act must be complied with. If the repowering results in an increase in performance and falls within the category with higher maximum capacity, the additional documents/ approvals e.g. certificate for construction of the

energy source issued by Ministry of Economy may be required.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

In Slovakia there are three regional distribution grids partially owned by state (51% share) and private investors with managerial control (49% share), which are responsible for the implementation of the grid connection. In addition, where a certificate for construction of energy source is required, the Slovak transmission system operator (wholly owned by the state) shall provide its statement in relation to possibility for connection of the source.

21 | At which stage of a project do project developers have to apply for a grid connection?

As early as possible, i.e. right after identification of a suitable project site.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

As mentioned before, one of the main obstacles for development of wind power plants is grid capacity. Thus, the investors should obtain the distribution system operator's confirmation in relation to possibility for connection of the wind power plant in the relevant area. In addition, construction of the grid connection line may require obtaining the title to land plots with multiple co-owners.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Due to very limited number of wind farms in Slovakia (3 MW installed capacity in total), there is no practice of marketing activities established yet.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

- Feed-in surcharge (involves an auction by the Ministry of Environment - the selected operators receive a fee for each kWh of electricity produced)

Description:

Under the RES Act, an operator producing electricity from wind farm with installed capacity of 10 kW up to 50 MW may be entitled to so called feed-in surcharge (in Slovak: príplatok) subject to success in an auction process organised by the Ministry of Environment. The successful operators are then entitled to receive a subsidy for each kWh of electricity produced, equal to the difference between the amount proposed by the operator in the auction and the electricity price for mandatory purchase (which is based on the market price). Although the auctions were implemented into the RES Act since 1 January 2019 no such auction was published yet.

26 | How does the application process for the promotion / subsidy scheme work?

- *Eligibility through tendering process*

Description:

Please refer to answer to question 25.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

15 years.

Description:

Under the RES Act, the operator shall be entitled for the feed-in surcharge (in Slovak: príplatok) for the period of 15 years as of the date of putting the relevant power plant into operation.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

Under the RES Act, the subsidy applies on the actual amount of electricity produced per calendar month from renewable energy sources reduced by the technological self-consumption of electricity, on the basis of data from the specified meter or determined by calculation, provided to the support provider (being OKTE, a.s.) according to the agreement on the provision of data and verified by the support provider according to the operational rules of the support provider.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

There are no other special features/specific hurdles or complexities that need to be taken into account in Slovakia with regard to the promotion scheme or the marketing of electricity from wind turbines in general other than those stated to prior questions.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

There are no legal requirements as to the type of the legal entity and thus, the operator may choose any of the available types of legal entities within Slovakia. From the practical point of view, the most used type is a limited liability company due to various reasons such as (i) limited liability

of shareholders, (ii) rather straight forward corporate governance requirements (only one executive director is required, no supervisory board requirement, minimum registered capital of EUR 5,000).

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

Wind plant operators are established as SPVs. The ownership of the plants and the operational business (licenses, contracts) are held in the same SPV. The existing wind plant operators are under private control. Wind plant operators are not subject to any special unbundling rules.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with nine,*

(ii) *planning law with six,*

(iii)*permit situation with seven, and the*

(iv)*granting of subsidies with eight.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

As described before, the onshore wind energy is currently rather undeveloped. The Slovakia intends to promote the development of wind power plants and started to undertake first steps however, these does not have any outcomes yet.

In addition, Slovakia is currently in the process of adopting a new building act to speed-up and streamline the whole building planning and permitting process. Thus, our responses are based on the currently effective Slovak Building Act.

Slovenia

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

The general regulatory framework for the energy sector in Slovenia is set out by the Energy Act, which determines the basic principles of the energy sector, and permitting procedures with respect to production and supply of electricity.

The crucial legislative piece that regulates onshore wind energy is the Act on the Promotion of the Use of Renewable Energy Sources, adopted in 2021, which implements Slovenia's energy policy with respect to the use of renewable energy sources represents lex specialis in the renewable energy sector and has derogated all provisions of the Energy Act in this regard. This act most importantly regulates the certification of wind power installations, namely, how to declare and register RES installations, and the support available for the production of electricity from wind.

The regulatory framework is further complemented by the Act on the siting of installations for generation of electricity from renewable energy sources, which regulates the establishment of priority areas for the siting of wind power installations, the specifics of spatial planning and the authorisation of installations and facilities generating electricity from wind energy.

Additional legislative pieces that are relevant for the wind energy sector are the Building Act and the Environmental Protection Act, particularly regarding to permits and consents in relation to construction and protection of the environment.

The above Acts are further complemented by several by-laws implementing in detail the provisions of the Acts.

The development of onshore wind energy is not one of the main political objectives of Slovenia's energy policy, which is set at the national level by the Ministry of the Environment, Climate and Energy, most likely due to a lack of public support and environmental protection on land most suitable for wind energy. The primary focus of the incumbent government is the development of solar energy. Nonetheless, the political interest in the development of the onshore wind sector is increasing.

The key players on the onshore wind energy market are mainly private investors, along with state investors and energy suppliers/ distributors and banks.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 0.0005% and the share of onshore wind energy from other renewable energies was 0,10%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in Slovenia.

04 | Which measures are being taken by the government to promote onshore wind energy?

In order to promote onshore wind energy the government provides a number of financial incentives, such as support from the promotion scheme (further described in Question 25), as well as additional incentives and financing programmes dedicated to the renewables sector, including wind, such as the support scheme for electricity produced from renewables, the incentive activities of the EcoFund, and other budgetary sources. These financial resources are aimed at strengthening the production and use of renewables in order to achieve the set renewable energy targets.

In addition, the government has the possibility to determine the so-called regulatory sandboxes - for the purposes of testing of new and advanced technologies, products or approaches in the field of electricity production through the use of wind energy (or other renewables) and its storage, or for a different way of using existing ones, the government may grant a derogation from compliance with certain regulatory requirements in the field of energy, spatial planning, construction, environmental protection etc. A regulatory sandbox may be approved if 1) the proposed project is in the public interest as it can make a significant contribution to the development of electricity production from renewables, 2) its approval and implementation does not conflict with EU rules and 3) where the public interest outweighs the severity of the specific regulatory provision, taking into account the safeguard objectives pursued by that provision.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

The most important obstacles that affect the development and expansion of wind energy in Slovenian are barriers in the administrative proceedings, particularly in relation to obtaining energy permits, environmental consents and construction permits, can be significantly prolonged due to participation of NGOs and environmental groups as well as local communities whose opposition to the construction of new wind power installations results in the rejection of the permit application or driving away the investors due to the lengthiness (and cost) of the proceedings.

In addition, a case of bad practice at Volovja Rebra wind farm site gave rise to a major conflict between the wind energy sector and civil society, which had a negative impact on the development of major wind energy projects for more than a decade. Consequently, local communities are often strongly opposed to the development and construction of new wind farms and diligently exercise their right to participate in administrative proceedings with the aim of halting the project. Some of the major projects that are currently in development, such as the Pohorje mountain ridge wind farm have faced vehement backlash from the local communities already in the planning stages.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Nine.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Land purchase agreements

c) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

It depends on the type of registered right in rem, regardless of whether the land is owned by public or private entities. For easement rights, the duration is generally up to 30 years, whereas for rights of superficies the usual duration is 99 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Duration of the registration process: less than three months.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

If the investor is not the owner of the land but has acquired the land rights by other means, the easement and development right agreements must also include permission to carry out all activities related to repowering the turbines.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

Major wind turbines installations require the adoption of national and municipal spatial plans

which are the basis for issuing construction permits.

Wind turbines can be built on a landfill site. If the investor is not the operator of the landfill, they must enter into a written agreement with the operator of the landfill site and the owner of the land on the site of the installation, by which he shall acquire the right to construct the installation and the right to use the landfill site.

If a specific provision prevents or hinders the implementation of the project, the investor may initiate the procedure for the approval of a regulatory sandbox.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

Planning procedures include preparation of national and local land use plans to determine onshore wind energy sites. Planning on national level is carried out based on an investor's proposal by the Ministry of Natural Resources and Spatial Planning and concluded with an adoption of a decree on the national spatial plan by the Slovenian Government. Planning on local level is carried out by the competent municipality, where the relevant site is located. Within the planning procedures, an integrated environmental impact assessment process must be carried out, including the preparation of detailed reports assessing the impact of the development on nature, water, other segments of the environment, depending on the location of the site. The procedure is carried out before the Ministry of Natural Resources and Spatial Planning.

Necessity for other permits and consents depends on the size and power rating of the installation.

Permitting procedures start with obtaining an energy permit (when the power plant will have a power output greater than 10MW, the investor must obtain the energy permit before obtaining the construction permit and other permits), which is issued by the Ministry of the Environment, Climate and Energy. Other permits and consents include an environmental consent (if the rated outputs of a wind powerplant reaches at least 30MW), which is issued by the Ministry of the Environment, Climate and Energy, and depending on the location, nature conservation consent, water consent etc., issued by the Ministry of Natural Resources and Spatial Planning.

For construction of the wind power plant, building and use permits must be obtained. For a facility with environmental impacts, the procedure is carried out as an integrated building permit procedure by the Ministry of Natural Resources and Spatial Planning. Nature conservation and water conservation assessment procedures can also be integrated and part of in the integral building permit process.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 30 to 48 months.

Average duration of permit procedures: six to 12 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Nature conservation and species protection play a really important role in the planning and permitting procedure. It is guaranteed with the requirement that in the process of preparing a plan or programme at national level, the implementation of which is likely to have significant effects on the environment, it is necessary to carry out an integrated environmental impact assessment. The procedure is conducted on the basis of a report that includes several nature conservation components and assessments.

An environmental impact assessment must also be carried out within the process of obtaining the integral construction permit where the procedure includes a specific assessment of the impact of the particular development on nature and species. Where appropriate, a procedure for the public interest to prevail over the nature protection interest may also be carried out. NGOs and other interesting parties have the right to participate in such procedures, the Institute of the Republic of Slovenia for nature conservation and other organisations competent in the field are also included in the process and participate with their opinions and consents, thus the involvement of all actors and a comprehensive assessment of the impact of the development on nature is ensured.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

c) Monument protection

d) Distance requirements

19 | Please describe the legal framework for the repowering of wind turbines.

The repowering of wind turbines is regulated in the Act on the Promotion of the Use of Renewable Energy Sources, which defines repowering of energy production plants and the obligations of the investors regarding repowering. Certain provisions on the reconstruction of wind turbines are included in the Building Act. The Act on the siting of installations for generation of electricity from renewable energy sources and The Spatial Management Act include provisions on the changes to the spatial implementation act needed for repowering of wind turbines.

Slovenian legislation distinguishes between repowering and reconstruction of wind turbines. The most important distinction is that the reconstruction where an essential part is replaced requires the issuance of a new final building permit, while repowering does not. Similarly, reconstruction is subject to a new energy permit.

If the repowering of wind turbines does not entail a change in their height of more than 15%, the spatial implementation act does not need to be changed.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

State / public authority / state-owned grid operator.

21 | At which stage of a project do project developers have to apply for a grid connection?

Project developers have to apply for a grid connection after securing land and obtaining the energy permit and environmental consent, however, before obtaining other permits (i.e. building and use permits).

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

There are no major specific hurdles, complexities or other special features that need to be taken into account. However, it is recommended that potential investors obtain the grid connection consent before the construction of the wind farm takes place even though provisional information on the maximum connection capacity of the wind farm that can still be connected to the existing distribution network can be obtained prior to receiving the grid connection consent, as only on the former will guarantee them the connection of the wind farm with the indicated connection capacity. The provisional information is only valid on the date of issue and does not guarantee connection with the connection capacity indicated therein.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Operators of wind farms mostly generate their profits from direct sales with off-takers, including electricity suppliers and distributors, as well as through grid feed-in schemes. Considering there are only two large operating wind power installations in Slovenia, which generate a minimum share of electricity in the total production in the country, there is no defined market standard regarding the marketing/ generating profit from windfarms nor is there any other information available on this matter.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there are official subsidy schemes prescribed by law:

a) Feed in tariff (involves the government setting a tariff price, or a set of prices for specific renewable technology, at which the country's supply companies or grid operators are obliged to purchase all renewable energy exported to the grid)

b) Apart from the guaranteed purchase from the national suppliers, support may be granted in the form of financial support for day-to-day operations.

c) Support through the EcoFund, which offers subsidies and low-rate loans for financing wind energy (and other renewables) projects.

Description:

Support for electricity generated from wind (as well as other renewable energy sources, and combined power and heating (CPH)) is provided in two forms – in the form of a guaranteed purchase of the electricity produced and supplied to the public electricity network at fixed prices for production installations with a rated electrical output of less than 500 kW, and financial support for day-to-day operations. In addition, promotion/support is done through the public EcoFund, which offers subsidies and low-rate loans for financing of wind energy (and other renewables) projects.

26 | How does the application process for the promotion / subsidy scheme work?

a) Eligibility through tendering process

b) Definition of eligible plants by statutory law

c) Application process with e.g. a governmental authority

Description:

Entry to the support scheme requires a successful application to the call for tenders from the energy regulatory authority – the Energy Agency. The Energy Agency shall publish a call for tenders for the implementation of the electricity support scheme for the following year, inviting investors to submit projects for wind energy installations that are eligible for support in the call for tenders. Under the call, projects are selected on the basis of the allowed increase in the volume of support funds, the consistency of the project with the operation plan of the support scheme to achieve the objectives set out in the National Renewable Energy Action Plan, and the offered price for the electricity produced, specified in the application by the investor together with the expected amount of production. If the investor is successful in the call for proposals, it will receive a selection decision from the Agency. This starts the three to five year deadline for the investor to construct the installation, connect it to the grid and obtain a declaration for the wind installation. Once the latter is received, the investor obtain a support decision from the Agency. The latter is then the basis for signing the contract for entry into the support scheme.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

15 years.

Description:

The duration of the promotion/support scheme depends on the contract concluded between the wind farm operator and the competent authority,

the Energy Agency, however, the duration of support for new wind farms (or other renewables installations) is limited to a maximum of 15 years.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

- *Remuneration per kWh of electricity generated in the plant.*
- *Remuneration per project.*

Description:

Regardless of the type of support, i.e. either as a guaranteed purchase of generated electricity or as financial support for day-to-day operation, remuneration is set per kWh of generated electricity.

In case of the guaranteed purchase, the latter concerns, irrespective of the electricity price on the market, all net electricity generated, fed into the public grid and taken up and recognised in the Support Centre's balance group run by the national electricity market operator, BORZEN, and for which certificates of origin have been received.

On other hand financial support for day-to-day operation is implemented as operating aid for the net electricity produced and sold on the market. This type of support is intended to compensate the wind installation for the difference between the cost of production and the market price realised by the installation on the free market.

Subsidies from the EcoFund are foreseen as remuneration per project, namely as a reimbursement of a part of the project's costs.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

No other special features / specific hurdles or complexities.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

Investors in wind energy plants in Slovenia mainly operate as limited liability companies and as a public limited companies. There is no specific legislation prescribing in which type of legal entity the energy plant must be operated.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

The wind energy plants are usually owned by the investor directly. The wind energy plants that currently operate are exclusively owned by private entities, however, large state owned electricity providers have initiated investments in a number of large wind energy projects, which are currently in the planning phase. Thus, it is expected that wind energy plants will be owned by state owned companies in the future as well. The ownership of the plants and the operation of the wind energy plant are usually held by the same entity.

Unbundling rules do not prevent state owned companies as such to own and operate wind energy plants, as the limitations set by unbundling requirements are targeted merely at the state owned system operator and distribution operators.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with 10,*

(ii) *planning law with eight,*

(iii)*permit situation with eight, and the*

(iv)*granting of subsidies with eight.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

The "hot topic" in the last years has been the lack of investments in the wind energy sector due to difficulties connected with determining the appropriate locations for the siting of wind power installations. Due to Slovenia's complex and long procedures for the siting and construction of wind energy installations, many investors are not inclined in developing projects in the country. Moreover, together with cases of bad practices and negative public perception an environment unfriendly to investors has been created in the last decade. The aforementioned issues have been sparking debates on how to increase investor interest in the wind energy, as well as to change the public's perception towards wind projects, resulting in calls for the development of projects in "go to" areas that are conflict free, i.e. away from Natura 2000 protected areas, ensuring siting adjacent to existing infrastructure corridors/facilities but at a distance from airports, as well as separation from residential areas for safety, noise and health reasons.

In order to mitigate the above issues the government has adopted the Act on the siting of installations for generation of electricity from renewable energy sources, which admittedly covers only smaller wind power installations, however it nonetheless aims to reduce the barriers in administrative proceedings, as well facilitate procedures with regard to public participation. It is too soon to assess whether the Act has made any significant differences since it has been in force for only six months, yet its implementation in practice will be followed closely.

Spain

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

I. There are two applicable legal regimes and two administrations -central / regional (Comunidades Autónomas)- competent for authorising onshore wind energy facilities.

The main laws/regulations to be considered at the (central) State level are:

- Act 24/2013, of December 26, on the Electric Sector ("ESA").
- Royal Decree 1955/2000, of 1 December, on electricity transmission, distribution, trading, supply activities and procedures for the authorisation of power generation facilities ("RD 1955/2000").
- Royal Decree 413/2014, of 6 June, on the activity of production of electrical energy from renewable energy sources, cogeneration, and waste ("RD 413/2014").
- Royal Decree-Law 23/2020 of 23 June, approving energy and other measures for economic recovery ("RDL 23/2020").
- Royal Decree 1183/2020, of 29 December, on access and connection to electricity transmission and distribution networks ("RD 1183/2020").
- Circular 1/2021, of 20 January, of the National Commission for Markets and Competition, establishing the methodology and conditions for access and connection to the transmission and distribution networks of electricity production facilities.

II. According to the Spanish Constitution (Article 149.1) the (central) State is entitled a) to regulate the basis and coordinate the general planning of the economic activity of the State, and b) rule over the basic legal regime applicable to energy and authorise the functioning of certain power facilities as long as their exploitation affects to two/more regions or as the electricity is transported throughout the territory of two/more regions.

The Central State Administration is entitled to authorise the following onshore wind facilities (Article 3.13 ESA):

- Peninsular power generation facilities (and evacuation infra) of installed power higher than 50 MW
- Power generation facilities (and evacuation infra) exceeding the territorial scope of a region
- Power generation facilities of installed power higher than 50 MW located in non-peninsular territories, provided their electrical systems are effectively integrated with the peninsular one

The executive competence lies on the General Directorate of Energy, Politics and Mining, attached to the Secretariat of State for Energy (both authorities belong to the Ministry for the Ecological Transition).

In addition to executive powers, many regions have produced regional decrees whose scope of application is limited to power generation

facilities that do not fall into the categories listed under Article 3.13 ESA.

This scheme of shared competences is replied in other fields (i.e. environmental).

Local authorities are competent to grant planning licences.

III. The development of onshore wind energy is a main political objective of the Spanish Government's energy policy and has been included in the Integrated Energy and Climate Plan.

IV. Key players in the Spanish onshore wind energy market are energy suppliers (Iberdrola, EDPR, Naturgy, Enel Green Power, Acciona, Engie).

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 23.5% and the share of total domestic renewable energy coming from onshore wind was 46.7%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

Yes, there are binding targets for the expansion of wind energy in Spain.

Description:

There are no specific targets for onshore wind energy, although Law 7/2021 of 20 May, on climate change and energy transition, establishes (Article 3) the objective of reaching a penetration of renewable energies in final energy consumption of at least 42% by 2030 and an electricity system with at least 74% of generation from renewable energies. The National Integrated Energy and Climate Plan PNIEC (under revision) foresees a total installed capacity in the electricity sector by 2030 of 161 GW, of which 50 GW will be wind energy, both onshore and offshore.

04 | Which measures are being taken by the government to promote onshore wind energy?

In addition to certain measures to speed up the processing of procedures for obtaining substantive and environmental permits contained in Royal Decree-Law 6/2022 or in Royal Decree-Law 20/2022, the Renewable Energy Economic Regime (REER), a support mechanism to facilitate the rapid deployment of certain renewable technologies, is being granted.

Thus, Royal Decree 960/2020 of 3 November provides for the approval of an auction calendar (which can be updated annually) for the renewable energy economic regime (REER) for the period 2020-2025, aimed at achieving the objectives established in the PNIEC 2021-2030.

Order TED/1161/2020, of 4 December, regulates the first auction mechanism for the granting of the economic regime for renewable energies and contains the indicative calendar for the auctions to be called, contemplating a minimum volume of power to be auctioned for wind power technology of 10,000 MW for the period 2022 – 2026.

Several auctions have been held, although not all of the capacity auctioned has been awarded.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

In addition to the need to match demand growth with the commissioning of new renewable generation, to increase electricity interconnections with France or to increase storage capacity, the main obstacles to the development of onshore wind energy projects in Spain are as follows:

- Delays in processing and obtaining the necessary permits, particularly environmental permits (environmental impact assessment)
- Delays by Red Eléctrica de España (REE) in meeting the construction deadlines for the transmission grid facilities included in the planning to which they must be connected
- Problems associated with the supply chain
- Growing social opposition to onshore wind energy projects (due to their visual impact or impact on certain animal species)
- Difficulties in accessing financing as a result of the volatility of electricity prices – which makes it difficult to close PPAs – and the scarcity of power auctioned and awarded to onshore wind projects in the auctions of the economic regime for renewable energies (REER) called as a result of the (central) government setting an excessively low maximum price (reserve price) and the rising cost of projects (rising inflation, rising interest rates)

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Seven.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Land purchase agreements

c) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of more than 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

In Spain, it is perfectly possible to secure the land by means of a private agreement without registering the latter in the Land Registry (registration of the land agreements in the Land Registry is voluntary). Nevertheless, it is usually done (it is market practice) because of the protective effects that such registration has against third parties (article 34 of the Spanish Mortgage Act). Thus, even though it is not mandatory, registration of the land agreements in the Land Registry it is often included in M&A transactions as a condition for the project to achieve RTB status.

The Land Registry is obliged to make the registration within fifteen (15) business days from the application. This general term may be extended up to thirty (30) days under exceptional circumstances.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

The price of the land where the foundations and met mast are located is usually fixed at EUR XX per MW of the wind turbines. Thus, in the event that the capacity of the wind turbines increases as a result of the repowering, the price of the agreements will be increased proportionally.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

It is important to verify the legal status of the plots of land in the real estate cadastre and the land registry. For instance, it is common to encounter that the ownership is not updated, the surface reflected in the cadastre does not correspond to the surface reflected in the Land Registry or that the plots of land are not registered in the Land Registry (since registration of a plot of land in the Land Registry is not mandatory). Therefore, all circumstances related to the legal status of the plots shall be taken into consideration during the negotiation and drafting of the different land agreements.

Although the registration of land in the Land Registry is optional (in fact, most utilities do not register land or only register land for generation facilities), most financing entities and potential buyers/investors usually require the registration of land as a requirement for RTB or COD.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

Some autonomous communities (e.g. Galicia or Castilla y León) have approved land-use plans or territorial guidelines that can define the areas in which onshore wind projects must be located or in which they may not be established.

For the sitting of wind turbines in Spain the following permits may be required:

- Permits to access and connect to the transmission/distribution grids (regulated under Article 33 ESA, RD 1955/2000 and RD 1183/2020). To obtain them, an application to the corresponding transmission or distribution grid operator must be submitted. The processing is carried out jointly in a single procedure, with the relevant grid operator acting as a single point of contact. This operator must have a web platform dedicated to the management and processing of applications where applicants may consult their status and the existing access capacity at each node. Access capacity tenders are possible at certain transmission grid nodes.
- Substantive authorisations (RD 1955/2000, RDL 23/2020)
- Prior administrative authorisation (AAP), to be processed jointly with the environmental authorisation (DIA)
- Authorisation for construction (AAC)
- Start-up authorisation (AAE)

Applications for authorisations must be addressed to the Directorate General for Energy Policy and Mines of the Administration (central, regional) responsible for authorising the project. For projects with access permits obtained after 31 December 2017 and before 25 June 2020, RDL 23/2020 establishes maximum periods for obtaining the different applications (six months, for the admission for processing of the AAP; 31 months, for the DIA; 34 months, for the AAP, 37 months for the AAC (exceptionally extended to 49 months, RDL 8/2023); and five years for the definitive AAE (extendible to eight years).

- Urban authorisations. To be requested from the City Council in whose territory the installation is located:
- Planning qualification
- Approval of special land-planning plans (if required)
- Works licence Activity licence
- Declaration of public interest (for expropriation purposes)

Evacuation lines and substations integrated within the power generation facility need the corresponding authorisations (to be processed simultaneously).

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 12 to 18 months.

Average duration of permit procedures: 30 to 48 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Wind farms with 50 or more wind turbines, or more than 30 MW, or which are within 2 km of another wind farm in operation, under construction, with AAP or DIA, are subject to ordinary environmental assessment (Law 21/2013). The remaining projects are subject to simplified environmental assessment.

On a transitional basis (applications prior to 31 December 2024), RDL 20/2022 (Article 22) subjects wind projects not located on Natura 2000 Network areas or in protected natural areas to the "procedure for determining environmental impact" which regulates. Developers must submit their applications to the substantive body and attach the project and the environmental impact study, including an environmental inventory describing the key ecological or environmental processes and interactions, including potentially affected factors such as biodiversity (flora and fauna, in particular protected or endangered listed species), cultural heritage or landscape, and the interaction of all factors. The socio-economic impact of the project on the territory and synergistic effects with neighbouring projects must also be analysed. The report of the environmental body will indicate a) whether the project can continue to be processed, as there are no significant adverse effects on the environment, with or without conditions; or b) whether it must be subject to the environmental assessment of Law 21/2013. The procedure is not basic (it is applied in the area of projects of state competence, although the regions can decide to apply it).

The Ministry of Ecological Transition has a tool that environmentally zoned the Spanish territory and makes it possible to identify from the outset the areas with the greatest environmental conditions for implementing large wind projects. Its use must be complemented by the planning and land-use planning instruments of the Autonomous Communities. Environmental assessment procedures for projects in areas of low or medium sensitivity are of priority processing.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

c) Monument protection

d) Distance requirements

e) Air corridors

f) Synergistic and cumulative effects of the installation (including evacuation line and substation) with other projects in the surrounding area

g) In addition to protection distances of cultural heritage elements, some resolutions are analysing the visual impact generated by wind farms on them.

19 | Please describe the legal framework for the repowering of wind turbines.

The repowering of an onshore wind project requires a modification of the authorisations of the original project, including where appropriate, a new environmental assessment.

If the repowering is a "non-substantial modification", a new operating permit will be required, subject to proof of compliance with safety conditions. Non-substantial modifications are those that meet the following conditions:

- They do not require environmental assessment.
- They do not alter the basic technical characteristics of the original project (power, transformation or transport capacity etc.) by more than 10%.
- They do not alter safety (main and auxiliary installations in service).
- They do not require a declaration of public utility.
- It does not cause changes to the easements on the route.
- The project requires a new construction permit, without the need for a new prior administrative authorisation, if all the following conditions are met:
- The modification must not be subject to ordinary environmental assessment.
- The land affected by the project does not exceed the polygonal area of the original project or, if it does, does not require compulsory expropriation and has an urban development compatibility report.
- The power installed after the modification does not exceed the power of the original project by more than 15%.
- The modification does not change the generation technology.
- The modification has no safety implications.
- The modification does not require a declaration of public utility.
- The modification does not affect other production facilities in service.

Repowering projects that do not meet the above conditions must obtain new authorisations (including environmental assessment) and, where appropriate, the corresponding declaration of public utility. If the generation facility cannot be considered the same as the

one initially authorised in accordance with the criteria of RD 1955/2000, new access and connection permits must be obtained beforehand.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

Private grid operator.

21 | At which stage of a project do project developers have to apply for a grid connection?

As early as possible, i.e. right after identification of a suitable project site.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

In addition to the problems that may arise in relation to access and connection to the transmission or distribution networks (total or partial refusal of requested access), problems frequently arise in relation to the construction and operation of common evacuation infrastructures corresponding to projects connected to the same point on these networks. According to RD 1955/2000, the necessary investment must be borne by the promoters of the connection (who must act in a coordinated manner) and if the new facilities developed are subsequently used by another generator, the new user must contribute, in proportion to the use of the capacity of the facility, to the investments made by the first user(s). The CNMC or the competent body of the autonomous communities, depending on the case, is responsible for resolving access and/or connection disputes that may be raised by the interested parties.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Onshore wind energy projects can sell energy on the spot market or by means of a bilateral power purchase agreement (PPA). In addition to the price obtained for the generation facility's participation in the market, some facilities may be entitled to receive a specific remuneration regime (RRE) (Article 14.7 ESA and RD 413/2014). Finally, onshore wind power generation projects may be awarded in auctions of the renewable energy economic regime (REER) that, where appropriate, may be convened by the (central) government (Article 14.7 bis ESA).

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there are official subsidy schemes prescribed by law:

a) Feed in tariff (involves the government setting a tariff price, or a set of prices for specific renewable technology, at which the country's supply companies or grid operators are obliged to purchase all renewable energy exported to the grid)

b) The economic regime for renewable energies (REER) provided for in art. 14.7 bis ESA and developed by RD 960/2020.

Description:

The specific remuneration system (RRE) is an additional remuneration to that obtained from the sale of energy in the production market. It may be applicable to installations that do not reach the minimum level necessary to cover the costs that allow them to compete on an equal basis with other technologies by obtaining a reasonable profitability referred to the applicable standard installation. The RRE consists of a term per unit of installed power that covers, where applicable, the investment costs for each standard installation that cannot be recovered through the sale of energy on the market, and an operating term that covers, where applicable, the difference between operating costs and revenue from participation in the production market of the standard installation. The RRE is mainly regulated in RD 413/2014.

Certain wind farms that were once part of the "special regime" for electricity production under the ESA 1997 are recognised as eligible for the RRE. Under RD 413/2014, some auctions have also been called for wind power technology facilities (RD 947/2015 and Order IET/2212/2015).

The REER, by contrast, is based on recognising a long-term fixed price for energy in order to favour predictability and stability in the income and financing of electricity production facilities using newly built renewable energy sources.

Finally, the Ministry for Ecological Transition has granted aid for projects to repower old wind farms and to recycle obsolete wind turbine blades.

26 | How does the application process for the promotion / subsidy scheme work?

a) Eligibility through tendering process

b) Definition of eligible plants by statutory law

Description:

RD 413/2014 recognises the entitlement to the RRE which regulates for wind farms under the former (ESA 1997) special regime.

New RREs that may be established (art. 14.7 ESA) should be granted in competitive procedures. A Royal Decree should establishes the conditions, technologies or specific facilities that may participate in these procedures and a ministerial order should fix the remuneration parameters. In order to receive the RRE, installations must be registered in the RRE Register in an operational state.

The REER (art. 14.7 bis ESA and RD 960/2020) must be granted through auction procedures (with a maximum reserve price). Auctions may distinguish between technologies and establish quotas. The product to be auctioned is the

electrical energy, the installed capacity or a combination and the main (or only) variable to be offered is the price of the energy. The awarded projects must offer the awarded energy on the wholesale market in a term (maximum/minimum), being remunerated at the price offered with exposure of up to +/- 5% with respect to spot market prices.

Order TED/1161/2020 regulates the first REER auction mechanism (open to onshore wind technology, among others) and establishes an indicative calendar for the period 2020-2025. Agents interested in participating must submit financial guarantees. The auction is a sealed envelope auction, according to a pay-as-you-bid mechanism. The calls for tenders detail the rules for participation.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

0 years.

Description:

The RRE and REER are support mechanisms provided by the ESA on an open-ended basis.

The (central) Government may establish a RRE and call the corresponding competition procedures to grant it when it deems it appropriate for the fulfilment of certain energy targets (installed capacity) with one or several specific technologies. The RRE includes both an investment and an operating remuneration. The accrual of this remunerations will take place until the date resulting from adding to the accrual start date the period corresponding to the "regulatory useful life" of the "standard installation" (the regulatory useful life is a value published by order of the Minister of Ecological Transition, following agreement by the Government's Delegate Commission for Economic Affairs).

In order to achieve the targets for the penetration of renewable energies in the electricity system, the (central) Government will organise various auctions to award the REER in accordance with the indicative timetable set out for the period 2020 – 2025 in Order TED/1161/2020. This Order provides for indicative deadlines, the frequency of the calls for tenders, the expected capacity and the technologies envisaged. RD 960/2020 regulating the REER defines the concepts of auction energy, minimum auction energy, maximum auction energy and "maximum delivery period", which is the maximum and non-extendable time period within which the installations under the REER must comply with the obligation to sell the minimum auction energy. Its quantification will be carried out by the resolution calling the auction. The price to be received, in each trading period, by the installations covered by the REER, for each auction unit of energy traded on the daily and intraday market, shall be the award price corresponding to the result of the auction.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

- *Remuneration per kWh of electricity generated in the plant*
- *Remuneration per project.*

Description:

Under the RRE, the investment remuneration and the operating remuneration for a wind farm are expressed in EUR/MW (installed capacity).

The price that may be awarded to a wind farm in REER auctions is expressed in EUR/MWh (energy produced).

In the case of aid for repowering or blade recycling (Order TED/1071/2022), the aid consists of a percentage (generally between 30 and 35%) of the eligible cost of the projects.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

Provided that the conditions of security and quality of supply are safeguarded, under equal economic conditions and with the limitations established by the system operator or, where appropriate, by the distribution grid manager, electricity production facilities using renewable energy sources have priority for evacuating the energy produced, with particular preference for non-manageable generation.

The award of the REER (or, where applicable, the RRE) and, in general, the receipt of any subsidy entails additional obligations to those that correspond in general to the owner of a generation facility. Failure to comply with these obligations may result in the loss of the economic regime, the forfeiture of the guarantees that had to be provided in order to participate in the competition procedures or to register the installation in the corresponding Registry and/or the imposition of penalties.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

Promoters can choose the type of company that best suits their needs, although wind energy plants are usually operated through limited liability companies.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

Both the contracts and the legal permitting (administrative permits and licenses) of each wind farm are usually held by the relevant SPV. At a very early development stage of the project, the parent company may opt to commence the processing of the administrative permits and licenses and afterwards assign to the SPV the relevant administrative file or the relevant permits/licenses in case they have been granted.

Generally, there is a parent company that holds 100% of the shares of the special purpose vehicles (limited liability companies) that own each of the projects.

For the interconnection infrastructures that are shared between the projects that connect to the same connection point, it is usual to incorporate

a new company (the "GridCo") where every company that has a project that connects to the same connection point will have a shareholding proportional to the capacity of its project. The GridCo will own the interconnection infrastructures that are shared between the projects and any associated costs will be shared by the shareholders in accordance with their shareholding.

Wind energy plants / groups in Spain are almost entirely privately owned, although there is a regional public company (L'energètica) in Catalonia that holds non-majority stakes in two small wind power projects developed in the region. The Spanish state only holds 20% of the share capital of Redeia Corporación, S.A., which is the company that maintains and operates the transport grid.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with seven,*

(ii) *planning law with seven,*

(iii)*permit situation with seven, and the*

(iv)*granting of subsidies with nine.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

From a social perspective, environmental groups have increased its opposition to wind energy projects because of their impact on the environment and, in particular, on birdlife.

In recent years, there has been growing social opposition to wind energy projects (particularly in areas of northwestern Spain). In the relation to this, the Galician High Court of Justice annulled several authorisations – including authorisations for substantial modification of installations (repowering) – due to the lack of access, during the public information process, to the reports issued during the consultation process with the affected authorities. However, the Supreme Court has overturned those judgments and confirmed the authorisations.

As a consequence of supply chain stresses and the numerous amounts of projects to be built in Spain within the mandatory deadlines imposed by RDL 23/2020, the market standards to be negotiated in different construction and supply agreements necessary for the construction and commissioning of the wind projects are increasingly favourable for contractors/ suppliers.

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

In addition to international agreements on climate policies and regulations, Sweden has adopted national targets for emission reductions: a policy framework that consists of a Climate Act, a Climate Policy Council and Climate goals decided by the Parliament. The Climate Goal "Limited climate impact" statues that Sweden, by the year 2045, is to be climate neutral and then achieve negative emissions. According to the Swedish Energy Policy Goals, in 2030, Sweden must have 50% more efficient energy use compared to 2005 (in terms of supplied energy in relation to gross domestic product) and the goal for the composition of electricity production in 2040 is 100% fossil-free electricity production. In 2021, the Swedish Energy Agency and the Swedish Environmental Protection Agency presented a strategy for sustainable wind power development saying that there is a national expansion need for 100 TWh of wind power by 2040, of which 80 TWh refers to on-shore wind. Further, the Land and Environment Court of Appeal has in a number of precedents emphasised the importance of increased production of renewable energy and that wind power is an important source of renewable energy.

The main legislation on the area is the Environmental Code. Legislation is the key tool in Sweden, with which the principles of environmental policies are converted into practical action. The Environmental Code constitutes a framework legislation that consists of the general provisions regarding environmental protection. The more specific provisions are to be found in bylaws under the Environmental Code. As an example, The Swedish Energy Agency may, by means of provision in the Environmental Code, determine designated areas of national interest for wind power, due to favourable wind conditions for instance. The municipalities have a planning monopoly, which means that they have sovereignty over spatial planning within their geographical area. A key planning instrument is the municipal comprehensive plan, which is a strategic plan that outlines the long-term use of land and water and can include a thematic amendment to address wind power. The municipalities also play a decisive role within wind power permitting. For some projects (depending on the size of and number of wind turbines) a formal approval by the municipality is required to gain a permit. This is also referred to as a municipal veto. There are no requirements for the municipalities to give reasons for their decisions and no requirements regarding the timing i.e. when in the process the municipality must make its decision. Normally the decision is made by the municipality before the announcement of permit application.

The estimated distribution of wind power ownership, based on industry for wind turbines commissioned between 2017 and 2024 is as follows. 50% of the total capacity is owned by investment companies and asset managers, 38% is owned by energy companies, and 12% is owned by pension companies, suppliers and others.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 21% and the share of total domestic renewable energy coming from onshore wind was 33%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in Sweden.

04 | Which measures are being taken by the government to promote onshore wind energy?

Windenergy was mentioned as central to climate change adaption by the previous Government. On the other hand Technology neutrality was highlighted as a decisive principle when the current Government came into power. However, since then the Government has declared that the way to cope with climate change is by continuing to expand the electricity system by a substantial expansion of baseload power which indicates that wind-energy is not particularly prioritised The current Government is in favour of nuclear power, but has also made positive permit decisions on a couple of offshore wind power projects.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

There are a number of obstacles related to the expansion of wind power. For example, different political agendas depending on the current Government's priorities may be an obstacle as it may affect the interests of national and international companies and their willingness to invest. Another example is the municipal veto which may result in a total and final obstacle to a wind power project especially if the municipality decides to exercise its veto late in the permit process.

Areas of interest for wind power development are often located in upland areas. These areas are also important for reindeer husbandry, especially during periods of poor snow conditions, which have become more common as a result of climate change. Due to several challenges in the relationship between reindeer husbandry and wind power, permits for the construction of wind turbines are often combined with conditions, regarding financial compensation, technical aid for relocation of reindeer, annual consultations and temporary shutdown of the windfarm.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Five.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

- *Land lease agreements*

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of more than 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

No.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

No registration required.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Repowering is seldom regulated in the land agreements. However, the trend is to include at least some parts in agreements negotiated at the moment.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

The main instrument for securing land for wind energy plants is facility lease agreements (anläggningsarrende). When the contract period of a facility lease ends, issues may arise concerning the lessee's right to compensation from the lessor. According to law, when the lessor terminates a facility lease agreement at the end of the contract period, the lessee is entitled to compensation from the lessor for any loss caused by the termination of the agreement, unless the parties to the contract agree otherwise. Thus, it is of vital importance that the matter regarding compensation at the end of the facility lease agreement is dealt with in the contract, so that no unexpected issues will arise at the end of the contract period.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

The main legislation regulating wind power plants permitting process are the Environmental Code and the Planning and Building Act. In addition to these, more laws and regulations may be relevant depending on the location and size of the wind farm. Also depending on the size of the wind farm, different permit procedures may be relevant. Small wind power plants and farms only require information to neighbours and a construction permit from the municipality. For midsized wind farms, the operator needs a construction permit and need to notify the municipality about the establishment. For large wind farms, the operator must apply for an environmental permit at the Environmental Assessment Delegation (EAD), a part of the County Administrative Board, or at the Land and Environment Court (if water operations are involved). The permitting process for large wind farms can be divided into three stages.

First, a consultation process where the overall information regarding the project is sent to the EAD and the responsible municipal committee. During the consultation process, meetings are held with authorities, landowners and the general public, via advertisements in the local press, letters or circulars to relevant third parties, and exhibitions or meetings.

Second, the operator prepares an Environmental Impact Assessment (EIA). The purpose of the EIA is to identify and describe the direct and indirect environmental impact of the wind farm on humans, animals, the climate, landscape and the conservation of land, water, raw materials and energy etc.

Third, the application is submitted to the EAD. The application must, among other things, contain the EIA, drawings and technical descriptions, details about emissions, monitoring suggestions and a statement on how the Environmental Code requirements will be handled. The application is initially circulated for comments among authorities and organisations who are given the opportunity to request additional information. When the application is finalised, it is announced and sent out for consultation and the applicant get the opportunity to respond to comments. When this procedure is finalised, the EAD announces a decision. However, it is very common for permits to be appealed against which delays the start of the project.

Lastly, other permits may also be required depending on the specific circumstances. These could include permits for the use of electrical power lines (grid connection) at the Energy Market Inspectorate or permits/exemptions for infringements of protected areas under the Environmental Code. And as mentioned earlier, the municipality also need to give their approval, that may be decided or changed at any time during the process.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 30 to 48 months.

Average duration of permit procedures: 30 to 48 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

As described above, see answer 15, a permit application must include an EIA which contains a description of the environmental impact on nature conservation and species protection of the wind farm. The same goes for areas of national interests for nature conservation, nature reservations and national parks. Even though midsized wind farms don't require an EIA, the applicant need to include information on how the wind farm may affect the environment in the notification to the local municipality.

The Species Protection Ordinance constitutes Sweden's implementation of The Habitats Directive (Council Directive 92/43/EEC) and The Birds Directive (Council Directive 2009/147/EC). According to practice, the Species Protection Ordinance is to be regarded as a specification of the general rules of consideration in the permitting process. In summary both nature conservation and Species Protection are highly important in the planning and permit procedures.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Reindeer herding

c) National defence

d) The municipal veto

19 | Please describe the legal framework for the repowering of wind turbines.

It is not possible to expand the validity period of existing permits, or to include a clause or a permit condition allowing repowering. Instead, there are four different permitting options regarding repowering in Sweden. In addition to the different permitting options, a repowering process may also require a building or a demolition permit/notification and alterations or renewal of land lease agreements. The operator also needs to observe any changes in the municipal planning instruments.

Option one is to apply for a new permit, following the procedure explained above, see answer 15. It is a rather time-consuming and expensive process as it requires the applicant to produce yet an-other EIA and investigations covering the entire wind farm area and the areas nearby. The permit process is also dependant on a municipal approval.

Option two is to apply for an amended permit, which works for minor and well-defined changes. It is a similar process as to obtain a new permit with the difference that only the proposed changes are reviewed. As the procedure is limited to the changes, the processing time is usually shorter. An EIA and municipal approval are nevertheless still required.

Option three is to apply for an alteration of permit conditions. A permit usually includes a condition that limits the maximum tower height, the rotor

diameter etc. A permit condition may be mitigated only if it is obvious that the condition is no longer needed or is more stringent than necessary or if the alteration is called for by circumstances which was not foreseen when the permit was granted. Alteration of permit conditions are however used very restrictively.

Option four is applicable for smaller sites where only a building permit and notification to the municipality is necessary. A notification is required if the changes are of significance in terms of disturbance.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

The answer to this question depends on what part of the grid the project developers want to connect to, the transmission grid or the distribution grid. The transmission system operator in Sweden is Svenska Kraftnät, a state owned grid operator. The distribution system operator changes depending on the area, but may be both a private entity or a municipally owned entity.

21 | At which stage of a project do project developers have to apply for a grid connection?

The application can be made at any time. However, it is normal to have reached at least the first step of the project: securing land agreements and starting the process for the environmental permit. In practice this is usually done during the late stages of the permit-process of the environmental permit.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

There are several challenges related to grid connection for wind power in Sweden. For example, the existing grid infrastructure lacks enough capacity to allow for the connection of large windfarms. The location of windfarms are often remote which may require extensive grid expansion or new transmission lines to assure the connection to the main grid. There are also technical issues related to grid connection, for example the intermittent nature of wind power which can pose technical challenges due to the ability to manage the fluctuation in the electricity production and ensuring grid stability. Investment costs in transmission infrastructure and proper transmission planning are other factors that cause challenges related to grid connectivity.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

All produced electricity goes into this common electricity grid that is distributed throughout the country. The price of electricity from the producers is set on the Nordic electricity exchange Nord-Pool (spot market).

In addition to this, operators generate profits from electricity certificates (see next question 25).

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

- *Electricity certificates.*

Description:

Electricity certificates are financial support for producers of renewable electricity. The system has existed in Sweden since 2003 and is open to production facilities that were put into operation between 2003 and 2021. Since January 1st 2012, Sweden and Norway have a common electricity certificate market.

For each MWh of renewable electricity produced, a producer can receive an electricity certificate from the state. The electricity producer can then sell the electricity certificates on an open market. The electricity certificates thus provide an extra income for the renewable electricity production, in addition to the usual electricity sales. The energy sources that are entitled to be awarded electricity certificates are wind power, some hydropower, some biofuels, solar energy, geothermal energy, wave energy and peat in cogeneration plants. In 2020, the Swedish Parliament decided to introduce a stop rule and to end the electricity certificate system at the end of 2035. The decision means that facilities that are put into operation after 2021 will not be approved for the allocation of electricity certificates. The purchasers of electricity certificates are actors with a so-called quota obligation, which means that you must purchase a certain percentage of electricity certificates in relation to your electricity sales or electricity use. Those who are subject to quotas are mainly electricity suppliers but also electricity users who use electricity they have produced themselves, electricity users who import or buy electricity on the Nordic Electricity Exchange (Nordpool) and electricity-intensive industries that have been registered by us at the Swedish Energy Agency. The proportion of electricity certificates those subject to a quota must purchase each year is determined by a quota in the Act on Electricity Certificates.

26 | How does the application process for the promotion / subsidy scheme work?

No longer applicable.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

0 years.

Description:

No longer applicable.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

Please see the answer to question 25 above.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

No.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

In Sweden, wind energy plants are usually operated as private limited companies (privat aktiebolag). These private limited companies are often subsidiaries to a parent company for instance, an energy company. There is no legal requirement for wind energy plants to be run as limited companies. Rather, the choice to do so is based on practical reasons. A limited company allows for easy co-ownership as well as full or partial transfer of ownership of the wind energy plant. It is common to set up a new private limited company for every single project of wind energy. However, projects may be separated to their own entities on a later state too.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

As mentioned in question 30, a wind energy plant is often owned as a private limited company, which in turn is then owned by a parent company. The parent company may be a private or a public limited company. Sometimes the parent company is part of an international group, which means that the ownership of the wind energy plant is ultimately placed with the owners of the international group. Among the energy production companies on the Swedish market, there are those owned entirely by the state or various municipalities as well as those owned entirely by private entities.

Ownership of the plants and the operational business in terms of permits, contracts etc. are normally held by a separate entity within the company group. Whether each energy plant owned by the company group is held by a separate entity set up only for that energy plant or if several energy plants are held by the same separate entity varies between company groups.

If a company group contains both an energy production company and a grid company unbundling rules apply. First and foremost, a grid company may only be involved in the operation of an electricity grid. This prevents a grid company from producing electricity, except for in small amounts and under specific circumstances. If the grid company is part of a company group which controls the grid for at least 100 000 electricity consumers, then more specific unbundling rules apply.

In essence, these rules require the grid company to have organisational and decision making independence in relation to companies within the group who produce or trade in electricity. The grid company cannot have a member of the board, CEO or a signatory who also holds one of these roles in a company which produces or trades in electricity. There are also rules preventing the salary and other benefits of employees in leading positions within the grid company from being dependent upon the result of the part of the company group which is engaged in production of or trade in electricity. The grid company and its parent company must also make sure that the grid company has actual and independent decision making power in relation to other parts of the company group when it comes to decisions regarding the operation, maintenance and development of the grid. Finally, the grid company must also have a monitoring plan which sets out what measures the company will take to avoid discriminatory practices towards other actors on the electricity market.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with five,*

(ii) *planning law with five,*

(iii)*permit situation with five, and the*

(iv)*granting of subsidies with five.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

The municipal veto is a commonly discussed topic. The municipal veto means that the municipality in which a wind energy plant is to be built, may always veto the construction of the plant. There is also no cut off point during the permitting process at which the veto must be exercised. This leads to a great level of legal uncertainty, as a municipality can change its position at any time during a permitting process and thus stop a wind energy project. There are currently a number of proposals to give municipalities financial incentives to be more positive regarding wind power.

Furthermore, the rather changing and time-consuming permit processes are an always hot topic. In addition, the Swedish Armed Forces' attitude towards wind power has become increasingly negative since the war in Ukraine.

Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

Switzerland is a federal state and the powers and responsibilities are divided between the Confederation, cantons and municipalities. The division of responsibilities and tasks between the Confederation and the cantons is set out in the Swiss Constitution. The Swiss Constitution gives the federal government the power to enact principles and regulations regarding the use of renewable energies and energy efficiency and to promote development in these areas on a federal level. Based on art. 89 para. 1 and 2 of the Swiss Constitution and as part of the “Energy Strategy 2050”, the Swiss government has issued, amongst others, regulations on the use of wind energy which have been in force since the beginning of 2018. With the “Energy Strategy 2050”, Switzerland is implementing the transformation of its energy system: The objectives of the energy strategy are to facilitate the gradual phasing out of nuclear energy, promote energy efficiency, increase the share of renewable energy and reduce energy-related CO2 emissions, while maintaining a secure and affordable energy supply.

Main federal legislation in Switzerland dealing with (onshore) wind energy are the Federal Energy Act (Energiegesetz, “EnG”) and the Federal Ordinance of Energy (Energieverordnung, “EnV”). Furthermore, in connection with the planning and construction of wind turbines in particular the Federal Act on Spatial Planning (Raumplanungsgesetz, “RPG”) is of relevance. Topics such as environmental protection, forest and heritage protection, emissions and noise protection also have to be taken into account (which are separately regulated).

According to art. 75 of the Swiss Constitution, the Confederation shall lay down principles on spatial planning. The Confederation may, on the basis of its competence, set binding guidelines that indicate to the cantons which spatial planning tasks are to be tackled, based on which objectives, instruments, measures and procedures (it has done so with the RPG). In contrast, the Confederation has no legislative powers in the area of building law. Spatial planning and building laws are thus the responsibility of the cantons, which are obliged to issue the necessary concretising legislation. Spatial planning and (cantonal und municipal) building laws are also relevant when it comes to planning and building wind turbines.

There are currently 47 wind turbines operating in Switzerland. As of the end of 2023, additional 141 wind turbines are planned in Switzerland and in the approval process. Key players in the onshore wind energy market are private investors and energy suppliers. Despite the clear objective of the Swiss federal government to promote onshore wind energy, hardly any new projects for the use of wind power are being realized, and projects involving the construction of new wind turbines are delayed or blocked. This is because the planning and permit procedures for wind turbines in Switzerland is a complex process with lengthy approval procedures.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 0.3% and the share of total domestic renewable energy coming from onshore wind was 0.47%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in Switzerland.

04 | Which measures are being taken by the government to promote onshore wind energy?

Feed-in system with direct marketing

Operators of wind turbines may participate in a feed-in tariff system in accordance with art. 19 et seq EnG. While electricity producers must market the energy that they produced themselves, such producers may apply to receive a feed-in premium as a return for the ecological benefit. The feed-in premium is calculated based on the difference between a pre-determined, technology-specific remuneration rate and a reference market price. The remuneration rate is based on the currently applicable production costs of reference plants.

Investment contribution

As of 1 January 2023, new wind turbines with an output of at least 2 MW per turbine may receive an investment contribution. If existing wind turbines are replaced by new turbines, these new turbines can also receive an investment contribution (art. 27a para. 1 EnG). Such contribution to the investment costs for wind turbines is limited to 60% of the eligible investment costs. Eligible investment costs are investment costs for the planning and realisation of wind turbines up to and including the commissioning of the turbines. The planning and construction management costs may not exceed 15% of the construction costs (art. 61 para. 2 EnFV).

Binding land use for onshore wind

The designation of suitable areas for the use of wind energy is the responsibility of the cantons. The EnG and RPG require the designation of suitable areas for the use of wind power in the cantonal spatial plan (art. 10 EnG and art. 8b RPG). As part of the "Energy Strategy 2050" the federal government has developed the "wind energy concept", a concept in accordance with art. 13 RPG. The concept defines both principal federal government interests to be taken into account when planning wind energy plants and the main areas with wind-power potential, which must be considered and investigated by the cantons as part of their spatial planning.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

Although wind energy has great potential in Switzerland, the implementation of wind projects is a complicated and lengthy process. From the initial idea to implementation, a wind farm has to overcome several hurdles and meet high standards. The consequences of the complex approval process: It can take up to 15-20 years before a wind turbine can be built in Switzerland. This complex process with lengthy approval procedures is the main obstacle to onshore wind energy projects in Switzerland.

The federal government sets the targets and the cantons define the locations for wind turbines in their spatial plans. The cantonal authorities must carefully examine and approve the environmental compatibility of the detailed planning of a wind turbine. Finally, the municipality decides on the building permit for the wind turbines. There are numerous possibilities for objections against the building of a wind turbine at both cantonal and municipal level. Most objections are settled out of court and when courts get involved, the conflicting interests have to be weighed against each other, typically the interest of environmental protection against the interest of (domestic) energy supply. Despite the broad acceptance of wind energy in Switzerland – when it comes to concrete projects, local opposition often arises. There are also multiple authorities involved in the process both at the cantonal and municipal level. These administrative complexities result in additional expenses, contribute to project delays due to ongoing legal proceedings, and introduce uncertainties, particularly also regarding a project's chances of securing financing.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Four.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land purchase agreements

b) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

c) Building right ("Baurecht", art. 779 et seq of the Swiss Civil Code ("CC"))

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of more than 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Duration of the registration process: three to six months.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Topic is not of relevance.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

The Federal Act on the Acquisition of Immovable Property in Switzerland by Foreign Non-Residents (Bundesgesetz über den Erwerb von Grundstücken durch Personen im Ausland, "BewG") limits the acquisition of immovable property by foreign nationals, companies domiciled abroad or companies domiciled in Switzerland that are under foreign control. Foreign non-residents require authorisation from the competent cantonal authority for the acquisition of immovable property. Acquisition of immovable property also means the acquisition of a building right. However, no authorisation is required for acquisition for example if the immovable property serves as the permanent establishment for a trading, manufacturing or other form of commercial operation, for a skilled crafts business or for the practice of a liberal profession (art. 2 para. 2 lit. a BewG).

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

Areas for wind turbines first require an entry in the cantonal spatial plan followed by land-use planning by the municipalities concerned, including an environmental impact assessment and any necessary special approval procedures (e.g. clearance permit, water protection). In most cantons, the competent authority (usually the municipality) must then issue a building permit. The planning and permit procedures for wind turbines in Switzerland are generally as follows:

1. Spatial planning (on cantonal and municipal level): The cantons define areas that are suitable for wind energy use in the cantonal spatial plan on behalf of the federal government. At this stage, a consultation process is carried out with the municipalities, associations and interest groups. Once the cantonal spatial plan has been drawn up, the cantons must submit it to the federal government, which examines and approves it. According to the EnG, wind farms with a production of 20 GWh/a or more are of "national interest". If a weighing of interests is carried out when planning or approving a wind farm of national interest, the interest in energy production is on the same level as other national interests. At municipal level, the projects are included in the municipal zoning or utilisation plan and ultimately result in a planning application.

2. Procedures and approvals at level of building permit: For the actual installation of the wind turbine as well as for the access road, a building permit is required under cantonal law. Generally, wind turbines are built outside of building zones, so that at least the approval of the relevant cantonal authority is mandatory (art. 25 para. 2 RPG). The effects of any development project must be included in the material assessment of the overall project. Additional approvals from other offices/agencies are also necessary (e.g. from the Federal Office of Civil Aviation, Swiss Federal Inspectorate for Heavy Current Installations and Federal Office for Environment).

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 30 to 48 months.

Average duration of permit procedures: 30 to 48 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

The use of wind energy can conflict, amongst others, with legal provisions in the environmental areas of nature, landscape, local heritage, forest and water protection. The cantons are responsible for identifying suitable areas or sites for wind turbines in their spatial plans. When determining suitable areas or sites, the various interests of use and protection at federal, cantonal and communal level are taken into account as part of a balancing of interests.

In its "wind energy concept", the federal government describes how the various interests, including energy supply, noise abatement, protection of nature and the landscape, civil aviation, national defence etc., have to be taken into account by the cantons in their planning processes. Conflicts of interest between planned wind turbines and other federal interests are assessed with the involvement of the federal agencies concerned. The assessment must take into account the expected wind energy yield, the importance of the site in the wider regional context, including alternative planning options,

the environmental impact of the installations, including compensatory measures and any financial consequences (e.g. through the relocation of plants or operating regulations).

The EnG stipulates that wind parks with a level of production of at least 20 gigawatt hours per annum are of "national interest". When during the planning or licensing of a wind park of national interest the various interests are weighed up, energy production has to be placed on the same footing as other national interests. Wind turbines with an installed capacity of more than 5 MW are subject to an environmental impact assessment.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Nature conservation

b) Spatial planning in general

19 | Please describe the legal framework for the repowering of wind turbines.

According to the "wind energy concept", repowering of wind turbines is identified as one of the general planning principles and should always be the aim. However, if the renewal is not possible within the limits defined in the land use plan (including the maximum height of the turbine) or if new relevant legal regulations come into force, a reassessment and, if necessary, a plan amendment including environmental impact assessment will be necessary. Apart from this general principle laid down in the "wind energy concept", repowering is not a topic of (legal) relevance in Switzerland.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

Swissgrid AG is the national grid company in Switzerland. It is the owner and operator of the Swiss grid system and responsible for the operation of the transmission grid, maintenance, renewal and expansion based on a legal mandate. It is a private limited liability company (Aktiengesellschaft) but subject to supervision by the Swiss Federal Electricity Commission (ElCom). The cantons and municipalities are the main (ultimate) shareholders of Swissgrid AG. By law, Swissgrid AG must ensure that the majority of its capital and the associated voting rights belong directly or indirectly to cantons and municipalities.

21 | At which stage of a project do project developers have to apply for a grid connection?

As early as possible, i.e. right after identification of a suitable project site.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

Project developers of wind turbines are highly dependent on the availability of a grid connection. Therefore, grid connection should be among the first points to be clarified. If there are no suitable connection options available, the developer does not proceed with the project because building new electric infrastructure can be very expensive.

Grid connection of a wind energy project requires planning approval from the Swiss Federal Inspectorate for Heavy Current Installations (Eidgenössisches Starkstrominspektorat, "ESTI"). There are two types of planning approval procedures: the ordinary procedure and the simplified procedure. Normally, the ordinary procedure must be carried out for the grid connection of wind turbines and coordinated with the procedure conducted by the canton (for spatial planning and building permits). As part of the planning approval procedure, various federal agencies are consulted by the ESTI. The number of federal agencies to be consulted depends on the characteristics of the grid connection.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

The revised EnG (art. 21 et seq) and the EnFV (art. 14 et seq) have transformed the previous feed-in remuneration system into a feed-in remuneration system with direct marketing. All new systems with a system output of 100 kW or more are obliged to participate in direct marketing. New installations with a capacity of less than 100 kW and installations that already receive remuneration under the previous law and have a capacity of less than 500 kW are exempt from the direct marketing obligation as of 1 January 2020. For certain types of installations, in particular small installations, the Federal Council may provide that their operators do not have to market the electricity directly, but may feed it into the grid at the reference market price, provided that the costs incurred by the operators for direct marketing would be disproportionately high.

The aim of direct marketing is to make the feed-in tariff system market-oriented. Direct marketing means that electricity producers with feed-in tariff systems are responsible for selling the electricity themselves. To this end, they conclude individual purchase agreements with supply companies or energy service providers who will

buy their electricity at the most attractive conditions This creates an incentive to design and operate systems in such a way that they produce in line with demand. Producers in direct marketing are generally free to market their electricity themselves. However, most producers will commission a specialised third party with the marketing (a so-called “direct marketer”). The relationship between the producer and its direct marketer is governed by private law.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there are official subsidy schemes prescribed by law:

a) *Feed in tariff (involves the government setting a tariff price, or a set of prices for specific renewable technology, at which the country’s supply companies or grid operators are obliged to purchase all renewable energy exported to the grid)*

b) *Investment Contribution*

Description:

Feed-in system with direct marketing: Operators of wind turbines may participate in a feed-in tariff system in accordance with art. 19 et seq EnG. While electricity producers must market the energy that they produced themselves, such producers may apply to receive a feed-in premium as a return for the ecological benefit. The feed-in premium is calculated based on the difference between a pre-determined, technology-specific remuneration rate and a reference market price. The remuneration rate is based on the currently applicable production costs of reference plants.

Investment contribution: As of 1 January 2023, new wind turbines with an output of at least 2 MW per turbine can receive an investment contribution. If existing wind turbines are replaced by new turbines, these new turbines can also receive an investment contribution (art. 27a para. 1 EnG). Such contribution to the investment costs for wind turbines is limited to 60% of the eligible investment costs. Eligible investment costs are investment costs for the planning and realisation of wind turbines up to and including the commissioning of the turbines. The planning and construction management costs may not exceed 15% of the construction costs (art. 61 para. 2 EnFV).

26 | How does the application process for the promotion / subsidy scheme work?

- *Application process with e.g. a governmental authority*

Description:

The application for an investment contribution must be submitted to the Swiss Federal Office of Energy (Bundesamt für Energie, “BFE”; art. 87a et seq EnFV). The application must contain all the information and documents specified in Annex 2.4 EnFV. If the examination of the application shows that the eligibility criteria are met and funds are available to consider the application, the BFE shall guarantee the investment contribution in principle and determine the following: a) the amount of the investment contribution as a percentage of the eligible investment costs, b) the maximum amount that the investment contribution may not exceed, c) the latest date by which construction must begin, d) the payment plan pursuant to art. 87j EnFV and e) the period within which the installation must be put into operation.

The application for participation in the feed-in tariff system must be submitted to the enforcement body (Pronovo AG) and must contain all the information and documents listed in Annex 1.3 EnFV. If the eligibility requirements are likely to be met and sufficient funds are available, the enforcement agency will issue an order to ensure the plant’s participation in the feed-in tariff system in principle. After receipt of this order, the applicant must make progress with regards to the project and put the installation into operation within the respective deadlines (as set out in Annex 1.3 EnFV).

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

15 years

Description:

Investment contribution are one-time payments. Feed-in remuneration is granted for 15 years.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

- *Remuneration per kWh of electricity generated in the plant.*

- *Remuneration per project.*

Description:

Remuneration per kWh of electricity generated in the plant for feed-in tariffs.

Remuneration per project for investment contributions.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

N/A.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

Wind turbines are generally owned and operated by company limited by shares (Aktiengesellschaften). Typically, the purpose of such companies is the planning, construction and operation of plants for the production of renewable energy, in particular wind energy, as well as trading in renewable energy. There are however no mandatory requirements regarding the choice of legal entity to operate wind turbines.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

Key players in the onshore wind energy market are energy suppliers and private investors. Shareholdings of companies limited by shares are not public so we cannot comment on the typical ownership structure of legal entities owning resp. operating wind energy plants. As a general comment however, almost 90% of Swiss electricity supply companies are owned by the public sector, i.e. the cantons and municipalities. There is no general requirement to hold the ownership of the plants and the operational business in separate SPVs/entities.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with nine,*

(ii) *planning law with three,*

(iii)*permit situation with three, and the*

(iv)*granting of subsidies with eight.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

In Switzerland it can take 15 – 20 years from the start of the project planning until project implementation of a wind turbine, this is due to complex and lengthy approval processes. Accelerating approval procedures is something that has been discussed intensively in Switzerland for some time already. In order to speed up the expansion of wind energy production, the Swiss Federal Council wants to shorten the procedures for the planning and construction of wind turbines (as well as other large renewable energy power plants). In June 2023, the Swiss Parliament therefore passed the Federal Act on the Acceleration of Approval Procedures for Wind Energy Plants. It provides for procedural simplifications for wind power plants in the national interest that have a legally binding utilisation plan. However, the Federal Act on the Acceleration of Approval Procedures for Wind Energy Plants is not in force yet.

Türkiye

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

The Electricity Market Law No. 6446 is the primary legislation governing the licensing and regulation of the generation, transmission, supply, distribution and import-export of electricity. The Electricity Market Law and the Electricity Market Licensing Regulation addresses in detail the types of licenses and their implications throughout the construction, commissioning, and operational stages.

Law No. 5346 on the Utilisation of Renewable Energy Resources for Electricity Generation describes what qualifies as renewable energy and consequently becomes eligible for the feed-in tariff mechanism. The Regulation Regarding the Incentivisation of Domestic Components in Power Plants Utilising Renewable Energy Resources enhances the feed-in tariff for domestically sourced plants.

The Regulation on Renewable Energy Resource Areas lays out a special scheme used in large scale wind and solar power investments, whereby the Ministry of Energy and Natural Resources identifies state owned land or land under private ownership for the development of renewables and tenders it to investors based on a price auction.

The Competition Regulation Applicable to Wind and Solar Powered Electricity Generation Plants addresses the issue of access to limited grid connection capacity for wind-based generation plant license applicants based on a per kWh price auction administered by TEİAŞ, the transmission grid operator.

Finally, the Regulation on Unlicensed Electricity Generation in the Electricity Market governs smaller scale or off-grid power plants that are primarily used for self-consumption but also have the opportunity to sell excess capacity through the feed-in tariff subject to regulatory limitations.

The Ministry of Energy and Natural Resources is the main actor in shaping national energy policies in Türkiye. The policy for onshore wind is determined at a national level and local/municipal authorities only have limited influence, mainly on aspects of construction licensing.

The Electricity Market Regulatory Authority ("EMRA") is a key regulatory body that issues communiqué and resolutions to complement these laws and regulations and issues electricity market licenses in addition to supervising compliance with the terms and conditions of these licenses.

The wind energy generation landscape is dominated by private investors who are financed by local banks as well as international syndicated project financing. There are generation licensees wholly owned by either foreign or local investors as well as joint ventures made between Turkish and foreign energy market players. According to IRENA (International Renewable Energy Agency) data of 2023, Türkiye ranks 10th in the world in terms of electricity generation from renewable sources and 12th in the world in terms of installed capacity based on wind power. Türkiye's National Energy Plan sets forth a

target of 29.6 GW of installed wind power capacity by 2035. (Note: This target is from TÜREB, a wind power generation association, rather than being an official governmental target).

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 10.52% and the share of total domestic renewable energy coming from onshore wind was 25.2%.

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in Türkiye.

04 | Which measures are being taken by the government to promote onshore wind energy?

The 'YEKDEM' feed-in-tariff was introduced through Law No. 5346 on the Utilisation of Renewable Energy Resources for Electricity Generation and the Regulation on the Certification and Support of Renewable Energy Resources was introduced in 2013.

YEKDEM provides price guarantees for electricity generated over a certain period from the time of commissioning. This period is 10 years for onshore wind power plants commissioned or to be commissioned between 1 July 2021 and 31 December 2030. As of October 2023, the Turkish Lira denominated feed-in tariff price for onshore wind power plants was subject to a floor of USD 4.95 cents/kWh and a ceiling of USD 6.05 cents/kWh to address fluctuations in exchange rate.

Wind power plant investments are also eligible for 'regional incentives schemes'. Projects may benefit from VAT and customs exemptions, allocation of land for investment, employee social security premium support and tax reductions.

Access roads and power lines to be constructed between the plant substation and the transmission grid connection point benefit from an 85% reduction in land use fees for a term of 10 years and are exempt from certain forestation charges normally payable by projects occupying forestry land.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

The main barrier is the inadequacies of the grid, both in terms of grid capacity and availability at connection points. The problem stems from inadequacies in investment into the transmission infrastructure. This inadequacy in grid connection availability led to a competition/price auction mechanism for new wind energy investments. There is no comparable process for building a natural gas or coal fired power plant, but there is a competition/auction system to build new wind power plants.

Common issues faced in permitting process are relative complexity and length of permit application processes, frequent changes in regulations, as well as variations in procedures and practices between different provinces.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Seven.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

- *Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)*

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of more than 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: in parallel with planning and permitting process.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

According to Article 11 of the General Communiqué No. 412 on National Real Estate, following the approval of the easement right or occupancy permit tenders for real estate owned by the Treasury, investors are granted a preliminary permit of one year without actual use. The procedures for registration, subdivision, abandonment, and similar transactions related to the property shall be carried out by the investor within the pre-permit period. These processes can be completed within three months in practice.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Topic is not of relevance.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

N/A.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

The zoning plan amendments need to be approved.

The Technical Interference Permit has to be issued to address electromagnetic interference with flight and navigation equipment.

According to the Environmental Impact Assessment Regulation, an Environmental Impact Assessment (EIA) report must be provided for wind power plants that will have an installed capacity of over 10 MW when applying for a pre-license. Taking into account the assessments made by the Commission established regarding the EIA report, the Ministry will render a decision stating that the realisation of the project is not harmful to the environment upon determining that the possible negative impacts of the project on the environment are acceptable according to the relevant legislation and scientific principles, i.e., an EIA positive decision.

The application to enter into a connection agreement should be made to TEİAŞ for connection to the transmission grid or to the relevant distribution company, if the connection is to made at distribution level.

The transmission contribution fee agreement is required to be signed with TEİAŞ, the transmission authority.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 12 to 18 months.

Average duration of permit procedures: 18 to 30 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Wind energy plants cannot be built in nature reserves or areas where protected species inhabit.

A declaration of sensitive areas must be obtained according to the List of Information and Documents Required to be Submitted in the Pre-License Application annexed to the Electricity Market License Regulation. According to the Strategic Environmental Assessment Regulation, sensitive areas are those listed in Annex-5 that have been determined as sensitive for environmental impact due to their biological, physical, economic, social, and cultural characteristics or where the existing pollution load has reached levels that pose a danger to the environment and health or which are deemed sensitive in accordance with the applicable legislation and international conventions to which Türkiye is a party.

The following conservation and species protection considerations are taken into account: Areas falling within the Forestry Law No. 6831; areas subject to construction restrictions pursuant to the Coastal Law No. 3621; areas specified in the Law on the Improvement of Olive Groves and Grafting of Wild Olives No. 3573; wildlife protection areas determined by the Ministry of Forestry and Water Affairs in accordance with the Land Hunting Law No. 4915; designated wildlife development areas and wildlife habitat areas, areas under the protection of the Convention on the Conservation of Wetlands of International Importance (RAMSAR Convention), and areas declared as special environmental protection areas in accordance with the Protocol on Special Protection Areas and Biological Diversity in the Mediterranean.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Nature conservation

b) Distance requirements

19 | Please describe the legal framework for the repowering of wind turbines.

As repowering would result in a change in installed capacity, a capacity increase application is required to be made to EMRA pursuant to the Electricity Market Licensing Regulation and the generation license needs to be amended as per the new turbines proposed to be installed. Technical interference analysis and environmental impact assessment may also have to be renewed depending on the nature and impact of the upgrade in capacity/technology of the wind turbines.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

In case the grid connection is to be made at transmission level, the state-owned grid operator is responsible, however if the connection is to be made at the distribution level, the private grid operator authorised in the relevant region would be responsible.

21 | At which stage of a project do project developers have to apply for a grid connection?

As early as possible, i.e. right after identification of a suitable project site.

22 | Who has to bear the costs of the grid connection?

The operator of the windfarm.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

According to Article 5/A-4 of the Electricity

Market Connection and System Utilisation Regulation dated 28 January 2014, costs such as the preparation of real estate procurement files, payment required for real estate procurement, forest and road crossing permits, and excavation costs for the transmission facility investments are covered by the generation license applicant. Upon completion of construction and temporary acceptance, these facilities are transferred to TEİAŞ (state-owned transmission company) for a nominal fee in exchange for maintenance and operation responsibility.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Licensed power plants sell electricity through the electricity markets operated by EPİAŞ or through bilateral (over the counter) agreements with off takers. YEKDEM (feed-in tariff) cost and revenue is distributed/paid out to market participants by EPİAŞ as the market operator.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there is an official subsidy scheme prescribed by law:

- *Feed in tariff (involves the government setting a tariff price, or a set of prices for specific renewable technology, at which the country's supply companies or grid operators are obliged to purchase all renewable energy exported to the grid)*

26 | How does the application process for the promotion / subsidy scheme work?

a) Definition of eligible plants by statutory law

b) Application process with e.g. a governmental authority

Description:

Eligible plants need to apply to EMRA before the December 2nd deadline to enroll in the YEKDEM scheme for the subsequent year.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

10 years.

Description:

10 years from the commissioning of the first unit.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

Remuneration per kWh is payable for actual electricity generated at the plant.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

N/A.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

Pursuant to paragraph 3 of Article 4 of Electricity Market Law No. 6446, legal entities that will be issued a generation license to operate a wind power plant must be established as a joint stock company or limited liability company as per the Turkish Commercial Code No.6102. According to Article 12 of Electricity Market License Regulation, it is again mandatory that legal entities to be issued a generation license in the electricity market must be established as a joint stock company or limited liability company. If the operator is established as a public joint stock company, the shares of the company aside from those traded on stock exchange must be in the form of registered shares.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

The onshore wind generation landscape is characterised by private investment. The state does not appear as an investor or co-investor, however facilitates or tenders out certain projects to be built on state owned land through the renewable energy resource area (YEKA) model.

Unbundling requirements are applicable to electricity supply licensees only. i.e., electricity distribution and retail services need to be performed under distinct corporate entities with different management.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with eight,*

(ii) *planning law with seven,*

(iii)*permit situation with nine, and the*

(iv)*granting of subsidies with 10.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

Türkiye is adopting a climate law and emissions trading system to combat climate change and to mitigate the impact of the EU carbon border

adjustment mechanism on Turkish exports to this key trading partner.

Onshore wind is expected to be a key beneficiary of green financing efforts to transform the generation portfolio.

The Turkish Ministry of Energy and Natural Resources announced a hydrogen roadmap, and R&D efforts are being focused on various methods of green hydrogen production. This is also an exciting use case for wind power that may support the development of onshore wind investments in Türkiye.

Ukraine

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

In Ukraine wind energy is considered a renewable (alternative) energy source. The Law of Ukraine on Alternative Energy Sources defines principles for using alternative energy sources and promotes their use in the fuel and energy sector. Currently, the wind energy sector is represented only by onshore wind power plants ("WPP"). There is no specific legislation for offshore wind energy sector in Ukraine.

The Law of Ukraine on Electricity Market regulates the operation of the electricity market in Ukraine based on the EU model. It also defines the specifics of electricity produced from renewable energy sources ("RES") in the electricity market.

The national Regulator, the National Energy and Utilities State Regulatory Commission ("NEURC") is authorised to set by-laws in the electricity market. The key requirements are determined in the: (i) market rules (also regulate balancing and ancillary services markets); (ii) rules of the day-ahead market and the intraday market; (iii) transmission and distribution systems codes; (iv) commercial metering code; (v) retail market rules, all of which ensure implementation of the Law of Ukraine on Electricity Market.

The Regulator also sets methodology for calculating rates for connection to power grids and specific rules of supporting schemes for RES, namely on sales and purchase of electricity under the feed-in tariff ("FiT"), rules for implementing the market premium mechanism etc.

The Energy Strategy of Ukraine until 2050 was approved by the Government in April 2023. It sets dimensions for the development of renewable generation, including wind energy, but there is no targeted strategy for developing onshore wind generation.

The Energy Strategy 2050 was not published due to martial law, however separate indicators of this document were reported: the Strategy envisages an increase in the share of RES in electricity production up to 50% in 2050, which, accordingly, requires large-scale implementation of RES projects, primarily wind energy. By 2032, the total installed wind power capacity is expected to reach 10 GW.

The Ministry of Energy of Ukraine is the key authority, that develops and implements state policy in the field of RES. According to the Minister, the Energy Strategy 2050 identifies renewable energy development as one of the key priorities. There's no publicly available information on the priority of onshore wind energy among RES.

According to the data of the Ukrainian Wind Energy Association ("UWEA"), kindly provided for this Study:

(i) currently, investors in Ukrainian wind energy sector include both national companies (DTEK Renewables, OKKO, Greenville, MCL, UDP Renewables, KNESS, NAFTOGAS, ETG.UA, Eco Optima, Wind Parks of Ukraine) and foreign

companies (Elementum Energy, Guris, Eksim, Eurocape, Emergy, Fenix Repower, CWP, wpd, Vindkraft, Hero Asia, Gold Wind, Notus), namely from the United Kingdom, Türkiye, France, Sweden, Norway, Hong Kong, China, Germany etc.

(ii) financing is provided primarily by national banks, and international financial institutions (EIFO, Danske Bank, DFC, NEFCO, IFU, EBRD, Landesbank etc.).

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of onshore wind energy in domestic electricity production was 1.4% and and the share of total domestic renewable energy coming from onshore wind was 21.7% (calculated based on the installed capacity including temporarily occupied territories and excluding domestic solar power plants) and 13,6% (calculated based on the share in the total volume of electricity generated).

Part B - Government Policy / Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in Ukraine.

Description:

However, according to the recently adopted National Renewable Energy Action Plan for the period up to 2030, the Government estimates that the total capacity of wind power plants in Ukraine could be increased up to 6,214 GW in 2030. As of the beginning of 2024, the installed capacity of wind power facilities was 512 MW (excluding facilities located in the temporarily occupied territories). About 1.4 GW of wind power capacity was lost (occupied) during the full-scale invasion.

04 | Which measures are being taken by the government to promote onshore wind energy?

Wind energy projects enjoy measures taken by the state to promote all RES (there are no specific measures for wind energy), namely:

1. Financial support:

1.1. The FiT scheme could apply to wind (and other RES) projects commissioned in 2009 – 2022 under periodically updated conditions. Due to the full-scale military invasion of the territory of Ukraine, the Parliament extended an opportunity to complete the construction and commissioning of the launched wind projects under the FiT scheme until the end of 2023. Afterwards, the FiT incentive may apply to RES producers if they are not required to participate in renewable auctions; in particular, the FiT scheme may apply to entities which intend to produce electricity from wind energy with an installed capacity of facilities up to 5 MW. The state guarantees for the purchase of electricity at the feed-in tariff provided to RES projects are valid until 1 January 2030.

1.2. Entities which receive support under FiT may transfer to the scheme of "market premium mechanism" (recently set in legislation), under which RES producer sells electricity in the market and receives a surcharge to the reference market price if it is lower than the FiT rate (one-sided CfD) or feed-in premium, as it is titled in Ukraine.

The FiT scheme is also available for private households (with an installed capacity of up to 50 kW) and other consumers, including energy cooperatives (with an installed capacity of up to 150 kW).

1.3. Auctions for allocation of support quotas for electricity generation from RES (have been provided for by law since 2019, but the first pilot auctions were held in the second half of 2024) based on the "market premium mechanism" (two-way CfD model).

1.4. Sales of electricity generated from RES (including wind) are excluded from the list of transactions subject to excise tax.

1.5. Temporarily, for the duration of martial law in Ukraine, but not later than until 1 January 2026, the parts for wind power generating units imported into Ukraine are exempt from the import duty and VAT. However, currently application of the exemption is very limited and does not seem to be effective.

2. Other:

2.1. Guarantees of origin for electricity from RES – an instrument actually launched in September 2024.

2.2. Contracts for providing services to ensure the stability of electricity prices (virtual corporate PPAs), requirements to which are set in legislation; it is legally determined that this contract is not a financial instrument and is exempt from regulation of capital markets.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

- Lack of definitive and explicitly set legally binding target(s) for increasing the share of wind generation in a specific time period, as well as transitional trajectory and specific sectoral tools to achieve the target(s);

- Issues connected to support schemes

  - (i) historical debts on the state's settlements with RES producers under the FiT scheme and lack of clear vision of how to solve them;

  - (ii) the results of the pilot green auctions held in 2024 revealed the requirement to further improve their regulation;

- Predictability and stability of regulation – stakeholders call for increased regulatory stability, setting clear long-term priorities with achievable targets, early and effective communication of strategic decisions with their transparent implementation;

- Reliable and bankable off-taker – to develop instruments for stable financing of RES projects, predictable and financially viable off-takers of electricity are required. They are currently lacking in Ukraine;

- Availability of project finance is limited due to military risks and their limited insurance options, as well as unpredictable financial

viability of RES projects due to shortage of bankable off-takers and all other obstacles mentioned in this section;

- Complexity and transparency of administrative procedure – complexity of land procedures (level of transparency, number of stages and approvals), environmental impact assessment ("EIA") (scope and interpretation of requirements by different authorities), and construction permits imposes a substantial administrative and financial burden on RES projects;
- Duration of administrative procedure – due to complexity indicated above;
- Conflicts with third parties – issues with NGOs/environmental groups arise in regions of special ecological and recreational value (mountains, seaside). Confrontation with the local population may be caused by business interests alternative to RES generation;
- Lack of infrastructure and its development – high concentration of RES plants/load on the grid in regions with higher renewable resource potential (southern regions), and, respectively, lack of RES capacities in regions where there is/was (before the invasion) aggregation of industrial capacities (eastern regions);
- Risk insurance, mainly military (geopolitical) risk insurance – due to the full scale invasion and regular air attacks on Ukrainian territories project development requires costly insurance, the provision of which is currently limited.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Seven.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

a) Land lease agreements

b) Land purchase agreements

c) Securities in rem (i.e., rights requiring registration in an official cadastral / land register and/or notarisation, e.g. limited personal easements, rights of superficies or similar instruments)

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

Under legislation the term of a land lease agreement shall not exceed 50 years. According to the data kindly provided by the UWEA for this Study, 30 to 49 year terms prevail in the implemented projects. However, a 25-year term also applies to WPP projects.

Land easement is usually temporary and depends on (may not exceed) the period for which the land plot is granted for use to the main land user.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Usually, securing land for wind turbines should be started as early as possible. Hence, the answer "first step after identifying a suitable project site", would be relevant for land secured with the purpose to locate wind turbines. In terms of application for grid connection (and eventually securing land for grid connection) the developer shall provide the grid operator with details on secured land for generating units (turbines).

According to information kindly provided by UWEA for this Study, land for access roads is usually secured later (after a year of wind measurement).

The moment when landowners are approached to secure land for grid connection usually occurs at a later stage and is largely determined by the approach/scheme of grid connection chosen for the project, which depends on the terms of the connection agreement with the transmission/ distribution system operator.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

According to part 2 of Article 19 of the Law of Ukraine on State Registration of Property Rights to Immovable Property and Their Encumbrances, state registration of ownership and other property rights is carried out within a period not exceeding five business days from the date of registration of relevant application.

This could be the case, provided that all preliminary legally required actions for securing right(s) to land plot(s) have been performed and all necessary documents have been executed and attached to the application.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

Topic is not of relevance.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

If land plots selected for the project are located on the territory for which urban planning documentation has not been developed yet, the process of securing land could be extended due to the need to develop/approve such documentation, including the requirement to undergo a strategic environmental assessment procedure.

Other factors that often complicate securing land are whether the right of ownership (use) regarding a land plot is established for the first time or whether setting/changing the designated purpose of a land plot is required.

In such cases, developing a land management project to allocate a land plot is required. This process includes the following stages: obtaining permission to develop a project; development of a project, its approval; registration of a land plot in the State Land Cadastre and registration of the right of ownership/use of a land plot in the State Registry of Property Rights to Immovable Property and their Encumbrances.

For the reference: Ukrainian lands are divided into categories according to their main designated purpose, and the respective category determines the particular manner of its use and its legal regime. “Lands for industry, transport, electronic communications, energy, defence and other purposes” is one of the nine categories provided for by law.

However, Ukrainian legislation is showing a tendency towards simplification in terms of procedures involved in the process of reconstruction and restoration, in particular, the law was recently adopted to simplify procedures for changing the designated purpose of land plots to attract investment for the purpose of rapid reconstruction of Ukraine, including those which are required for energy facilities. In particular, for the period of martial law in Ukraine and within five years from the date of its termination, the law simplifies procedure for establishing and changing the designated purpose of land plots outside settlements for which there is no urban planning documentation for the location of energy facilities.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

The WPP project is usually implemented through the following stages:

1. Collecting and analysing data on wind potential and grid connection capabilities of the territories – to define a region for project implementation;

2. Conducting pre-design surveys to identify land plot(s) for the project, namely conducting wind speed and direction studies, EIA (both at least one year), topographic, geodetic and engineering surveys;

3. Allocation of land plot(s) for the project;

4. Obtaining technical specifications for grid connection (“TS”) (issued by TSO/DSO free of charge);

5. Development of project design – is performed by owners/users of land plots(a customer of construction/employer) in the following order:

5.1. obtaining initial data: (i) urban planning conditions and restrictions (provided by urban planning and architecture authorities free of charge upon application (with all required documents on land plot(s) and the project) within ten business days); (ii) TS; (iii) task for designing construction objects (agreed with the designer);

5.2. development of project design and its expertise – is performed by certified specialists;

5.3. design for WPP construction is approved by the customer (if the project does not involve public funds, guarantees or entities of the public sector); TSO/DSO agrees upon design for grid connection facilities;

6. Obtaining the right to perform preparatory (through applying a declaration) and construction (through applying a declaration or obtaining a permit) works from state architectural and construction control authority (“SACCA”);

7. Commissioning – based on (i) declaration submitted by the customer and registered by SACCA free of charge or (ii) a certificate issued by SACCA (option (i) or (ii) depends on the class of consequences (liability) of the facility (its complexity);

8. State registration of ownership for the facility in the State Registry of Property Rights to Immovable Property and their Encumbrances;

9. Obtaining a licence for electricity production from the NEURC.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: six to 12 months.

Average duration of permit procedures: 12 to 18 months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Under the Law of Ukraine on Environmental Impact Assessment, WPPs comprising more than two turbines or with a height ≥ 50m are subject to EIA, key stages of which include:

1. Development of an EIA report – the Ministry of Environmental Protection and Natural Resources of Ukraine approved recommendations on content and procedure for preparing an EIA report. The scope of the report for WPPs shall contain in particular description of the affected environmental factors, among other things, public health, fauna (particularly birds, bats etc.), flora, biodiversity, sensitive/protected areas, other factors and links between them; description and assessment of potential environmental impact caused, in particular, by noise, vibration, light pollution and electromagnetic radiation etc.;

2. Holding a public discussion on the scope of studies to be included in the EIA report, and the EIA report itself. At this stage the EIA authority also holds consultations on EIA with other executive authorities and local self-government bodies on environmental issues;

3. Provision of EIA conclusion by the EIA authority, which determines eligibility/justifies

ineligibility of planned activity and determines environmental conditions for its implementation, requirements for environmental impact monitoring and post-project monitoring. It is valid for five years;

4. Considering the conclusion on EIA for a decision on performing a planned activity (e.g. issuing construction permit).

Information/documents on EIA procedure are accumulated in the online Unified Register of EIA.

If amendments are made to project design/ legislation requiring significant changes in the environmental conditions specified in the EIA conclusion, the EIA procedure is repeated before obtaining a decision on implementing the planned activity (e.g. construction permit).

Construction of overhead power lines with voltage ≥ 220 kV and substations with voltage ≥ 330 kV during martial law is exempt from the EIA procedure.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

19 | Please describe the legal framework for the repowering of wind turbines.

Since the active development of wind generation in Ukraine started recently (a few years before the full-scale invasion of Ukraine), the issue of repowering, i.e. replacing an older wind turbine with a new turbine with better efficiency/yield, is currently not relevant for the Ukrainian wind energy sector. Still, it may arise due to the

required restoration of wind power installations damaged by hostile attacks, as well as due to increase in the installation of previously used wind turbines by small and medium-sized enterprises for self-consumption.

In principal, repowering may lead to changes in technical and economic indicators, geometric dimensions etc., of installation(s) and potentially the whole WPP (e.g. installed capacity of WPP). It may also cause deviations from technical and economic indicators of valid design documentation, technical specifications to grid connection, connection schemes, permits etc. of WPP. Depending on the type and scope of work to be performed while repowering, technical and economic indicators of WPP after repowering, such work may be treated as construction of a new facility and therefore may require amendments or development/obtaining of new documents specified for the construction of the new facility (as defined in question 15 above).

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

Grid connection is implemented by (i) a DSO (a private or a state-owned entity which operates distribution grids in a region) – if the facility is connected to the distribution grids; (ii) a TSO (a state-owned entity) – if the facility is connected to the transmission grid.

Connection to the transmission grid is allowed to power plants with an installed capacity of more than 20 MW; otherwise (20 MW and less) – the facility is allowed to be connected to the distribution grids. This rule could be revised upon the development of a feasibility study – a justification for the choice of the facility's connection scheme aimed at determining the reasonability of connecting generating units to the transmission/distribution system. The design organisation develops a feasibility study at the expense of a customer of connection service. TSO/DSO shall accept a customer's proposals based on a feasibility study or justify the priority of another option.

21 | At which stage of a project do project developers have to apply for a grid connection?

After securing land for WPP, because the customer's application for grid connection shall be supported by a document on ownership/use of land plot(s) where the facility (WPP) will be located.

22 | Who has to bear the costs of the grid connection?

A customer of connection service (operator of WPP) bears the grid connection costs.

The service of connection to the grid does not include installation of commercial metering of electricity, which is provided separately and at the customer's expense (which is usually an operator of WPP). Grid operator determines requirements for installation of an electricity metering unit in its technical specifications for grid connection.

23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

Depending on the type of grid and technical characteristics of connected facility, a customer of connection service may be subject to a different scope of obligations.

The customer shall provide the design and construction of power grids from its facility to the point of connection (for internal power grids).

- Connection to transmission grid: the customer develops and agrees with TSO a design for the construction/refurbishment of TSO's power grids (external power grids), and also allocates land plot(s) for the location of external grid facilities. Construction/ refurbishment of external power grids is performed by TSO/engaged organisation(s).

- Connection to distribution grid: could be a "turnkey connection" or customised connection, where the customer is entitled to ensure development of the design documentation in case capacity of the connected facility is ≥ 400 kW. If facility's capacity exceeds 1 MW the customer is additionally entitled to ensure performance of works necessary for connection.

External grid facilities and equipment are the property of TSO/DSO accordingly.

According to the latest legislative changes (as of the end of January 2025, the law was adopted but has not entered into force as it is at the stage of finalising formalities), (i) the maximum validity term of TS shall be six years subject to a number of conditions; (ii) connection to the TSO's grid will be subject to a prepayment in the amount of EUR 10 per 1 kW of capacity ordered for connection; (iii) wind generation projects with a capacity ≥ 20 MW could apply to the TSO to book technical solutions for connection for two years before executing grid connection agreement. Cost of booking is EUR 5 per 1 kW of booked capacity, in case of signing grid connection agreement in two years, booking fee shall be credited against the connection fee.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

Most existing WPPs have signed an agreement with a state-owned entity to sell electricity at FiT (the deadline for concluding this agreement was 31 December 2019, and the deadline for commissioning WPPs under FiT was 31 December 2023).

WPPs that are not entitled to sell electricity under FiT or have suspended/terminated agreement on the sale of electricity under FiT with a state-owned entity sell electricity in the following segments of the electricity market: under bilateral agreements, on day-ahead and/or intraday markets, on balancing market.

For trading on market segments, it should be considered that DAM, IDM and the balancing market are subject to price caps, which the Regulator sets and periodically reviews.

Corporate PPAs are currently not a widespread practice; to revive this segment, in the summer of 2022 the Law on Electricity Market was amended to set an agreement on providing services to ensure price stability for electricity generated from alternative energy sources, essentially a virtual corporate PPA. Due to the current situation of military aggression in Ukraine and the lack of off-takers with a trustworthy history and performance to banks, the corporate PPA sector is not expected to grow shortly.

Electricity from Ukraine could also be exported, however due to damage to generating facilities as a result of hostile attacks, exports are at a minimum. Additionally, instruments aimed at stimulating export of RES electricity are in progress: infrastructure for circulation of guarantees of origin in Ukraine has been introduced, Ukrainian Regulator has received AIB membership and proceeds with recognition of Ukrainian guarantees of origin in the EU.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there are official subsidy schemes prescribed by law:

a) *Feed in tariff (involves the government setting a tariff price, or a set of prices for specific renewable technology, at which the country's supply companies or grid operators are obliged to purchase all renewable energy exported to the grid)*

b) *Contracts for difference (CfDs) (This subsidy model defines a fixed minimum remuneration per MWh of electricity. The level of this subsidy rate is usually determined by a tender procedure.)*

Description:

Under the Laws of Ukraine on Alternative Energy Sources and Electricity Market, RES (including wind) projects are subject to the following support schemes: FiT (obligation of the state to purchase electricity at FiT is valid until 1 January 2030 for projects that have entered into an agreement with a state-owned entity and commissioned facilities before 31 December 2023, i.e. new projects shall not qualify for this support system).

The possibility of switching from the FiT system to the CfD scheme under a one-sided CfD model (is also known as "feed-in premium" in Ukraine) was recently established. In this case, the CfD scheme's peculiarity is that only the state pays a surcharge to the producer if the FiT rate set to the producer is higher than the indicative market price. If the indicative market price exceeds the producer's FiT rate, the latter is not obliged to pay the difference to the state.

The CfD scheme (set under the two-way CfD model) is an auction-based support scheme called the "system of auctions for the distribution of support quotas" in legislation. That system is currently at the pilot stage of implementation.

Both one-sided and two-way CfD models have the same title in the law: the "market premium mechanism".

See also input to question 4.

26 | How does the application process for the promotion / subsidy scheme work?

- *Eligibility through tendering process.*

Description:

Since the FiT scheme no longer applies to new industrial projects, the incentive scheme option for new projects provided for by law is a system of auctions for allocating support quotas. However, that system is currently at the pilot stage of implementation

The auction support scheme is based on a tender process, where the lowest bidder (based on the selling price of 1 kilowatt-hour of electricity) is considered the winner. The law sets a price cap for wind projects: up to EUR 0.09 per kilowatt-hour for auctions held until 31 December 2024 and up to EUR 0.08 per kilowatt-hour for auctions from 1 January 2025.

According to the law, auctions were to be introduced on 1 July 2019 and should be held until 31 December 2029.

Within setting the support quota, the Government may set a share of the auction price (which is the electricity price set by the winner) to be fixed in euros (at least 50% of the auction price), while the remaining share of the auction price is determined in the national currency.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

12 years.

Description:

The law provides that the FiT scheme shall be in force until 1 January 2030 for the eligible projects regardless of the date when FiT was granted. Thus, the remaining FiT system's funding period is slightly less than five years.

For the auction system, the support period is 12 years from the first day of the month following the month in which the producer submitted documents confirming the commissioning of the generation facility and its connection to the grid.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

Under the FiT system, the state purchases the volume of electricity generated and supplied to the grid by FiT-eligible facilities. The respective volume of electricity is paid at a set FiT rate for each kWh. In the auction-based support system, the auction price is the price of 1 kilowatt-hour of electricity offered by the winner of auction to allocate support quota.

The state shall purchase services under the market premium mechanism in the auction system. The scope of this service is determined according to the volume of electricity generated by electricity facilities that are eligible for support and sold at electricity market (under bilateral contracts, on day-ahead/intraday market). In this system, the level of the winning auction price (per kilowatt-hour) and the indicative market price determines which party (the state or the producer) should pay the difference between these indicators, and the amount of this difference.

The volume of electricity (i) purchased and paid for at the FiT; (ii) which determines the scope of service under the market premium mechanism shall not exceed the volume that can be supplied to the grid considering installed capacity of the generating facility specified in the WPP's licence. The electricity consumed by the generation facility for its needs is also deducted from the respective volume of electricity eligible for support.

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

The level of payments made by the state to producers under the FiT scheme is 62.2% for 2022, 95.3% for 2023 and 79.6% for 2024 on average for the year (the level of payment varies in different months of the year; the payment rate periodically changes). Significant delays in payments to producers under FiT are a historical issue. However, this situation had also been affected by limitations on the payments imposed after martial law's introduction in Ukraine, namely payments to WPPs were limited to 16%, and later to 18% of the weighted average feed-in tariff for 2021. Limitation was canceled in April 2024.

A system based on auctions for allocating support quotas for renewable generation has been implemented recently and only at the pilot stage. And the FiT system no longer applies to new industrial projects. Therefore, currently there is no well established operational scheme for RES support, including wind energy.

Military risks also complicate the situation for the development of RES generation (including onshore wind energy), making it difficult to obtain foreign credit financing.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

In general, Ukrainian legislation does not stipulate any requirements for the type of legal entity in which a wind energy plant unit must be operated. The most common organisational and legal form of legal entity in renewable generation (including the wind sector) is a limited liability company ("LLC"), as it is a flexible form for operating private businesses in Ukraine.

LLC is a company founded by one or more persons (legal entities or individuals). The charter capital of LLC is divided into participatory interests. The number of participants is not limited; an LLC can also have a sole participant.

However, if a project's specifics require the establishment of a legal entity in a different legal form, this is not prohibited by the law.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

The law does not limit the ownership structure of WPP and it is usually defined by the specific interests of the respective business entity/its owner. It usually depends on the conditions of project financing.

Ukrainian legislation contains requirements for unbundling of electricity generation and the following activities at the electricity market: transmission, distribution, and performing functions of (i) market operator, (ii) settlement administrator and (iii) commercial metering administrator.

Electricity producers are prohibited from (i) owning or managing shares (stakes in authorised capital) of DSO; (ii) exercising control over TSO, owning or managing shares (stakes in authorised capital) of TSO; an official of a producer may not be an official of TSO; (iii) allowing control over

the producer by residents of states that carry out armed aggression against Ukraine and/or whose actions create conditions for a military conflict and use of military force against Ukraine.

Legislation also contains a list of unbundling restrictions that apply to producer's officials and persons exercising control over electricity producer, regarding limitation of their influence on TSO, DSO or appointment to a position in TSO/DSO.

Restrictions are also imposed on a vertically integrated business entity that incorporates (i) activities of transmission/distribution and generation of electricity and/or (ii) person(s) exercising control over market participants performing such activities.

The wind generation sector in Ukraine is entirely private. However, the state-owned Naftogaz Group is developing a wind farms in Mykolayiv and Odesa region.

As to the issue of ownership and operation of generating facilities Ukrainian legislation provides for the possibility of combining the owner and operator in one entity, as well as separation of these roles. In particular, in accordance with the licensing conditions for conducting business activities in the field of electricity generation, a licence applicant may be an entity which owns generating facilities or holds them on the basis of the right of business management, use, leasing, based on a concession agreement or on the basis of an asset management agreement concluded with the National Agency of Ukraine for finding, tracing and management of assets derived from corruption and other crimes (the latter option appeared during the martial law and is related to the implementation of sanctions restrictions).

However, division of roles between the owner of generating facilities and its operator is not commonly used. Typically, to perform business activities on production of electricity from wind energy, an SPV is established that owns generating facilities and the electricity production licence, while certain activities necessary for facilities' operation are performed under contractor agreements.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with seven,*

(ii) *planning law with four,*

(iii)*permit situation with six, and the*

(iv)*granting of subsidies with four.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

Currently, official data regarding electricity generation is limited due to martial law and the destruction of energy facilities by hostile attacks, therefore, certain indicators specified in answer to question 2 were calculated based on publicly available data

According to the 2023 annual Ukraine's wind market overview by the UWEA, in terms of installed capacity, wind power with 1900.8 MW of capacity remains the second largest in the national renewable energy sector after solar, and its share in the generation of "green" electricity is 1.4%. In the meantime, 71% of wind generation still remains in the temporarily occupied territories of Ukraine and does not supply clean electricity to the integrated power system of Ukraine.

Our assessment of the rate of complexity and barriers for successful onshore wind energy projects (question 6) is based on information that despite the problematic current business situation in the country, projects continue (complete) construction during the martial law, and the state is taking steps to simplify and digitalise administrative procedures and implement EU legislation.

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Part A - The Domestic Onshore Wind Energy Sector

01 | Please describe the domestic onshore wind energy sector.

There are four nations within the UK – England, Wales, Scotland (together Great Britain (GB)) and Northern Ireland (NI). Onshore wind policy in England is set by the UK Government. In Wales, Scotland and Northern Ireland, policy is set by the respective devolved administrations.

Renewable energy in the UK comes under the policy remit of the Department for Energy Security and Net Zero (DESNZ). The Gas and Electricity Markets Authority (GEMA) was established by the Utilities Act 2000 to regulate the electricity and downstream gas markets in the UK. It is responsible for setting the wider policy and regulatory framework for the electricity sector to deliver DESNZ's objectives. GEMA's day-to-day activities are delegated to the Office of Gas and Electricity Markets (Ofgem) – an independent regulator with defined powers and duties set out (regarding electricity) principally in the Electricity Act 1989.

Onshore wind is tightly regulated within the UK with applicable legislation varying according to the project stage. Various industry codes also apply rules underpinning connection to the electricity network and participation in the electricity wholesale market. The application of these codes to an onshore wind project depends on the project's capacity, location, connection arrangements and trading strategy. Ofgem is involved in the modification process for the majority of these codes.

All onshore wind turbines require planning permission from the local planning authority or relevant Government ministers. In England in 2015, through a policy change the Government implemented a de-facto moratorium on onshore wind farms. That moratorium has been lifted by the new Labour government following the 2024 general election.

With respect to key players, these include (i) a project developer (sponsor) (of which there are dozens in the UK market, most of whom also develop other renewable technologies such as solar); (ii) a project company (typically a special purpose vehicle (SPV) – its shareholders are the sponsors); (iii) an electricity offtaker (most typically a licensed electricity supplier but corporates are increasingly common); (iv) a contractor(s) who builds the wind farm (with roles often split between a turbine supplier, civils contractor and balance of plant provider; (v) an O&M contractor who undertakes long term operation and maintenance; (vi) lenders; (vii) NESO (operator of the transmission system) or the local distribution network operator, into whose transmission or distribution network the project will be connected; (vi) private landowners; and (viii) where applicable, Low Carbon Contracts Company (LCCC) as contractual counterparty to the main subsidy regime.

02 | In 2023, what share of total domestic energy production came from onshore wind and what share of total renewable energy production came from onshore wind?

In 2023, the share of total onshore wind energy in domestic domestic electricity production from onshore wind was 11.1% and the share of total

domestic renewable energy coming from onshore wind energy from other renewable energies was 24.1%.

Part B - Government Policy / // Regulatory Framework

03 | Are there binding national targets for the expansion of wind energy?

No, there are no binding targets for the expansion of wind energy in the United Kingdom.

04 | Which measures are being taken by the government to promote onshore wind energy?

Financial Support

Currently, the main government scheme in GB for incentivising onshore wind >5MW is the Contracts for Difference (CfD) scheme. CfDs provide revenue certainty through a fixed price ("strike price") for generated electricity over a 15 year term. CfDs are awarded via a competitive auction process.

New subsidy free onshore wind generation in GB can potentially participate in the Capacity Market subsidy regime. Whilst the design of the scheme has not, to date, been very attractive to onshore wind developers, some onshore wind farms have secured Capacity Market agreements in the most recent auction rounds. Other schemes such as the Renewables Obligation (RO) and the Feed-in Tariff closed to new capacity in March 2017 and April 2019 respectively in GB. The RO in NI has also closed to new applications has not yet been replaced with an alternative support mechanism for onshore wind.

Through its ongoing Review of Electricity Market Arrangements (REMA), the Government is considering reforming the CfD and the Capacity Market. Other forms of financial support may include (i) capital allowances e.g. the cost of wind turbine assets falls within the capital allowances available for expenditure on plant and machinery; and (ii) regional or national grant funding.

Whilst the Smart Export Guarantee regime provides a guaranteed route to market for small-scale onshore wind (<5MW), the lack of a prescribed tariff payable is not a catalyst for investment.

Acceleration of planning and approval processes

Planning policy in England is set out in the National Planning Policy Framework and it is now broadly supportive. England is looking to reinstate onshore wind projects into the Planning Act 2008 regime as Nationally Significant Infrastructure Projects.

Wales has introduced an interim consenting regime (Developments of National Significance) for all schemes over 10MW where the Welsh Government will consider and determine applications. Wales is looking to introduce the Infrastructure (Wales) Act to further expedite the onshore wind planning process.

Scotland has a generally favourable position for onshore wind through National Planning Framework 4 (NPF4). This document contains significant support for renewable and low carbon energy development, including onshore wind. There is a presumption in support of onshore wind provided certain design criteria can be met. Onshore wind farms over 50MW capacity are classed as national developments.

The Strategic Policy Statement for Northern Ireland (SPPS) recognises that NI has significant renewable energy resources. The Regional Development Strategy 2035 emphasises the need to increase renewable energy contribution.

05 | What are the main political, economic and legal obstacles to onshore wind energy projects in your jurisdiction?

Planning consent barriers for onshore wind.

The main barriers to onshore wind consenting are (i) under-resourced consenting bodies across the UK which contributes to delays, and (ii) local opposition to schemes.

CfD allocation rounds.

In GB, onshore wind was excluded from earlier CfD allocation rounds, which prevented the deployment of c. 4.7GW of onshore wind capacity. Since 2021, onshore wind (>5MW) has been eligible to bid for CfDs with 3,117MW of onshore wind capacity allocated CfDs to date. However onshore wind (together with solar PV) is typically allocated the lowest strike price, primarily due to the Government regarding onshore wind as a well-established technology with low deployment costs. As wholesale electricity prices have been relatively high over recent years, many developers forsake CfD support (which risks significant payments falling due by the generator if the strike price is consistently above the wholesale reference price) and, instead, securing a long-term PPA or participating directly or indirectly in the wholesale market. Rising supply chain and commodity costs are also impacting on the financial viability of new build onshore wind projects with developers favouring larger developments with fewer turbines of greater capacity. At the time of writing, NI has no live wind subsidy regime at all which is a major investment barrier.

Grid regulation and infrastructure.

One of the main deployment barriers to new build onshore wind is the availability and cost of securing grid capacity. The GB electricity system is split between (i) the low voltage (<132kV) distribution system; and (ii) the high voltage (>132kV) transmission system operated by NESO. Projects connecting at both distribution and transmission level are experiencing connection delays. Grid connection capacity is currently limited and connection timelines are frequently seven+ years due to the need for network operators to undertake reinforcement works to meet increasing demand whilst preserving network safety and stability. There is also an issue with "stalled" projects blocking the connection queue which has prevented ready-to-go projects being fast-tracked. Both Ofgem and NESO are prioritising this issue and are, at the time of writing, implementing measures to both terminate stalled projects and reduce the time required to construct new transmission infrastructure through significant grid connection reform. This will move the connections queue, from a position of "first come first served", towards a gated "first ready, first connected" approach with NESO also setting strategic direction on the amount of capacity required of each technology type in each geographic region. NI is experiencing similar grid delay challenges.

06 | On a scale of 1-10: How do you rate the complexity and barriers for success of onshore wind energy projects in your jurisdiction?

Five.

Part C - Securing Land

07 | In which way and by what means are the necessary land rights for the installation of wind turbines usually secured?

The following types of securities are typically used:

- *Land lease agreements*

08 | Considering the instruments detailed under question 7 – What duration/contractual terms are usual or at least targeted for these instruments?

(Targeted) Duration of more than 30 years.

09 | Duration of securing the necessary land – How long does it take to secure the necessary land for the installation of a windfarm ?

Duration of one to three years.

10 | At what point during the implementation of a project is the process of securing the necessary land usually initiated, i.e. when will landowners be approached?

Approaching of the landowners: first step after identifying a suitable project site.

11 | Does the securing of the land require registration of rights in an official register?

Yes.

12 | If you answered question 11 with "Yes": How long does the registration process usually take (on average and considering the time from the application to the final registration)?

Duration of the registration process: six months up to one year.

13 | How is any repowering of wind turbines regulated in the agreements on securing land?

The lease will usually demise the areas covered by the turbine bases and hard standing. Leases may include a repowering clause, requiring the landlord to act reasonably and in good faith regarding any repowering. In practice, this is very likely to require a replacement lease, because the demise area will need to be varied. This means that the cooperation of the landlord will be required to approve the new areas. Repowering may lead to increased rent if project revenues or capacity increase.

14 | Are there any other special features that need to be taken into account in your jurisdiction when securing land? Please specify.

An option agreement will generally be secured at an early stage, allowing the tenant to call for the grant of the project lease/easements (or servitudes in Scotland) in an agreed form, during a defined option period. The tenant will use the option period in which to obtain planning consent, grid connection rights and other necessary contracts. Once the tenant is ready to proceed, the lease/easement/servitude will be called for. The option agreement will be secured at the Land Registry/Registers of Scotland.

Mineral rights may be severed from the landowner's ownership and, if registered to a third party, can require careful consideration. If minerals are present under the land and a third party can evidence ownership, commercial agreement may be required to permit the development, and to avoid a claim for trespass into or damage to the minerals.

Part D - Planning and Permits

15 | What planning and permit procedures are required for the siting of wind turbines and how are they designed?

In England, planning permission is required from the Local Planning Authority (LPA) for onshore wind farms. It is expected that large scale onshore wind projects (potentially those over 100MW) will be reinstated into the NSIP regime and determined by the Secretary of State. Currently the relevant policy against which projects should be determined is the National Planning Policy Framework (NPPF). National Policy Statements apply to NSIP projects. In Wales, onshore projects over 10MW to be Developments of National Significance (DNSs) and require planning permission from Welsh Ministers. The relevant planning policy which sets out the considerations for granting consent is Future Wales 2040.

In Wales, onshore projects over 10MW are Developments of National Significance (DNS) and require planning permission from the Welsh Ministers. From late 2025 it is expected that the Infrastructure (Wales) Act 2024 will be introduce a new consenting regime where onshore wind projects over 50MW will be considered in this regime and projects below 50MW will revert to LPAs to determine. The relevant planning policy which sets out the considerations for granting consent is Future Wales 2040: The National Plan.

In Scotland, projects up to 50MW are consented by local councils. Larger schemes are considered by Scottish Ministers. Planning applications set out wind farm design and consider environmental impacts. Applications will be considered against the policies in National Planning Framework 4 and local planning policy.

In Northern Ireland, schemes under 5MW require planning permission from the local planning authority (LPA), schemes between 5 and 10MW require planning permission from the LPA or the NI Department for Infrastructure (DfI) (if the project over 5MW is deemed of "regional significance") and for schemes over 10MW, planning permission is required and consent under Article 39 of the Electricity (Northern Ireland) Order 1992.

For wind farms comprising more than two turbines or where the height of any turbine exceeds 15 meters or schemes in environmentally sensitive areas an Environmental Impact Assessment (EIA) is required. The purpose of the EIA is to assess the potential impacts of the development on matters such as biodiversity, landscape and cultural heritage.

Although not a planning requirement, an onshore wind developer should also give regard to whether a generation licence is required under the Electricity Act 1989.

16 | What are the usual / average durations of the planning and permit procedures?

Average duration of planning procedures: 18 to 30 months.

Average duration of permit procedures: one month to six months.

17 | What role does nature conservation and species protection play in the planning and permit procedures?

Impacts on nature conservation and species protection must be assessed in the environmental impact assessment process. Sites of nature conservation importance or used by protected species can benefit from additional policy protections, including a prohibition on onshore wind farm development. The decision maker must consider the environmental statement alongside any representations regarding the wind farm raised by any relevant consultation bodies (e.g. the Environment Agency, Natural Resources Wales, Natural England or NatureScot) when deciding whether to grant planning permission.

A Habitats Regulation Assessment may be required if the proposed site is a Special Protection Area, Special Area of Conservation or Site of Community Importance under the Habitats Regulations 2017. This includes an assessment of whether alternative sites are available.

18 | What are the most common reasons for the failure of wind energy projects (e.g., species protection, nature conservation, monument protection, air corridors etc.)?

a) Species protection

b) Nature conservation

c) Landscape and visual impact

19 | Please describe the legal framework for the repowering of wind turbines.

There is not a prescribed UK legal framework for repowering of wind turbines, however the following issues are relevant:

(i) Planning permission is often time limited (historically 25 years). Repowering will therefore require a new planning permission to be sought as though a new wind farm is being developed on the site. New EIAs may be necessary and turbines associated with a previous project will need to be decommissioned or removed. Whilst the environmental information available from the previous projects may be relevant to scoping the repowering project, subject to changes in site capacity and relevant EIA regulations, it will likely need updating.

(ii) A project's generation licence or exemption (where applicable) is not typically time bound. However, assessment of the need for a new licence or exemption will need consideration based on proposed changes.

(iii) The developer should ensure that repowering will not breach the existing grid connection agreement, which is not generally subject to a prescribed term. If repowering will increase the project's export capacity or introduce new technologies (e.g. storage), the existing connection agreement will require variation (or a new agreement) and may trigger additional connection/reinforcement works.

(iv) Previous Government subsidies (e.g. RO, FiT) provided a 20-year support period which tracked the project's anticipated lifespan. Repowering within the prescribed support periods may impact eligibility under those schemes. Amendments to the CfD (from AR7 onwards) will enable fully repowered onshore wind farms to apply for CfDs. It is predicted that ~1.3GW of onshore wind will come to the end of its operational life by 2030 and some form of subsidy or price stabilisation support is likely to be required to support onshore wind investment in future projected wholesale market scenarios.

Part E - Grid Connection

20 | Which private or public entity / authority is responsible for the implementation of the grid connection?

The GB electricity system consists of:

(i) the low voltage (<132kV) distribution system comprising 14 regional networks operated by six distribution network operators (DNOs); and

(ii) the high voltage (>132kV) transmission system owned by three transmission system owners, with connections managed by NGESO as system operator.

A project's capacity and location will usually dictate whether it connects into the transmission or distribution system and the connection documentation required. The DNOs manage connections to their network) but may need to liaise with NESO if the project is likely to have an impact on the transmission system. The DNOs and the transmission system owners and operator are all private entities, following on from privatisation in 1990.

Independent Connection Providers (ICPs) (also private entities) are playing an increasing role in the physical delivery of connections as the Government has introduced greater competition into the connections process. Independent DNOs are also playing an increasing role in connections.

Grid connections in NI are through SONI (transmission) and NIE Networks (distribution). SONI (System Operator for Northern Ireland) has been part of the EirGrid Group (which is a state-owned company) since 2009. NIE Networks was established in 1993 when the business was privatised and has been a subsidiary of ESB Group (a state owned statutory corporation whose members are appointed by the government of Ireland) since 2010.

21 | At which stage of a project do project developers have to apply for a grid connection?

Wind project developers typically engage at a very early stage with the relevant DNO or NESO to assess grid feasibility and secure a connection

offer. As grid capacity has become more scarce, this has increasingly become the first step in the development process for developers, with many developers of differing technologies speculatively applying for capacity well in advance of progressing land and planning aspects of their projects. All connection applications need to include a landowner letter of authority to evidence formal engagement with the owner of the land.

There are impending changes through a significant grid connection reform process which is ongoing at the time of writing. This is designed to move the connections queue from "first come first served", towards a "first ready, first connected" approach, which it is hoped will lead to more advanced projects being able to bring forward their connection dates if certain "gate" criteria are met. Such projects will need to comply with prescribed development milestones to preserve their connection dates. Less advanced projects that do not meet the readiness or strategic criteria will have to wait until they meet the relevant "gate 2" readiness criteria to receive a firm connection date.

22 | Who has to bear the costs of the grid connection?

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23 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the grid connection? Please specify.

Significant delays are currently being experienced by generators seeking a connection. Whilst these delays are underthis is being tackled by the significant review substantial grid connection reform process being undertaken at the time of writing (which will be implemented during 2025),by the relevant DNOs, NGESO and Ofgem, the full positive impacts of such proposed changes will take time to flow through.

Part F - Marketing and Remuneration / Promotion of Wind Energy

24 | How does the marketing of the onshore wind power generated work in your country?

The form of offtake arrangements chosen will be influenced by financing requirements. Lenders typically require a developer to enter into a long term PPA (whether alongside a CfD or standalone) to secure a predictable revenue stream. Alternative route to market options include the wind farm operating on a merchant basis by selling electricity into the wholesale market.

Corporate PPAs have become increasingly popular, pursuant to which a "corporate" entity commits to directly purchase electricity from the generator without the need for co-location – these arrangements offer financial predictability for the developer whilst enabling the corporate to directly evidence its green credentials via the purchase of renewable power. Two main types of corporate PPA have evolved:

(i) physical or sleeved PPAs – where the generator sells its power directly to the corporate who then immediately on-sells it to a licensed electricity supplier via a back-to-back PPA, who sleeves the power through the grid and supplies it to the corporate's site; and

(ii) synthetic or virtual PPAs – where the generator sells its power to a licensed supplier under a standard PPA at a market price, but in parallel, the corporate and generator enter into a contract for difference under which they agree a strike price for the renewable power together with a variable reference price (usually linked to a wholesale price index). The corporate and generator then settle the difference between the strike price and the variable, thereby creating a hedge.

PPAs will also typically govern the commercial terms for the sale of certain other "renewable benefits" which a developer receives (e.g. REGOs).

There has also been an increase in 'private wire' connections under which electricity is supplied "off-grid" directly from a wind farm to a consumer's site. This has the advantage of avoiding the accrual of network charges, enabling better prices for developer and consumer.

25 | Is there an official promotion / subsidy scheme prescribed by law?

Yes, there are official subsidy schemes prescribed by law:

a) *Feed in tariff (involves the government setting a tariff price, or a set of prices for specific renewable technology, at which the country's supply companies or grid operators are obliged to purchase all renewable energy exported to the grid)*

b) *Renewable portfolio standard (requires utility companies to source a certain quota of the energy they generate or sell from renewable sources)*

c) *Contracts for difference (CfDs) (This subsidy model defines a fixed minimum remuneration per MWh of electricity. The level of this subsidy rate is usually determined by a tender procedure.)*

Description:

Various subsidy regimes have been established to support renewable electricity generation over the last 20+ years.

The Renewables Obligation (RO) launched in 2002 and closed to new generation on 31 March 2017. Support continues for existing RO accredited generators until the end of the project's support lifetime (in most cases 20 years). The RO requires licensed electricity suppliers to purchase a proportion of their electricity from renewable sources as evidenced by submitting Renewable Obligation Certificates (ROCs) (purchased from accredited generators or via the open market) or paying the 'buy-out price'. Accredited generators receive a prescribed number of ROCs per MWh generated.

The Feed-in Tariff (FiT) scheme launched in 2011 and closed to new generation on 31 Match 2019 (being replaced by the Smart Export Guarantee). Support continues for existing FiT accredited generators over their remaining FiT term. The FiT scheme provides guaranteed payment to small-scale generators (<5MW) via a generation tariff and export tariff.

Contracts for Difference (CfDs) launched in 2014 as a replacement for the RO for large-scale (>5MW) low-carbon generation.

The Smart Export Guarantee (SEG) launched in 2020 for small scale (<5MW) low-carbon generation. It requires licensed suppliers to remunerate eligible generators for the electricity they export (noting this is designed as a route to market rather than subsidy given the supplier has wide discretion over the price paid).

26 | How does the application process for the promotion / subsidy scheme work?

a) Eligibility through tendering process

b) Definition of eligible plants by statutory law

c) Application process with e.g. a governmental authority

Description:

The RO and FiT schemes are closed to new generation.

CfDs are awarded in allocation rounds and are subject to strict eligibility requirements (e.g. >5MW, planning consent secured, connection offer, a supply chain statement, non-receipt of funds under other support schemes, due incorporation etc.). Ahead of each allocation round, the Government sets separate budgets for pre-determined pots (i.e. technology types) together with an administrative strike price (being the maximum price that projects can receive e.g. GBP 64/MWh for onshore wind in allocation round six (AR6)).

During an allocation round, eligible generators submit sealed bids of the strike price which they are willing to accept. Should there be sufficient bidders for an auction to be triggered, bids are accepted sequentially from the lowest to the highest until the pot's budget is reached. All successful projects will be allocated the highest accepted strike price (capped at the administrative strike price) (i.e. pay as clear). If no auction is triggered, all bidders are awarded the administrative strike price.

We have not provided detail on the Capacity Market or Smart Export Guarantee schemes as uptake by onshore wind is likely to be more limited.

27 | What is the foreseen funding period for the promotion / subsidy scheme described under question 25?

15 years.

Description:

The CfD provides for a 15-year support period. It is widely seen as a cost-effective support mechanism and whilst complex for smaller projects to grapple with, we are expecting to see new allocation rounds continue in a similar form under the current Government.

The RO and FiT schemes typically provided for a 20-year funding period (with some exceptions).

The Capacity Market awards contracts of between 1 year and 15 years, but is not seen as attractive to wind developers.

28 | Does the promotion / subsidy scheme described under question 25 foresee a remuneration for electricity generated and if so, will the remuneration be paid per kWh or per project?

Remuneration per kWh of electricity generated in the plant.

Description:

Accredited RO generators receive a fixed number of ROCs per MWh of eligible renewable electricity generated - the number of ROCs/ MWh is determined by technology type through banding. ROCs are tradeable commodities with no fixed price (currently) but are typically sold to licensed suppliers to enable them to meet their obligation or on the open market. From 2027, the Government is expected to fix the price of a ROC at the buy-out price plus 10% until the RO closes in 2037. The Government or central body will buy ROCs directly from the generators to reduce volatility.

Accredited FiT generators receive a generation tariff, which is a fixed payment for every kWh generated. They can also elect (annually) to receive an export tariff, which is a guaranteed minimum payment for every kWh exported to the grid or, alternatively, can sell their electricity independently. The generation tariff is determined by various factors including technology type, installed capacity, date of accreditation etc. The export tariff is technology neutral.

CfD generators receive the 'strike price' (see Q26) for each MWh of generated electricity meaning that where the wholesale market reference price is below the strike price, they will be remunerated for the price difference. However, where the wholesale market reference price is above the strike price, they will have to pay the price difference to the CfD counterparty (LCCC).

29 | Are there any other special features / specific hurdles or complexities that need to be taken into account in your jurisdiction with regard to the promotion / subsidy scheme detailed under question 25 or the marketing of electricity from wind turbines in general? Please specify.

Each subsidy scheme has strict eligibility and milestone requirements – both in respect of application and ongoing support. These requirements need to be carefully reviewed to ensure that the proposed wind project and generator are capable of fulfilling them if the developer intends to apply for subsidy support.

Part G - Corporate Structuring

30 | In which type of legal entity is the wind energy plant unit usually operated, or in which type must it be operated?

There is no legal requirement for an onshore wind project to be legally owned in a specific manner. However, most project companies are established as special purpose vehicles (SPVs) (or a joint venture) through which the wind farm is built and operated – this is typically a private limited company or in some cases a limited liability partnership. The SPV will be a separate legal entity that will hold all the project rights and permits and will be the "generator" for the purposes of any subsidy scheme. There are examples of UK developers who choose to hold multiple wind projects within the same legal entity but these are comparatively rare.

The SPV structure is well accepted within the UK and is viewed as "bankable" - indeed, project financiers will typically insist on this structure and will generally require all principal contractors to the project to enter into Direct Agreements which postpone any right to terminate project agreements before the lender has been granted a right to step-in and rectify defaults.

The SPV structure enables the project to be effectively ring-fenced from the wider corporate group. Unless a guarantee structure is in place, the SPV is fully liable for the debts of the specific project (and is therefore a bankruptcy-remote entity). The SPV can be easily hived off and sold (by way of an SPV share sale) in the future – this ensures that all of the project assets and key contracts remain with the SPV (assuming they are the original counterparty) and removes the need for separate asset transfers and contract novations to the purchaser.

31 | What is the typical ownership structure of such wind energy plants / groups, especially if unbundling requirements have to be implemented?

The UK generation market is fully privatised and there is no ownership of UK generation assets in the UK by the UK Government, although there are a number of European state-owned utilities who hold significant portfolios of UK generating assets, including wind farms.

Typical ownership structure of a wind farm is via a special purpose vehicle (SPV). This enables easy "unbundling" as the SPV can be hived off and sold (by way of an SPV share sale) or ultimately wound down. Alternatively, the SPV can be asset stripped via sale of the project assets. Typically, all necessary licences, consents and contracts will be held by the relevant SPV rather than at parent or group level.

In light of unbundling requirements imposing restrictions around the separation of ownership and control of entities performing different roles within the UK energy market (for example, restrictions around the ownership and control of licensed generation and distribution businesses) close attention needs to be paid to wider group ownership and control structures, even where those businesses are conducted within different SPVs. The extent of business separation requirements in Great Britain are the subject of detailed regulations and, in some cases, licence conditions, which are enforced by the Gas and Electricity Markets Authority.

Part H - Legal Certainty

32 | On a scale of 1-10: How high do you rate the legal certainty of onshore wind projects in terms of the i) securing of land, ii) planning law, iii) permit situation, and iv) granting of subsidies?

(i) *Securing of land with eight,*

(ii) *planning law with five,*

(iii)*permit situation with eight, and the*

(iv)*granting of subsidies with six.*

Part I - Other Issues

33 | Are there any other "hot topics" currently being discussed in your country in relation to onshore wind energy?

Industry consensus is that more could be done to support the deployment of onshore wind in the UK. Whilst CfD support is now available for onshore wind the strike price has been consistently low over recent allocation rounds. The Government is currently prioritising offshore wind to meet its Net Zero targets. The consenting process is under-resourced and is taking longer than it should. Nonetheless there are a great number of projects currently being promoted by developers in Wales and Scotland. Significant attention is being given to the challenges of connecting projects to the grid. This is not specific to onshore wind but the changes being brought forward will benefit onshore wind developers as connection timings should eventually reduce.

The Government is beginning to focus on the benefits of repowering wind farms with a significant number of existing wind farms due to reach the end of their operational life by 2030. This is being seen in the context of new subsidy support (notably the CfD) benefitting projects going through full repowering.

As part of the 2024 general election, the new Labour government pledged that it would seek to "double" onshore wind (to 35GW) by 2030 with a possible focus on community ownership and shared ownership structures.

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The Government is beginning to focus on the benefits of repowering wind farms with a significant number of existing wind farms due to reach the end of their operational life by 2030. This is being reviewed in the context of subsidy

support (notably the CfD); however, it is hoped this may trigger a wider review of the project arrangements and legal requirements for repowered projects.

A general election is also due to shortly take place within the United Kingdom . A change in Government could impact the outlook for onshore wind support. The Labour Party (the main opposition party) has pledged that it will seek to “double” onshore wind (to 35GW) by 2030 with a possible focus on community ownership and shared ownership structures.

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