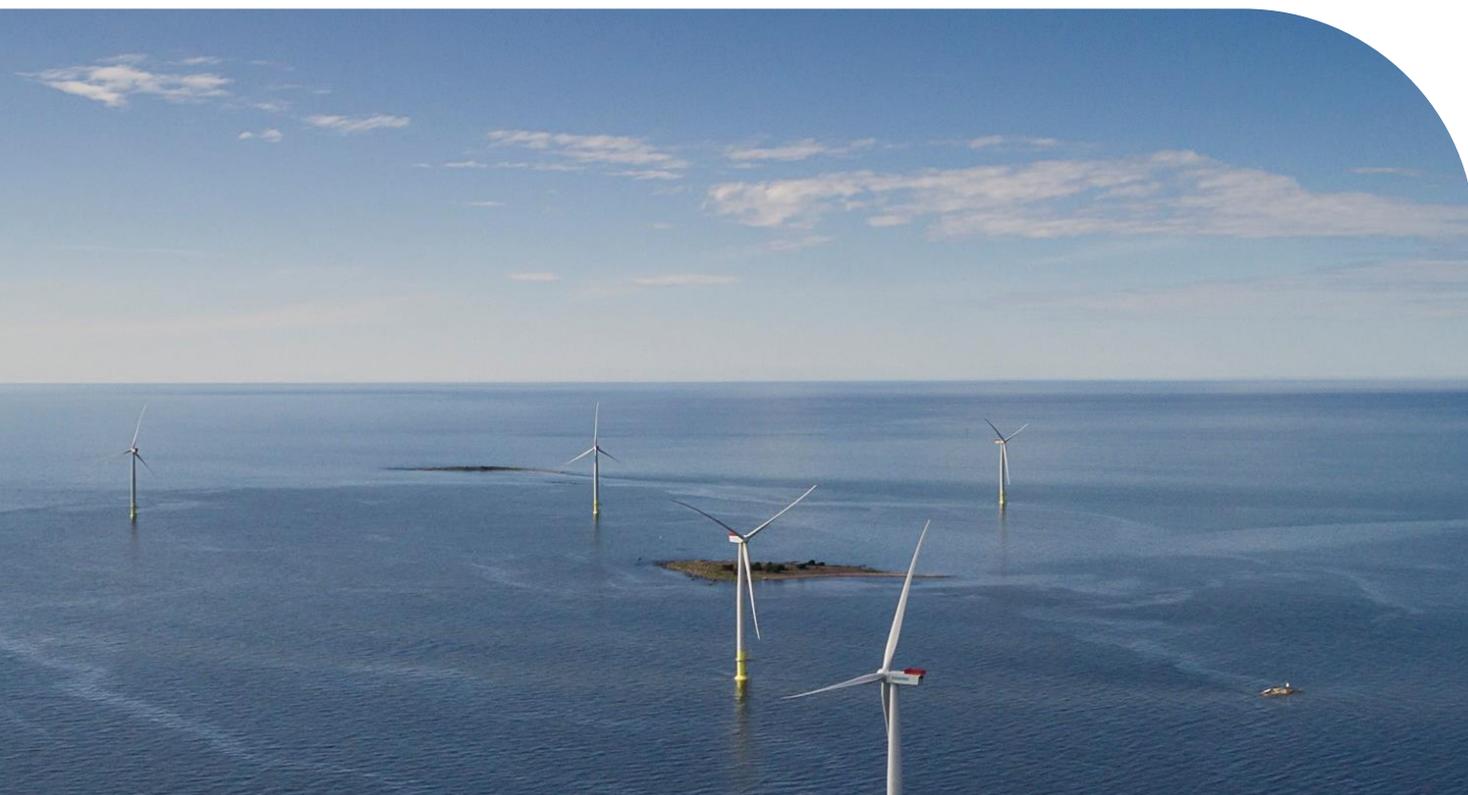




Baltic
InteGrid

Integrated Baltic Offshore
Wind Electricity Grid Development



Finnish Country Report

Legal and Policy Framework for Power Transmission
and Offshore Wind Power Generation in Finland

April 2018

Finnish Country Report

Legal and Policy Framework for Power Transmission and Offshore Wind Power Generation in Finland

By Kanerva Sunila, Ida Bergmann, Pia Isojärvi, Ari Ekroos (Aalto University)

Copyright:

Reproduction of this publication in whole or in part must include the customary bibliographic citation, including author attribution, report title, etc.

Cover photo: Suomen Hyötytuuli Oy

Published by: Baltic InteGrid

Disclaimer:

The content of the report reflects the author's/partner's views and the EU Commission and the MA/JS are not liable for any use that may be made of the information contained therein. All images are copyrighted and property of their respective owners.

www.baltic-integrid.eu



Content

1. INTRODUCTION	2
2. GENERAL FRAMEWORK FOR OFFSHORE WIND ENERGY AND POWER TRANSMISSION.....	2
2.1 Actors and Stakeholders	2
2.1.1 Ministries	2
2.1.2 Relevant Agencies, Authorities and Public Bodies	3
2.1.3 Network Operators and Owners	4
2.1.4 Manufacturers and Suppliers.....	4
2.1.5 Wind Power Developers.....	4
2.2 Perspectives of Respective Party on Wind Power	5
2.3 Political System.....	6
2.4 Political Strategies	7
2.4.1 Offshore Transmission Programmes and Action Plans	7
2.4.2 National Programmes on Renewable Energies and Time Frame	8
2.5 Relevant Legislation.....	8
2.5.1 Relevant National Legislation.....	8
2.5.2 Implementation of International Environmental Treaties	11
2.5.3 Implementation of EU Environmental Legislation.....	13
2.5.4 Implementation of EU Energy Legislation.....	15
2.5.5 Influences of EU Network Codes on National Level	15
2.6 Hierarchy of Statutes	18
3. TRANSMISSION	18
3.1 General Aspects of the Transmission System and Grid Development	18
3.1.1 General Aspects of the Transmission System	18
3.1.2 Technical Standards.....	20
3.1.3 The National Ten-Year Network Development Plan	21
3.2 Connection of Offshore Wind Power	24
3.2.1 Division of Responsibilities.....	24
3.2.2 Planning of Offshore Wind Farm and the Transmission Grid	24
3.3 Planning and Authorisation	26
3.3.1 Assessments.....	26
3.3.2 Authorisation.....	30
3.3.3 Land Use Planning	35
3.3.4 Determination of the Offshore Cable Route.....	39
3.3.5 Administrative Process Time Frame	40
3.3.6 Validity Period of Granted Authorisation and Extension Conditions	40
3.3.7 Cost Allocation.....	41
3.3.8 Responsibility Division of International Grid Development	42
3.3.9 Stakeholder Participation in the Administrative Process	42
3.3.10 Reviewing Granted Authorisation	44
3.4 Construction	47
3.4.1 Obstacles and Risks	47
3.4.2 Time Frame, Responsibilities, and Process Reference	47

3.4.3	Supervision.....	47
3.5	Cost-Relevant Aspects.....	48
3.5.1	Regulatory Framework for Grid Investments.....	48
3.5.2	Risks Relating to the Costs	49
3.5.3	Missed Deadlines in Construction and Financial Damages	49
3.5.4	Responsibilities for Unmet Technical Standards and Defects in Transmission ..	49
4.	ENERGY PRODUCTION	52
4.1	The Development Process (Siting, Planning, Authorisation)	52
4.1.1	Overview of Development Process.....	52
4.1.2	Siting of Offshore Wind Power.....	52
4.1.3	Suitable Areas for Offshore Wind Power in the Baltic Sea.....	54
4.1.4	Assessments.....	54
4.1.5	Offshore Wind Power Authorisation	55
4.1.6	Land Use Planning.....	58
4.1.7	Stakeholder Participation in the Administrative Process.....	59
4.1.8	Supervision and Monitoring System.....	59
4.1.9	Administrative Process Cost	59
4.1.10	Challenging Granted Authorisation.....	60
4.2	Financing Sources and Mechanisms.....	60
4.2.1	Design of Current and Proposed Support Schemes	60
4.2.2	Risks of the Offshore Wind Farm Operator	61
4.2.3	Complementary Mechanisms	62
4.2.4	Impacts of Political Shifts and the Compensation Mechanisms	62
4.3	Construction	63
4.3.1	Risks and Obstacles in Offshore Wind Farm Construction.....	63
4.3.2	Completion Time Frame.....	63
4.4	Operation and Feed-in Management	64
4.5	Cost-Relevant Aspects.....	65
4.5.1	Compensations	65
4.5.2	Insurance.....	66
5.	DECOMMISSIONING OF SERVICE	67

List of Abbreviations

ACER	Agency for the Cooperation of Energy Regulators
AVI	Regional State Administrative Agency
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
ELY Centre	Centre for Economic Development, Transport and the Environment
EU	European Union
NGO	Nongovernmental organisation
PCI	Project of Common Interest
TSO	Transmission system operator

Summary

Pursuant to the Electricity Market Act (588/2013), the transmission system operator (TSO) is responsible for developing and maintaining the transmission network in Finland. The TSO with system responsibility is also responsible for the functioning and reliability of the power system. The TSO should develop the network according to its customers' reasonable needs and to guarantee the efficient functioning of the network and the preconditions for efficiently functioning electricity markets.

The connection cables are the responsibility of wind farm developers. The wind farm developer has to negotiate with the TSO in the early stages of the project in relation to the connection. The details of the connection are agreed in the Connection Agreement. The wind power developer bears the costs resulting from the construction of its own cables and facilities. If additional structures or equipment are needed to enable the connection, the connector is responsible for covering the costs of the construction. The costs of the transmission network operation are borne by the TSO of which economic regulation is based on a rate-of-return model.

For the grid infrastructure, several authorisations can be required. The process is slightly different in the territorial waters and in the Exclusive Economic Zone of Finland. In the case of maritime cables, the permit under the Water Act (587/2011) usually regulates the project in a comprehensive way in both territorial waters and the EEZ. In general, there is no concentration effect for the authorization process in general. Currently, there are no specific political strategies regarding offshore transmission or offshore wind power. However, there is a general wind power target of 6 TWh by 2020 and 9 TWh by 2025. The current Government Program and the Energy and Climate Strategy for 2030 sets general targets for renewable energy deployment.

The reserved quota of the current wind power support system has been used in full, and does not offer support to new projects. A new technology-neutral operating aid for renewable energy in the form of a tendering process is planned to be put in place. The tenders will be arranged in 2018–2020.

The authorization procedure of offshore wind power differs in territorial waters and in the Finnish EEZ. In territorial waters the following assessments and permits could be needed: land use planning, the EIA process, Natura Assessment, building permit, environmental permit, water permit and aviation obstacle permit. In the EEZ, an EIA process, a water permit, and an environmental permit can be required. Additionally, a consent from the Council of State could be needed. Non-binding maritime spatial plans will be drafted for the Finnish EEZ by the end of March 2021. The developer generally bears the costs for the planning, the assessments, and the permit procedure. If any of the required permits are not granted or the spatial plan required in territorial waters is not accepted, this could ultimately lead to a total loss of investment.

1. Introduction

This Country Report aims to clarify the Finnish legal and political framework on offshore wind power generation and power transmission in the territorial waters and exclusive economic zone of Finland. The disposition of this report is based on a specified form provided by the Baltic InteGrid project. As the Baltic InteGrid project concentrates mainly on questions related to large-scale wind power units, which are connected to transmission system, this report does not address the questions related to power distribution. The legal framework of the autonomous Åland Islands is not covered in this report.

In Chapter 2, the report examines preliminary issues relevant to the topic. Firstly, this part introduces the relevant actors and stakeholders in the field from ministries and authorities to network operators and manufacturers. Secondly, the Finnish political system and the strategies and objectives related to wind power are presented. In addition, this part examines the relevant national legislation, international conventions and EU legislation, and the national implementation of them.

Chapter 3 of the report concentrates on issues related to transmission. These include such topics as the grid development process, planning and authorisation, construction of the grid and cost-relevant matters.

Chapter 4 of the report examines how electricity production is regulated under relevant legislation. The main themes in this part are the development process of a wind farm (including siting, planning and authorisation), the support system for wind power, construction of a wind power farm and liability matters.

Questions concerning decommission of services, related to both power transmission and production, are examined in Chapter 5 of the report.

2. General Framework for Offshore Wind Energy and Power Transmission

2.1 Actors and Stakeholders

In this chapter, the relevant actors and stakeholders related to offshore wind power are described. These include the different ministries responsible for preparing the legislation relevant to wind power and power transmission. In addition, authorities and public bodies responsible for areal planning and authorisation of wind power are introduced. Furthermore, network operators, certain manufacturers and wind power developers, are presented.

2.1.1 Ministries

The Ministry of Economic Affairs and Employment is responsible for the Finnish energy policy. The Ministry also coordinates the implementation of climate policy and the preparation of the national energy and climate strategies. The Ministry also grants permissions for the cross-border interconnectors.

The Ministry of the Environment is responsible for climate policy, environmental protection, spatial planning, and construction. The regulation of outdoor noise is also under the responsibility of this Ministry.

The Ministry of Transport and Communications is responsible for the transport sector, such as shipping.

The Ministry of Agriculture and Forestry is responsible for policy pertaining to the use of renewable natural resources. This includes the fishing policy as well as management of water resources.

The Ministry of Social Affairs and Health has a duty to, *inter alia*, promote healthy work and living environments. Indoor noise issues relating to wind power are under the competence of this Ministry.

The Ministry of Defence is responsible for the resources and operational preconditions of national defence.

The Ministry for Foreign Affairs of Finland is responsible for international relations.

2.1.2 Relevant Agencies, Authorities and Public Bodies

The municipalities are responsible for matters such as spatial planning and building permits. Municipalities are in some cases responsible for environmental permits. Currently, there are 311 municipalities in Finland.

Finland is divided into 19 provinces in 2018. Regional Councils are the Regional Development Authorities responsible for the tasks related to regional development in each province. The Regional Councils are joint municipal authorities where the municipalities of each province are required to be members. The Regional Councils prepare the regional spatial plans.

The government is currently driving forward a reform of regional government. The Government Proposal 14/2018 on the reform proposes that regional planning and maritime spatial planning tasks would be transferred from the Regional Councils to the new regional authorities.¹ The regional councils would cease to exist as from 1st January 2020 according to the proposal.²

The Energy Authority is the permit, surveillance, and regulatory authority in energy issues.

The Regional State Administrative Agencies (AVI) are permit authorities in, for example, environmental and water permits.

The Centres for Economic Development, Transport and the Environment (ELY Centres) have a general surveillance task in their areas of responsibility. They function as a coordination authority in environmental assessment procedures and as a permit authority in some cases.

With connection to the Government Proposal 14/2018 on the reform of regional government, the government proposes the reorganisation of the State's licensing, control and supervision duties. As a result, a new State Licensing and Supervision Office (LUOVA) would be established, which would replace the Regional State Administrative Agencies (AVI) and the Centres for Economic Development, Transport and the Environment (ELY Centres).³

The Council of State functions as an expropriation permit authority in certain cases. A consent from the Council of State is also required for the economic exploitation of the Exclusive Economic Zone (EEZ) and for building in the EEZ if the building could hinder the right of the Finnish State to use its rights under international law.⁴

¹ Government Proposal 14/2018, 123 and 136.

² Government Proposal 14/2018, 1.

³ Government Proposal 14/2018, 1.

⁴ Act on the Exclusive Economic Zone of Finland (1058/2004), Sections 6 and 7.

The Finnish Land Survey functions as an authority in property, property registration, and expropriation issues.

The Finnish Transport Safety Agency is the permit, surveillance, and regulatory authority in its operation field.

The Finnish Defence Forces is responsible for the defense of the State. In this Report, a relevant task of the Defence Staff is to grant the permits for surveys of the seabed(s) in territorial waters. The Defence Staff also gives an opinion regarding the possible adverse effects from wind power projects on their radars.

The Finnish Border Guard is responsible for the surveillance of the state borders.

The National Board of Antiquities has responsibilities relating to antiquities in Finland.

2.1.3 Network Operators and Owners

In Continental Finland, there is only one TSO, Fingrid Oyj, the ownership of which is unbundled in accordance with the Electricity Market Act (588/2013). Fingrid also has responsibility for the power system in accordance with the Electricity Market Act. The biggest shareholders of Fingrid Oyj are the Republic of Finland and the National Emergency Supply Agency.⁵

Another TSO operates the transmission network in Åland (Kraftnät Åland AB). In addition to the TSOs, there are approximately 80 distribution network operators in Finland.

2.1.4 Manufacturers and Suppliers

There are numerous manufacturers and suppliers related to wind power projects in Finland. Many of them are also relevant operators in offshore projects. Some of the operators are listed on the websites of the Finnish Wind Power Association and Finnish Energy. These catalogues include operators that are members of those associations. The catalogues of relevant operators can be found on the organisations' lists of members.⁶

2.1.5 Wind Power Developers

Suomen Hyötytuuli Oy is the wind power developer that constructed the Pori Tahkoluoto II offshore wind farm. Pori Tahkoluoto I was the first offshore wind power farm in Finland and it consisted of one turbine completed in 2010. Ten more turbines were located around the first turbine, which were commissioned in 2017.⁷ Suomen Hyötytuuli has two more projects (Raahe-Pertunmatala and Raahe-Ulkonahkiainen) in the early planning stage.

OX2 was the owner of the Ajos wind power farm, which was constructed on artificial islands in Kemi. The farm was sold to IKEA and was commissioned in 2017. WPD Offshore (GmbH wpd AG) is developing an offshore wind farm in Suurhiekka in the municipality Ii.

Suomen Merituuli Oy (Owners: EVP Energia Oy and Helen) is developing an offshore wind farm in Inkoo-Raasepori and another one in Siipyy in the city of Kristiinankaupunki. The land use plan was rejected in Siipyy, and in the Inkoo-Raasepori the municipalities have not been willing to develop the required land use plan. Rajakiiri Oy is developing an offshore wind farm in Röyttä in the city of Tornio and another one in Maanahkianen, Raahe.

⁵ Fingrid Oyj, "Shares and Shareholders," <https://www.fingrid.fi/en/pages/investors/shares-and-shareholders/>.

⁶ See: <http://www.tuulivoimayhdistys.fi/en/about-us/members>; and https://energia.fi/en/about_us/membership/list_of_members.

⁷ Hyötytuuli, "Tahkoluoto Offshore Wind Farm," <http://hyotytuuli.fi/en/tuulipuistot/tahkoluoto-offshore-wind-farm/>.

2.2 Perspectives of Respective Party on Wind Power

This chapter provides examples on the attitudes of different stakeholders toward wind power, without differentiating between onshore and offshore installations. As offshore wind power development in Finland has been modest, the stakeholders' views relate mainly to onshore wind power.

The Finnish Wind Power Association is the industry organization promoting wind power development in Finland.⁸

The Finnish Clean Energy Association promotes distributed renewable energy, smart solutions and energy efficiency, and wind power as part of its clean energy vision.⁹

Finnish Energy, an energy sector interest group, describes itself as a promoter of a sustainable energy system.¹⁰ The attitude toward energy subsidies, including the subsidies for wind power, is rather negative, as Finnish Energy prefers a stronger emission trading scheme.¹¹

Tuulivoima-kansalaisyhdistys is an organization for citizens negatively affected by wind power projects, which aims to 'minimise' the harmful effects of wind power in Finland. It makes proposals and gives opinions to local and national authorities. It also offers legal advice to citizens free of charge.¹²

The Finns Party, a political party in the Finnish Parliament¹³, has in general a negative attitude toward wind power. The Finns Party affected the new Energy and Climate Strategy (24th November 2016) so that separate health and environmental assessments on the impacts of wind power had to be conducted before drafting a new wind power support system.¹⁴ The assessments were published on 14th June 2017.¹⁵

WWF supports wind power but would like to exclude certain areas totally from power farms and set out further requirements for their construction. WWF prefers wind power plants in maritime areas to be located in water at least 10m deep. According to WWF, the coastal shallow waters are valuable areas for different species and nature types.¹⁶

According to Bird Life Finland, adverse effects on birds must be avoided when planning and building wind power farms. In its opinion, wind power plants should be located in areas less

⁸ Finnish Wind Power Association website, <http://www.tuulivoimayhdistys.fi/en/>.

⁹ Finnish Clean Energy Association website, <http://www.lahtienergia.org/in-english/about-finnish-clean-energy-association/>.

¹⁰ Finnish Energy, "The vision of Finnish Energy," https://energia.fi/en/finnish_energy_as_an_organisation/vision.

¹¹ Finnish Energy, "Subsidies and Taxes," https://energia.fi/en/supervision_of_interests/energy_policy/subsidies_and_taxes.

¹² Tuulivoima-kansalaisyhdistys ry, <http://tvky.info/tietoa-meista/>.

¹³ The Finns Party was divided into two groups in June 2017 after which the Finns Party left the Government. The breakaway representatives decided to stay in Government and form their own group: YLE News, "Finns Party breakaway group to be named Blue Reform," 19.6.2017, https://yle.fi/uutiset/osasto/news/finns_party_breakaway_group_to_be_named_blue_reform/9678859.

¹⁴ Soini, Timo, "Ylivihreys historiaan." *Maaseudun Tulevaisuus*, 2.12.2016, <https://www.maaseuduntulevaisuus.fi/mielipiteet/vieraskolumnit/ylivihreys-historiaan-1.170799>.

¹⁵ Lanki et al, "Tuulivoimaloiden tuottaman äänen vaikutukset terveyteen," 14.6.2017 (the health assessment) <http://urn.fi/URN:ISBN:978-952-327-229-3> and Meller, "Kirjallisuusselvitys tuulivoimaloiden vaikutuksista linnustoon ja lepakoihin," 14.6.2017, <http://urn.fi/URN:ISBN:978-952-327-228-6>.

¹⁶ WWF Finland 2011, "WWF Suomen kanta: Ekologisesti kestävä tuulivoima" (WWF Finland's Opinion: Ecologically Sustainable Wind Power), <https://wwf.fi/mediabank/1061.pdf>.

valuable to birdlife.¹⁷

The Finnish Association for Nature Conservation supports wind power but believes that it should be located in areas where the adverse effects on the environment are as small as possible. The Association has participated in the creation of EKOenergy criteria, also for wind power, which take these effects into account.¹⁸

Bird Life, WWF, and the Finnish Association for Nature Conservation have drafted a common statement on the EIA of wind power plants. In principle, the NGOs support wind power as a renewable, low-emission energy form, but see flaws in the Finnish legislation. According to the three NGOs, the natural values should be better taken into account when developing and authorising a wind power farm.¹⁹

The Finnish Nature League believes that increasing the share of wind power and bioenergy would be the best way to improve power self-sufficiency in Finland.²⁰

The Central Union of Agricultural Producers and Forest Owners (MTK) has criticised the low rents that the wind power farms pay to the landowners but sees also the potential of local energy production and its possibilities for the local economy. MTK has drafted its own lease agreement template.²¹

According to the annual Energy attitudes research (Energia-asenteet), 74% of Finns think that more wind power is needed in Finland.²²

2.3 Political System

Pursuant to the Constitution of Finland (731/1999), the powers of the state in Finland are vested in the people, who are in turn represented by the Parliament.²³ The legislative powers are exercised by the Parliament, which shall also decide on state finances. The governmental powers are exercised by the President of the Republic and the Government, the members of which shall have the confidence of the Parliament. The judicial powers are exercised by independent courts of law, with the Supreme Court and the Supreme Administrative Court as the highest instances.²⁴

¹⁷ Birdlife Finland ry, "Oikeuden päätös: ei tuulivoimaa lintujen päämuuttoreitille," 25.2.2016, <https://www.birdlife.fi/tuulivoimapaatos/>.

¹⁸ Finnish Association for Nature Conservation, "Tuulivoima myötätuulessa," 18.12.2013, <https://www.sll.fi/ajankohtaista/verkko-uutiset/tuulivoima-myotatulessa>. EKOenergy, "Network and Label," <http://www.ekoenergy.org/wp-content/uploads/2013/06/EKOenergy-text-english.pdf>.

¹⁹ Bird Life, WWF & Luonnonsuojeluliitto, "Luonnon monimuotoisuuden huomioiminen tuulivoimahankkeissa" (Taking Biodiversity into Account in Wind Power Projects), 2011, <https://www.sll.fi/ajankohtaista/liitto/2011/tuulivoima-YVA-ngo-linjau-110209.pdf>.

²⁰ Luonto-Liitto, "Luonto-Liiton lausunto ydinvoimasta," 2.6.2010, <http://www.luontoliitto.fi/ajankohtaista/tiedotteet/luonto-liiton-lausunto-ydinvoimasta-399?searchterm=tuulivoima>; Luonto-Liitto, "Ydinvoima ei edelleenkään Cleantechiä – Vapaavuoren esitys viimeinen naula ydinvoimahankkeiden arkkuun," 15.9.2014, <http://www.luontoliitto.fi/ajankohtaista/tiedotteet/ydinvoima-ei-edelleenkaan-cleantechia-vapaavuoren-esitys-viimeinen-naula-ydinvoimahankkeiden-arkkuun>.

²¹ MTK, "Tuulesta temmattua kasvua," 15.8.2015, https://www.mtk.fi/energia/tuulivoima/fi_FI/tuulesta_kasvua/ and MTK, "Maanomistajille vain murusia tuulivoimaloiden tuotoista" 17.1.2011, https://www.mtk.fi/ajankohtaista/uutiset/uutiset_2011/fi_FI/tuulivoimalan_tuotosta/.

²² Energiategollisuus ry, "Suomalaisten Energia-asenteet 2017," https://energia.fi/ajankohtaista_ja_materiaalipankki/materiaalipankki?type%5B0%5D=6#search-view.

²³ Constitution of Finland (731/1999), Section 2.

²⁴ Constitution of Finland (731/1999), Section 3.

Finland has a unicameral parliament of 200 representatives. Proposals drafted in the ministries are scrutinised by the Council of State in a general session before they are submitted to Parliament. A new Act is adopted or an old amended on the basis of a governmental Proposal, a motion submitted by a Representative or a citizen's initiative.²⁵

After a preliminary debate, the Proposal or motion is sent to a select committee of the parliament, which thoroughly considers the matter and hears experts. The select committee drafts a report and the Proposal is returned to the plenary session of the Parliament for a first hearing. This hearing comprises a general discussion during which the Parliament may refer the Proposal to the Grand Committee. The contents of the Proposal are decided on after detailed consideration. Then the Parliament either adopts or rejects the Proposal in a second hearing.²⁶

An adopted Act is submitted to the President for ratification. If the Act is not ratified within three months, it is returned to the Parliament. If the Parliament does not change its opinion, the Act enters into force even without a presidential ratification.²⁷

2.4 Political Strategies

2.4.1 Offshore Transmission Programmes and Action Plans

In Finland, there is no specific strategy for offshore transmission, nor for offshore wind power production. The Finnish TSO is responsible for the main grid development onshore, whereas the (offshore) connection cables are the responsibility of the offshore wind power developer and not considered as part of the transmission system operated by the TSO. Thus, there is currently no need for a specific offshore transmission system strategy, excluding the cross-border interconnectors.

Adequate cross-border transmission capacity is seen as important to ensure the security of supply in Finland.²⁸ In 2016, the share of net imports constituted 25% of the annual electricity consumption.²⁹ Finland relies on electricity imports, especially in the peak-demand periods during the coldest winter weeks.³⁰ Until now the cross-border interconnection capacity and the domestic production have been sufficient to cover the electricity demand during the peak-demand periods but doubts have been expressed regarding the adequacy in future.³¹

Currently, the offshore interconnectors are laid between Finland and Sweden (Fenno Skan 1 and 2), and Finland and Estonia (Estlink 1 and 2). In April 2017, Fingrid announced that a new maritime DC interconnector is planned to be constructed between Finland and Sweden,

²⁵ Eduskunta, "Parliament enacts legislation – stages in the legislative process," https://www.eduskunta.fi/EN/lakiensaataminen/lainvalmistelu_vaiheet/Pages/default.aspx.

²⁶ Finlex, "Lainvalmistelun prosessiopas," <http://lainvalmistelu.finlex.fi/>.

²⁷ Finlex, "Lainvalmistelun prosessiopas," <http://lainvalmistelu.finlex.fi/>.

²⁸ Ministry of Economic Affairs and Employment 2017, "Government report on the National Energy and Climate Strategy for 2030," Publications of the Ministry of Economic Affairs and Employment, vol. 12/2017, 67–68.

²⁹ Official Statistics of Finland (OSF): "Energy supply and consumption" [e-publication]. ISSN=1799-7976. 3rd quarter 2017. Helsinki: Statistics Finland [referred: 21.2.2018], http://tilastokeskus.fi/til/ehk/2017/03/ehk_2017_03_2017-12-20_tie_001_en.html.

³⁰ Huoltovarmuuskeskus, "Energiavirasto, työ- ja elinkeinoministeriö, Selvitys keinoista sähkötehon riittävyyden varmistamiseksi kulutushuipussa," 11.8.2016, [https://www.energiavirasto.fi/documents/10191/0/Selvitys+keinoista+s%C3%A4hk%C3%B6tehon+riitt%C3%A4vyys+varmistamiseksi+kulutushuipussa+-Raportti+\(00000004\).pdf/d3ff1994-7f96-48ab-9123-b2a327635d8e](https://www.energiavirasto.fi/documents/10191/0/Selvitys+keinoista+s%C3%A4hk%C3%B6tehon+riitt%C3%A4vyys+varmistamiseksi+kulutushuipussa+-Raportti+(00000004).pdf/d3ff1994-7f96-48ab-9123-b2a327635d8e).

³¹ National Emergency Supply Agency, "Huoltovarmuusneuvoston kannanotto sähkötehon riittävyydestä Suomessa," 14.11.2016, <https://www.huoltovarmuuskeskus.fi/huoltovarmuusneuvoston-kannanotto-sahkotehon-riittavyydesta-suomessa/>.

and that Fenno Skan 1 will be replaced by this new interconnector by the end of the 2020s³².

Offshore wind power production may set requirements for the enforcement of the transmission network in future. As stated, there is no offshore transmission grid, but the required transmission network development is conducted onshore. The division of responsibilities in the power infrastructure development is discussed in more detail in chapter 3.2.1 “Division of Responsibilities”.

2.4.2 National Programmes on Renewable Energies and Time Frame

The current general wind power target was set in the Energy and Climate Strategy from 2013 (6 TWh by 2020, 9 TWh by 2025). A new technology-neutral operating aid for renewable energy in the form of a tendering process is planned to be put in place. The tenders will be arranged in 2018–2020. Once the projects selected have started production in the early 2020s, the need for a new further scheme will be assessed.³³

Wind power production has been subsidised by a special state aid as a guaranteed price per MWh, but the quota for wind power has been used in full. Most of the wind power plants accepted to the quota (2,500 MVA) are constructed but in some cases the construction of the new (mainly inland) wind power plants still continues. Also, several offshore projects are planned.

According to the 2015 Government Programme of Juha Sipilä, the Finnish government aims to achieve over 50% share of renewable energy, to stop using coal for energy production, and to cut oil imports by 50% by 2030. The renewable energy share in the transport sector is planned to reach 40% by 2030. The programme aims to set a course for an 80–95% reduction in greenhouse gas emissions by 2050.

2.5 Relevant Legislation

2.5.1 Relevant National Legislation

In the planning, authorisation and operation of power lines and wind power farms, several Acts and Decrees become applicable.

The Electricity Market Act (588/2013) sets out the provisions regulating the network operation and electricity supply.

The Decree of Ministry of Economic Affairs and Employment on System Responsibility (635/2013) sets out in more detail the requirements for the TSO with system responsibility.

The Electricity Security Act (1135/2016) applies to the safety issues of electrical devices used in electricity production and transmission.³⁴

Pursuant to the **Act on Environmental Impact Assessment Procedure (252/2017)**, the EIA shall always be conducted if a new line longer than 15 km with a voltage of at least 220 kV is constructed above ground.³⁵ The assessment can become applicable also after a case-

³² Fingrid Oyj, “Fingrid enables power system transition: Mega investments and proposals for concrete reforms for the electricity market,” 5.4.2017, <http://www.fingrid.fi/en/pages/news/news/2017/fingrid-enables-power-system-transition-mega-investments-and-proposals-for-concrete-reforms-for-the-electricity-market/>.

³³ Ministry of Economic Affairs and Employment 2017, “Government report on the National Energy and Climate Strategy for 2030,” *Publications of the Ministry of Economic Affairs and Employment*, vol. 12/2017, 43.

³⁴ Electricity Security Act (1135/2016), Section 2.

³⁵ EIA Act (252/2017), Annex 1.

specific consideration.³⁶ In addition, an offshore wind power project requires an EIA if the farm consists of 10 or more turbines or if total installed nominal capacity is 30 MW or more.³⁷

The Act on Environmental Impact Assessment of Authorities' Plans and Programs (200/2005) requires that the environmental impacts of certain plans and programmes are assessed by the responsible authorities.

The installation of a maritime cable and construction of a wind farm usually requires an authorisation under the **Water Act (587/2011)**. When considering the authorisation decision, both private and public interests should be assessed.³⁸ The authorisation decision shall issue the necessary regulations on, for example, minimisation of the negative effects, renaturation and restoration after the construction works, and the actions to restore the state of the water body.³⁹ A special right to use the water area not controlled or owned by the TSO or wind power developer can be granted in accordance with certain conditions under Chapter 2 of the Water Act.

A new **Government Decree on Certain Lines Placed in Water Areas (146/2018)** entered into force on 1st March 2018. The Decree lays down provisions regarding the installation of a water, sewage, or power line, communication cable, or other similar line under a river or stream; thus, the decree does not directly concern offshore projects.

The Nature Conservation Act (1096/1996) stipulates the situations when the project may affect protected species, nature conservation areas, or Natura 2000 areas. In the event that protected values in a Natura 2000 area are affected by the project, a Natura assessment should be conducted.

The Antiquities Act (295/1963) sets out the protection of antiquities (for example, shipwrecks older than 100 years). Infringement of a protected antiquity requires a permit from the ELY Centre⁴⁰.

The Act on the Exclusive Economic Zone of Finland (1058/2004) stipulates the use of the Finnish EEZ and jurisdiction in the zone. The legislation set out in the Act shall be applied in the EEZ, otherwise international law defines the use of the area.

The Act on the Delimitation of the Territorial Waters of Finland (463/1956) sets out the boundaries for the territorial waters and implements the international conventions relating thereto.

The Decree on the Application of the Act on the Delimitation of the Territorial Waters of Finland (993/1995) sets out the detailed coordinate points for the territorial water areas.

The Act on the Organisation of River Basin Management and the Marine (1299/2004) provides for the management of water resources and the Baltic Sea and promotes good status of the water.

The Act on Sea Protection (1415/1994) prohibits sea degradation by Finnish ships and crafts outside the Finnish EEZ.

The Territorial Surveillance Act (755/2000) stipulates the surveillance of the Finnish

³⁶ EIA Act (252/2017), Section 3.

³⁷ EIA Act (252/2017), Annex 1.

³⁸ Water Act (587/2011), Chapter 3, Sections 4, 6, and 7.

³⁹ Water Act (587/2011), Chapter 3, Section 10.

⁴⁰ Antiquities Act (295/1963), Section 11.

territory.

The Act on Redemption of Immovable Property and Special Rights (603/1977) sets out the rules for expropriation.

To guarantee compliance with the **Århus Convention (SopS 121-122/2004)**, the **Act on Redemption Authorisation for Certain Projects Affecting Environment (768/2004)** states that certain projects should always have a separate permit for land expropriation. This applies, for example, to the power lines with a voltage of at least 220 kV and exceeding 15 km.

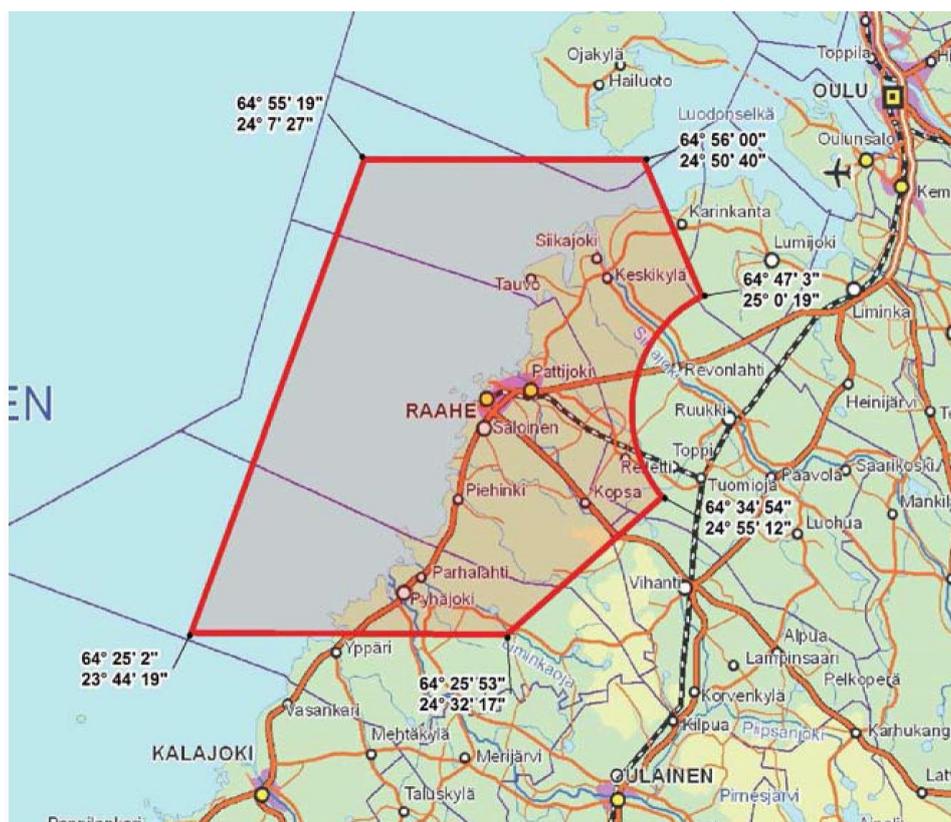
The Land Use and Building Act (132/1999) sets out the general rules for land use and planning, as well as for the building permits. The area reserved for power lines and wind power should normally be marked on a land use plan. **The Land Use and Building Decree (895/1999)**, provides more detailed requirements.

When installing maritime cables, the existing cables shall be taken into account. Pursuant to the **Act on the Protection of Certain Underwater Cables (145/1965)**, any damage caused to an old cable during the installation process must be compensated.

The Act on Subsidies for Electricity Produced by Using Renewable Energy Sources (1396/2010) stipulates the subsidy system of renewable electricity, including wind power.

Section 158 of the **Aviation Act (864/2014)** lays down the conditions under which offshore wind farms must apply for a flight obstacle permit from the Finnish Transport Safety Agency. If a flight obstacle permit is required, the Finnish Border Guards opinion is also required for offshore wind power farms under Section 158 of the Aviation Act.

The Act on Wind Power Compensation Areas (490/2013) regulates the compensations to be paid by wind power operators in an area of the Bothnian Bay specified in the appendix of the Act. The costs are connected to investments made in the Defence Forces monitoring system in order to allow the construction of wind power without disturbance to the system. The wind power compensation area is marked on the picture below.



2.5.2 Implementation of International Environmental Treaties

In the following table, the implementation of the most relevant international conventions is described.

International Convention	National Implementation
United Nations Convention on the Law of the Sea (UNCLOS, 1982)	The Convention has been implemented by the Act on the Adoption of the United Nations Convention on the Law of the Sea and Certain Provisions of the Convention and on the Application of Part XI thereof (524/1996). It has entered into force in accordance with the Decree on the Adoption of the United Nations Convention on the Law of the Sea and Part XI thereof and of the Implementation of the Act concerning Certain Provisions thereof (525/1996). The Finnish Exclusive Economic Zone was established by the Act of the Exclusive Economic Zone of Finland (1058/2004).

Aarhus Convention (UN ECE, 1998)	The Act on Redemption Authorisation for Certain Projects Affecting Environment (768/2004) implements the Århus Convention and enacts that certain projects should always have a separate permit for expropriation.
The Convention on Biological Diversity (CBD, 1992)	The Convention has been implemented by the Decree on the Implementation of the Convention on Biological Diversity (914/1994). It requires certain actions to be taken in order to ensure biological diversity. These actions include taking biodiversity into account in EIA assessments. The Nagoya Protocol has been implemented by the Act on the Implementation of Provisions Pertaining to the Legislative Sector of the Nagoya Protocol Regarding Biological Diversity (393/2016), the Act on the Implementation of the Nagoya Protocol (394/2016), and the Decree on the Enforcement of the Act on the Implementation of Provisions Pertaining to the Legislative Sector of the Nagoya Protocol Regarding Biological Diversity and the Act on the Implementation of the Nagoya Protocol (590/2016).
The Ramsar Convention on Wetlands of International Importance (1971)	The Convention has been implemented by the Decree on the Implementation of the Convention on Internationally Relevant Wetlands as Waterbirds Habitats (3/1976). The Paris Protocol has been implemented by the Decree on the Implementation of the Protocol Amending the Convention on Internationally Relevant Wetlands as Waterbirds Habitats (65/1986). There are 49 Ramsar sites in Finland, a wetlands action plan for 2016–2020 has been created, and Finland is part of the Nordic–Baltic Wetlands network.
The HELCOM Convention on the protection of the marine environment of the Baltic Sea Area (1974)	The Convention has been implemented by the Decree on the Implementation of the Convention on the protection of the marine environment of

	the Baltic Sea Area (12/1980). Changes to the Convention and Appendices thereof have been implemented by Decrees 68/1980, 31/1981, 17/1984, 39/1984, 65/1985, 17/1987, 55/1992, 8/1993 and 1/1995. The 1992 Convention has been implemented by the Decree on the Implementation of the 1992 Convention on the protection of the marine environment of the Baltic Sea Area (2/2000).
The Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)	The Convention has been implemented by the Decree on the Implementation of the Bern Convention on the Conservation of European Wildlife and Natural Habitats (228/1986). Finland has created a national strategy and action plan until 2020 in order to fulfil the Convention's requirements.

2.5.3 Implementation of EU Environmental Legislation

In the following table, the implementation of the most relevant EU environmental legislation is described.

EU Legislation	National Implementation
EU Maritime Spatial Planning Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014	The Directive has been implemented by the Act Amending Section 3 of the Finnish Economic Area Act (483/2016), the Act Amending the Land Use and Building Act (482/2016), and the Decree on Maritime Spatial Planning (816/2016).
Marine Strategy Framework Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy	The Directive has been implemented by the Act Amending the Act on Management of Water and the Sea (272/2011) and the Government Decree on the Management of the Sea (980/2011).
Environmental Impact Assessment (EIA) Directive 2011/92/EU, newly amended by Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014	The Directive 2011/92/EU was initially implemented by amending the EIA Act (468/1994) and the EIA Decree (713/2006). The amendments of Directive 2014/52/EU have been implemented by a new EIA Act (252/2017) and a new EIA Decree

	(277/2017). Changes were also made to several other Acts.
Strategic Environmental Assessment Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the environmental impact assessment of certain plans and programs	The Directive has been implemented by the Act on the Environmental Impact Assessment of Authorities' plans and programs (200/2005).
The Birds Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds⁴¹	The Directive has been implemented in the Nature Conservation Act (1096/1996) and the Decree on a List of Areas Belonging to the Natura 2000 Network (354/2015).
The Habitats Directive 92/43/EEC of the European Council of 21 May 1992 on the conservation of natural and of wild fauna and flora, in particular relevant: Art. 12, 13 Annex IV⁴²	The Directive has been implemented by amendments to the Nature Conservation Act (1096/1996), by the Act on Private Roads (358/1962), by the Government Decree on Monitoring of Certain Statutory Management Requirements of Cross-Compliance Concerning Nature Conservation (878/2005, decree repealed, new decree in force: 7/2015), and by the Decree on the List Areas Belonging to the Natura 2000 network (345/2015).
Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment	The Directive was initially implemented by the Act on Environmental Impact Assessment Process (468/1994) and in the Government Decree on the Environmental Impact Assessment (713/2006). A new EIA Act (252/2017) has since entered in force.

⁴¹ Relevant in particular is Article 5, according to which Member States should prohibit activities that directly threaten birds, such as a deliberate disturbance, particularly during the period of breeding and rearing, insofar as this might have a negative effect on the birds.

⁴² Relevant in particular are Articles 12 and 13 prohibiting, for example, the deliberate disturbance of protected animals listed in Annex IV, particularly during breeding, rearing, hibernation, and migration; however, deviations are permitted in the interest of public health and safety, and other imperative reasons of public interest.

2.5.4 Implementation of EU Energy Legislation

In the following table, the implementation of the relevant EU energy legislation is described.

EU Legislation	National implementation
Regulation 2009/714 of the European Parliament and the Council of 13 July 2009	The Regulation has been mainly implemented by the Electricity Market Act (588/2013) and the Act on Surveillance of Electricity and Natural Gas Market (590/2013).
Regulation 2009/713 of the European Parliament and the Council of 13 July 2009	The Regulation has been mainly implemented by the Act on the Energy Authority (870/2013) and the Act on Surveillance of Electricity and Natural Gas Market (590/2013) by which the Energy Authority was named as the national regulatory authority with supervisory and monitoring tasks pursuant to, <i>inter alia</i> , Regulation 713/2009.
Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009	Directive 2009/72/EC was implemented in September 2013, mainly by the Electricity Market Act (588/2013), the Act on Surveillance of Electricity and Natural Gas Market (590/2013), and the Act on Energy Authority (870/2013). The rules of system responsibility are laid down in the Decree of the Ministry of Economic Affairs and Employment on System Responsibility (635/2013).

2.5.5 Influences of EU Network Codes on National Level

In the following table, the implementation of certain EU network codes is described

EU Legislation	National implementation
Regulation 2015/1222 of the European Commission of 24 July 2015 establishing a guideline on capacity allocation and congestion management	In June 2015, the Energy Authority called for applications to be designated as a nominated electricity market operator (NEMO) position in Finland. ⁴³ Nord Pool AS' status as NEMO was accepted in December

⁴³ The Energy Authority, "Invitation to applications to be designated as a NEMO in Finland," 24.6.2015, <http://www.energiavirasto.fi/documents/10179/0/Invitation+for+applications+to+be+designated+as+a+NEMO+in+Finland/4aed7db1-cc4b-4024-9956-823ac8bfb81>.

2015⁴⁴, and the Energy Authority confirmed the EPEX SPOT/EEC's position as NEMO in February 2016.⁴⁵

In April 2017, the Energy Authority accepted "Fingrid's proposal for arrangements concerning more than one NEMO in one bidding zone in accordance with Articles 45 and 57 of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a Guideline on Capacity Allocation and Congestion Management".⁴⁶ The Market Coupling Operator (MCO) plan was confirmed by the Energy Authority pursuant to Article 6 of the Regulation in June 2017.⁴⁷ The Energy Authority has also given decisions on, for example, the shipping arrangement for single day-ahead and intraday coupling⁴⁸, the products under Article 40 of the Regulation⁴⁹, the back-up methodology under Article 36(3) of the Regulation⁵⁰, and products under Article 53 of the Regulation.⁵¹ In addition, ACER has given, for example, a decision concerning maximum and minimum clearing prices for single intraday coupling, which is applicable in

⁴⁴ The Energy Authority, Decision on Designation of a Nominated Electricity Market Operator in Finland (1695/400/2015), 14.12.2015, <https://www.energiavirasto.fi/documents/10179/0/Decision+on+designation+of+NEMO+in+Finland+14+12+2015.pdf/65975dde-eaf2-448f-bf3c-222732ea72fa>.

⁴⁵ The Energy Authority, Decision (53/400/2016), 24.2.2016.

⁴⁶ The Energy Authority, Decision (1444/403/2016), 10.4.2017; Fingrid Oyj, "Fingrid's proposal for Arrangements concerning more than one NEMO in one bidding zone in accordance with Article 45 and 57 of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a Guideline on Capacity Allocation and Congestion Management," https://www.energiavirasto.fi/documents/10191/0/MNA_Proposal+for+NRA.pdf/8fbf05f5-ad76-48b3-ad3a-ba49de6556f1.

⁴⁷ The Energy Authority, Decision (1444/403/2016), 26.6.2017. The "All NEMO proposal for the MCO Plan," https://www.nordpoolgroup.com/globalassets/download-center/pcr/mco_plan.pdf.

⁴⁸ The Energy Authority, Päätös, Sähkökauppojen välitysjärjestelyt yhteenkytketyillä vuorokausi- ja päivänsäisillä markkinoilla, (1444/403/2016), 9.11.2017.

⁴⁹ The Energy Authority, Päätös komission asetuksen (EU) 2015/1222 kapasiteetin jakamista ja ylikuormituksen hallintaa koskevan suuntaviivan 40 artiklan mukaisista vuorokausimarkkinoiden tuotteista, (742/480/2017), 1.2.2018.

⁵⁰ The Energy Authority, Päätös komission asetuksen (EU) 2015/1222 kapasiteetin jakamista ja ylikuormituksen hallintaa koskevan suuntaviivan 36(3) artiklan mukaisesta varmistusmenetelmästä, (742/480/2017), 1.2.2018.

⁵¹ The Energy Authority, Päätös komission asetuksen (EU) 2015/1222 kapasiteetin jakamista ja ylikuormituksen hallintaa koskevan suuntaviivan 53 artiklan mukaisista päivänsäisäisten markkinoiden tuotteista, (742/480/2017), 1.2.2018.

	<p>Finland.⁵² The implementation process is still in progress and new decisions are expected.</p>
<p>Regulation 2016/631 of the European Commission of 14 April 2016 establishing a network code on requirements for grid connection of generators (NC RfG)</p>	<p>The network operator should give the proposal on the general requirements and the methodologies to define them at the latest two years after the Regulation has entered into force (i.e. May 2018)⁵³. The proposal has been prepared in coordination with other Nordic TSOs, the Energy Authority, and the Ministry of Economic Affairs and Employment.⁵⁴ The requirements of the NC RfG will mainly be adopted into the Specifications for the Operational Performance of Power Generating Facilities in 2018 (VJV 2018). The draft version of VJV2018 was published in February 2018⁵⁵ and the proposal will be given to the Energy Authority for the public hearing and the approval process in Spring/Summer 2018.⁵⁶</p> <p>The Regulation and the requirements laid down do not apply, subject to some exceptions, if the production plant is already connected to the network on the date of entry into force of the Regulation or the power-generating facility owner has concluded a final and binding contract for the purchase of the main generating plant by two years after the entry into force of the Regulation.⁵⁷</p>

⁵² Decision of the Agency for the Cooperation of Energy Regulators no 05/2017 of 14 November 2017 on the Nominated Electricity Market Operators' Proposal for Harmonised Maximum and Minimum Clearing Prices for Single Intraday Coupling.

⁵³ Regulation 2016/631 of the European Commission of 14 April 2016, Article 7, paragraph 4.

⁵⁴ Fingrid Oyj, Kuusela, NC RfG implementointi ja VJV 2018, 28.11.2017, https://www.fingrid.fi/globalassets/dokumentit/fi/ajankohtaista-tapahtumat/verkkosaantofoorumi2017/5_tuotannon_ja_kulutuksen_liittamisen_verkkosaannot_2017-11-27.pdf.

⁵⁵ Fingrid Oyj, "Voimalaitosten järjestelmätekniset vaatimukset," <https://www.fingrid.fi/palvelut/sahkonsiirto/liitynta-kantaverkoon/voimalaitosten-jarjestelmatekniset-vaatimukset/#>.

⁵⁶ Fingrid Oyj, Kuusela, NC RfG implementointi ja VJV 2018, 28.11.2017, https://www.fingrid.fi/globalassets/dokumentit/fi/ajankohtaista-tapahtumat/verkkosaantofoorumi2017/5_tuotannon_ja_kulutuksen_liittamisen_verkkosaannot_2017-11-27.pdf.

⁵⁷ Regulation 2016/631 of the European Commission of 14 April 2016 establishing a network code on requirements for grid connection of generators, Article 4(2).

Before VJV2018 enters into force, the Specifications for the Operational Performance of Power Generating Facilities (VJV2013) continue to apply.

2.6 Hierarchy of Statutes

Resolving conflicts between different national Acts always requires case-by-case research and consideration. The following principles are guidelines to finding the solution, but in a particular case, the explicit provisions of the Act may lead to another result.

Pursuant to Section 95 of the Constitution of Finland (731/1999), the provisions of treaties and other international obligations are brought into force by a national Act or Decree. In accordance with Section 80 of the Constitution, the principles governing the rights and obligations of private individuals and the other matters that under the Constitution are of a legislative nature shall be governed by Acts. Decrees can be issued on the basis of authorisation given in the Constitution or an Act. In national law, the Finnish Constitution takes priority over a normal parliamentary Act. Acts prevail over Decrees. The prioritisation order of Decrees is Government Decree, Presidential Decree and Decrees given by Ministries.

As a general principle, *lex specialis derogat lex generali* so a specific law is applied instead of a general law. In practice, the distinction between a specific law and a general law can be hard to make. *Lex posterior derogat legi priori* applies so that later law prevails over earlier law. However, where the later law is a general law, the earlier special law will apply if not stated otherwise. Pursuant to *the principle of primacy of the EU law*, EU law has priority if the national law and EU law are in contradiction and the contradiction cannot be otherwise resolved.

3. Transmission

3.1 General Aspects of the Transmission System and Grid Development

3.1.1 General Aspects of the Transmission System

Pursuant to the Electricity Market Act (588/2013), the national TSO has responsibility for the technical functioning of the power system in Finland, excluding Åland, and responsibility for constructing and maintaining the national transmission network (the main grid).⁵⁸ The transmission network shall be developed and constructed in a way that it complies with the quality requirements for power transmission.⁵⁹ The general obligation to develop the electricity network applies to all the network operators including the national TSO.⁶⁰

The Finnish transmission system (main grid) includes:

- 1) the network that forms a single national transmission network consisting of power lines of nominal voltage of at least 110 kV, power stations, and other facilities, and

⁵⁸ Electricity Market Act (588/2013), Sections 8, 44 and 45.

⁵⁹ Electricity Market Act (588/2013), Section 40.

⁶⁰ Electricity Market Act (588/2013), Section 19.

2) cross-border interconnectors of at least 110 kV held by the main grid operator.⁶¹

The voltages of the main grid are 110 kV, 220 kV, and 400 kV. Cross-border interconnector refers to a cable and the included facilities connecting two transmission systems to each other.⁶²

The cross-border maritime interconnectors are DC connections:

- Fenno Skan 1 (500 MW), HVDC
- Fenno Skan 2 (800 MW), HVDC
- EstLink 1 (350 MW), HVDC
- EstLink 2 (650 MW), HVDC

The transmission lines onshore are mainly overhead lines because of the technical challenges and the higher costs relating to underground cables. In the onshore grids, high-voltage AC has been used as it is more affordable and more reliable because the technology is not as complex as HVDC transmission.⁶³ The maritime connection cables mainly apply AC technology. The distance of the planned wind farm projects is rather short to the shore.

Network operation means the offering of the network for pecuniary interest for those who need transmission or distribution of electricity or other electricity network services. Electricity network operation includes network planning, construction, maintenance and use, connection of network users' appliances, metering of the electricity, customer service, and other operations relating to electricity transmission and distribution, that are conducted by the network operator and that are necessary for the electricity transmission, distribution, or other network services. Network operation is subject to a licence.⁶⁴

Pursuant to Section 3 of the Electricity Market Act, the connection cable means a power cable constructed for connecting a consumption place or one or more production units to the network. The Government Proposal (20/2013) clarifies that maintenance of a connection cable between two or more production plants is not categorised as a network operation. Connection cables can also cross the state border. The connection cables of the power production units are not included in the transmission (or distribution) network, and construction of them is considered as an activity in which there is open competition (i.e. it is not a natural monopoly activity)⁶⁵.

Network operators have a general responsibility to connect such consumption places and production units that comply with the given technical requirements. A new connection should be completed within 24 months of the conclusion of the connection agreement if it is possible for the network operator to carry out the needed investments in a reasonable way and without discriminating between the network users.⁶⁶ Network operators shall provide transmission and distribution services for reasonable prices to those who need them, within the limits of the transmission capacity.⁶⁷

⁶¹ Electricity Market Act (588/2013), Section 31.

⁶² Electricity Market Act (588/2013) Section 3.

⁶³ Fingrid Oyj, "Main Grid Development Plan for 2015–2025," 50–51.

⁶⁴ Electricity Market Act (588/2013), Sections 3 and 4.

⁶⁵ The Energy Authority, "Regulation Methods for the Main Grid Operation, 2016–2023," 14 (in Finnish), http://www.energiavirasto.fi/documents/10191/0/Liite_2_Valvontamenetelm%C3%A4t_S%C3%A4hk%C3%B6nkanta.pdf/9b9f5e5f-3b7a-4f9f-b461-27318cdca5db.

⁶⁶ Electricity Market Act (588/2013), Section 20.

⁶⁷ Electricity Market Act (588/2013), Section 21.

The users of the transmission network have to comply with the General Connection Terms (YLE2017), Specifications for the Operational Performance of Power Generating Facilities (VJV2013), and the Main Grid Contract (2016) with the annexes which have been drafted by the TSO and approved ex ante by the Energy Authority. The new General Connection Terms (YLE2017) were approved by the Energy Authority on 1st December 2017. As these instruments set out the technical requirements as well as the rights and obligations of the respective parties, they also direct the development of the transmission network.

3.1.2 Technical Standards

3.1.2.1 Decision of the Technical Requirements

Pursuant to Section 45 of the Electricity Market Act, the TSO with system responsibility is responsible for the functioning and reliability of the power system in Finland. This responsibility is further elaborated in the Decree of Ministry of Economic Affairs and Employment (635/2013) on System Responsibility. The TSO with system responsibility shall define the level of operational reliability, maintain the related technical requirements in accordance with the European and regional rules, and conclude the securing measures with the parties of the power system.⁶⁸

The national technical requirements are thus defined in the Specifications for the Operational Performance of Power Generating Facilities, the General Connection Terms, and the Connection Agreement and their annexes. In addition, the Electricity Safety Act (1135/2016) applies to the power transmission and generation.

3.1.2.2 Compatibility of Local and Foreign Standards

Between the Nordic TSOs, the Agreement Regarding the Operation of Interconnected Nordic Power System was concluded in June 2006.⁶⁹ The agreement together with its appendices aims to ensure the interoperability of the different subsystems in the Nordic electricity market by regulating the operational collaboration of the TSOs. The appendices of the Agreement have been updated several times.⁷⁰

The Nordic Grid Code prepared by the Nordic TSOs sets out the minimum technical requirements for the Nordic transmission systems. The aim is to enhance interoperability of the different subsystems in the Nordic electricity market.⁷¹ In the European Union, the EU Network Codes and Guidelines aim to facilitate the internal electricity market by setting out requirements for, for example, transmission system operation, and grid connection of generators.⁷²

3.1.2.3 Compliance Mechanisms

The users of the network have to comply with the requirements set out in the Main Grid

⁶⁸ Decree of the Ministry of Economic Affairs and Employment on System Responsibility (635/2013), Section 5.

⁶⁹ The Agreement Regarding the Operation of Interconnected Nordic Power System, 13.5.2006, https://www.entsoe.eu/Documents/Publications/SOC/Nordic/System_Operation_Agreement_English_translation.pdf.

⁷⁰ Nordic Operations Group, Cover note describing publication of Nordic System Operation Agreement on ENTSO-E homepage, https://www.entsoe.eu/Documents/Publications/SOC/Nordic/Cover_note_describing_publication_2016.pdf, and Appendix 1 of System Operation Agreement, https://www.entsoe.eu/Documents/Publications/SOC/Nordic/System_Operation_Agreement_appendices%28English_2016_update%29.pdf.

⁷¹ Nordic Grid Code, 2007, 15.1.2007, https://www.entsoe.eu/fileadmin/user_upload/_library/publications/nordic/planning/070115_entsoe_nordic_NordicGridCode.pdf.

⁷² ENTSO-E, "What are network codes?" https://electricity.network-codes.eu/network_codes/.

Contract, the Main Grid Service Terms and Conditions, the Connection Agreement, the General Terms of Connection, and the Specifications for the Operational Performance of Power Generating Facilities.

The TSO may cancel the Main Grid Contract if the user of the network essentially breaches the terms of the Contract and has not repaired the breach within a reasonable time after having received a written request by the TSO.⁷³

In the event of non-compliance with the terms, the network user may be liable for resulting damages. If any defects in the connection affect the functioning of the power system, the TSO has the right, as a TSO with system responsibility, to restrict or discontinue the use of the connection until the defects have been repaired.⁷⁴

3.1.3 The National Ten-Year Network Development Plan

Section 41 of the Electricity Market Act (588/2013) sets out the obligation for the TSO to prepare a network development plan for the next ten years, which is to be updated every two years. The national ten-year network development plans (TYNDP) should be used as a basis for the non-binding European Union-wide TYNDP.⁷⁵ The Finnish TYNDP is not legally binding either, but it has to be published. The most updated national TYNDP is for the period 2017–2027.⁷⁶

The TSO shall address in the TYNDP the following issues:

- The planning of the investments necessary to fulfil the requirements of Sections 19 and 40 of the Electricity Market Act stipulating the network development and the quality requirements of transmission network operation.
- The planning of investments concerning cross-border interconnectors, which are necessary to enable the efficient functioning of national, regional, and EU internal electricity markets.
- The description of the methods and the forecasts of electricity demand and production and other assumptions used as a basis for the TYNDP.⁷⁷

The national transmission network planning can be roughly divided into two sections: planning of the main power transmission grid (primarily 400 kV and 220 kV grids) and planning of the regional transmission grid (mainly 110 kV grids).⁷⁸ The regional plans are updated twice a year or more often if necessary.⁷⁹

⁷³ Fingrid Oyj, “Main Grid Contract,” 2016, 4.

⁷⁴ Decree of the Ministry of Economic Affairs and Employment on System Responsibility (635/2013), Section 9; Fingrid Oyj, “Main Grid Contract,” 2016, Annex 1 (“Main Grid Service Terms and Conditions”), Section 5.

⁷⁵ Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003, OJ L 211, 14.8.2009, 15–35, Article 9(3), 9(10).

⁷⁶ Fingrid Oyj, “Main grid development plan for 2017–2027,” <https://www.fingrid.fi/globalassets/dokumentit/fi/kantaverkko/kantaverkon-kehittaminen/main-grid-development-plan-2017-2027.pdf>.

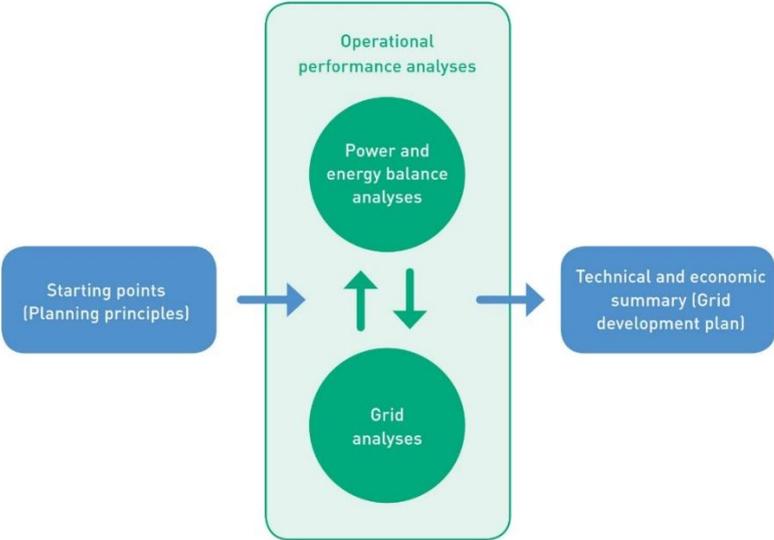
⁷⁷ Electricity Market Act (588/2013), Section 41.

⁷⁸ Fingrid Oyj, “Main grid development plan for 2017–2027,” 12.

⁷⁹ *Ibid.*, 32.

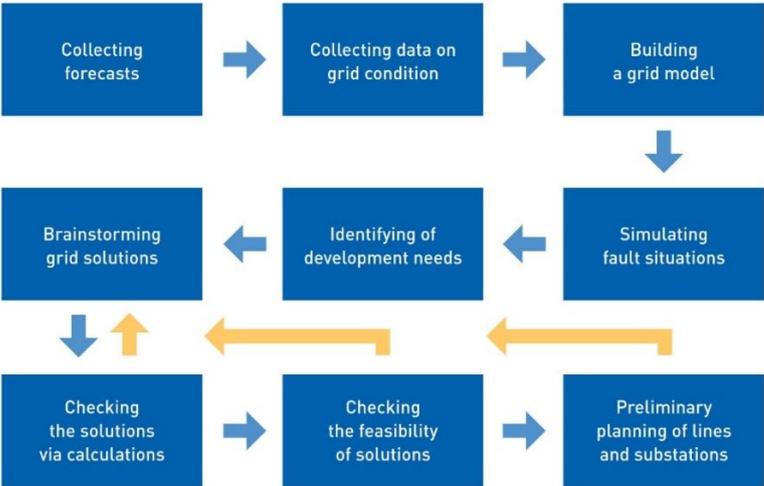
The main power transmission grid planning is illustrated in the figure below:⁸⁰

Figure 7.
Method for assessing main power transmission grid reinforcement needs.



The regional planning process is illustrated in the figure below:⁸¹

Figure 9.
Progress of the grid planning process.



In the latest TYNDP, the TSO has planned to continue investing in its network around EUR 100 million a year adding to around EUR 1.2 billion by 2027. Most of the investments will be directed to the reinforcements of the national transmission network and to the developing of cross-border connections.⁸² A new interconnector, which has been granted a project of common interest (PCI) status, between Northern Finland and Sweden is scheduled to be

⁸⁰ Fingrid Oyj, “Main grid development plan for 2015–2025,” 30.

⁸¹ Ibid., 35.

⁸² Fingrid Oyj, “Main grid development plan for 2017–2027,” 27–28.

completed in 2025.⁸³ Together with increased energy production in northern Finland, this will increase the need for transmission inside the country from north to south.⁸⁴ The new interconnector will require significant investments, being the only cross-border interconnector project during the ten-year period mentioned in the plan. However, as noted above, the renewing of the Fenno Skan 1 interconnector between Finland and Sweden with a new DC cable will probably take place by the end of the 2020s.⁸⁵ The TSO is also preparing for a potential increase in the need for transmission capacity between northern Finland and northern Norway, partly due to the wind power generation potential in the area, by investigating the possibility of a new transmission line. Fingrid aims to mark the line in the pending regional land use plan for northern Lapland.⁸⁶ A Nordic grid plan to examine the needs for cross-border connections in Nordic countries is planned to be prepared in 2019.⁸⁷

The reinforcements and new transmission lines are important for connecting wind power particularly in northern parts of the country.⁸⁸ During the ten-year-period, the TSO expects the total wind power capacity to increase to around 3,000 MW.⁸⁹ Also, as stated above, the need for energy transmission within the country from north to south is expected to increase. As a result, a new connection line from Oulujoki to Central Finland is planned to be constructed by 2022.⁹⁰

According to the TSO, the planning of the reinforcements for wind power connections is difficult because the wind farms in the same region will not necessarily be ready for connection at the same time.⁹¹ The fact that the authorisation procedure of the wind farm takes longer than the construction of the farm causes difficulties for the grid planning.⁹²

The electricity production units have to make a connection agreement with the TSO before the actual connection can take place. Pursuant to the Electricity Market Act (588/2013), the connection should happen at the latest 24 months after concluding the connection agreement if it is possible for the network operator to carry out the necessary investments in a reasonable way and without discriminating between the network users⁹³. The TSO does not conclude the agreements before the land use plan (which can refer also to the decision under Section 137 of the Land Use and Building Act (132/1999)) is unappealable. On the other hand, if a new substation or reinforcement of the old one is necessary, at least two years should be reserved for the construction works.⁹⁴

In terms of the wind power development and the regional development plans, some issues

⁸³ Regulation (EU) No 347/2013 of the European Parliament and of the Council as regards the Union list of projects of common interest, Annex VII The Union List of Projects of Common Interest ('Union List'), https://ec.europa.eu/energy/sites/ener/files/documents/annex_to_pci_list_final_2017_en.pdf.

⁸⁴ Fingrid Oyj, "Main grid development plan for 2017–2027," 27.

⁸⁵ *Ibid.*, 5 and 30.

⁸⁶ *Ibid.*, 30.

⁸⁷ *Ibid.*, 29.

⁸⁸ *Ibid.*, 21 and 25.

⁸⁹ *Ibid.*, 21.

⁹⁰ *Ibid.*, 27–28.

⁹¹ Fingrid Oyj, "Main grid development plan for 2015–2025," 104.

⁹² *Ibid.*, 54.

⁹³ Electricity Market Act (588/2013), Section 20.

⁹⁴ Fingrid Oyj, "Main grid development plan for 2015–2025," 104.

can be highlighted. In the area of Sea Lapland, there are several grid projects that are ongoing and which are important to connect the planned wind power to the grid.⁹⁵ In the region of Oulu, the onshore wind power development has been taken into account by investing especially in new substations.⁹⁶ In Ostrobothnia, the planned grid reinforcements will enable significant amounts of wind power to be connected to the network.⁹⁷ In general, the TSO tries to prepare for the new connections of wind farms by network planning and land acquisition when necessary.⁹⁸

3.2 Connection of Offshore Wind Power

3.2.1 Division of Responsibilities

The boundaries for ownership in different connection situations (switchyard connection and connection to a 110 kV transmission line) are set out in the General Connection Terms (YLE2017).⁹⁹ The Connection Agreement concluded between the “connectee” (the party who wishes to become connected to the network) and the TSO defines in detail the ownership boundary in a specific case.¹⁰⁰ The General Connection Terms are approved by the Energy Authority before their entry into force pursuant to Section 10 of the Act on Surveillance of Electricity and Natural Gas Markets (590/2013).¹⁰¹

The wind power developer should bear the costs resulting from the construction of its own lines and facilities. If additional structures or equipment are required to enable the connection, the connectee is responsible for covering the costs of construction, though the TSO takes care of the construction and owns the structures and equipment after they are completed.¹⁰² However, if another connection is constructed to the same switchyard during the following ten years, the connection fee paid by the wind power developer is (partly) reimbursed.¹⁰³ If there is no need for additional structures and equipment, the wind power provider has to pay, in accordance with the Connection Agreement, a connection fee covering the costs of the connection.¹⁰⁴

3.2.2 Planning of Offshore Wind Farm and the Transmission Grid

3.2.2.1 Connecting Wind Power Farm to the Transmission System

TSO’s tasks in the general development of the transmission network have been described

⁹⁵ Fingrid Oyj, “Main grid development plan for 2017–2027,” 35.

⁹⁶ *Ibid.*, 37.

⁹⁷ *Ibid.*, 41.

⁹⁸ Fingrid Oyj, “Main grid development plan for 2015–2025,” 103–104.

⁹⁹ Fingrid Oyj, “General Connection Terms“ (YLE2017), Chapters 2.2 and 2.3,

<https://www.fingrid.fi/globalassets/dokumentit/fi/palvelut/kulutuksen-ja-tuotannon-liittaminen-kantaverkkoon/yleiset-liittymisehdot-yle2017.pdf>.

¹⁰⁰ Fingrid Oyj, “General Connection Terms“ (YLE2017), Chapter 4,

<https://www.fingrid.fi/globalassets/dokumentit/fi/palvelut/kulutuksen-ja-tuotannon-liittaminen-kantaverkkoon/yleiset-liittymisehdot-yle2017.pdf>.

¹⁰¹ Fingrid Oyj, “General Connection Terms“ (YLE2017), Act on Surveillance of Electricity and Natural Gas Markets (590/2013), Section 10, subsection 1, paragraph 4.

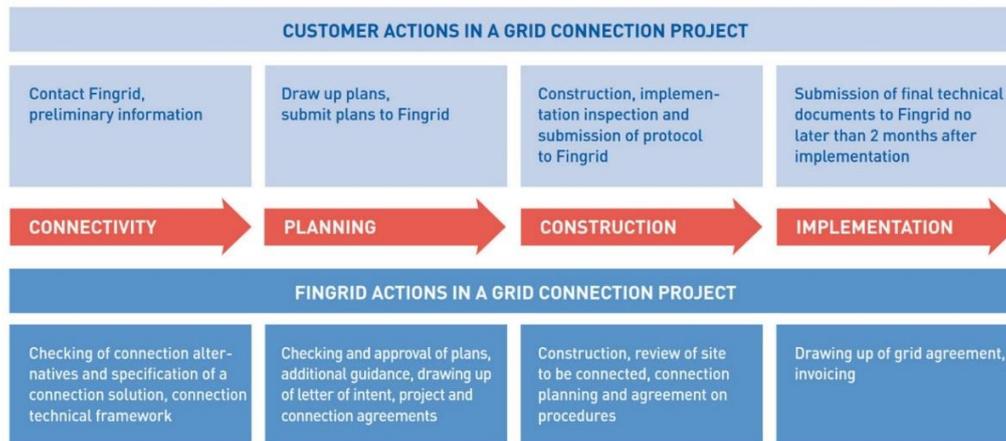
¹⁰² Fingrid Oyj, “Terms and Conditions,” <https://www.fingrid.fi/globalassets/dokumentit/en/customers/grid-connection/appendix-1-main-grid-service-terms-and-conditions.pdf>.

¹⁰³ Fingrid Oyj, “Kantaverkon liittymismaksut 2018,” <https://www.fingrid.fi/globalassets/dokumentit/fi/palvelut/kulutuksen-ja-tuotannon-liittaminen-kantaverkkoon/kantaverkon-liittymismaksut-2018.pdf>.

¹⁰⁴ Fingrid Oyj, “General Connection Terms” (YLE2017), Chapter 4.

above. It can be noted that smaller wind farms should be connected to a (high-voltage) distribution network,¹⁰⁵ and only larger wind farms are connected directly to the transmission network. Here, only the transmission network connection is discussed.

The chart illustrates the connection of wind power to the transmission system.¹⁰⁶



When planning a new wind farm, the developer should negotiate in the early stage with the TSO. The first step is to inform the TSO of the capacity, type, and location of the planned wind farm. The TSO should be informed as early as possible of the specific technique planned to be used in the power plant to ensure that the production plant complies with the technical requirements. The General Connection Terms apply also to wind power.

After the negotiations, the TSO will investigate whether the wind power farm can be connected to the grid in that particular place and by which kind of connection type. Normally, wind farms are connected to a switchyard. In this phase, a non-binding letter of intention concerning the connection can be made. When the project developer preliminarily knows the conditions for the connection, it may start to make detailed plans for the wind power farm and the connection. When the technical details are known, they should be provided to the TSO. The TSO may comment on the plans.

The TSO inspects (and accepts) the connection plans, after which the connectee may start to construct. In terms of the wind power projects, the authorisation period normally takes longer than the construction phase of the wind farm, which according to the TSO causes uncertainties and challenges for the network development.¹⁰⁷ On the other hand, the wind farm developer should also take into account that the construction of new structures and cables may take a relatively long period of time.¹⁰⁸

3.2.2.2 Determination of Planning Order

There is no chronological statutory order for the planning of the network connection. As the TSO is responsible for the development of the transmission network and connection of the

¹⁰⁵ Fingrid Oyj, "Guide for Wind Power Provider," 2015, 9, https://www.fingrid.fi/globalassets/dokumentit/en/publications/fingrid_tuulivoimaesite_en.pdf. The updated guide available only in Finnish: Fingrid Oyj, "Tuulivoimaliittymän opas," 2016, https://www.fingrid.fi/globalassets/dokumentit/fi/julkaisut/fingrid_tuulivoimaesite.pdf.

¹⁰⁶ Fingrid Oyj, "Guide for Wind Power Provider," 2015, 6.

¹⁰⁷ Fingrid Oyj, "Main Grid Development Plan for 2015–2025," 54.

¹⁰⁸ Fingrid Oyj, "Guide for wind power provider," 9, http://www.fingrid.fi/fi/ajankohtaista/Ajankohtaista%20liitteet/Esitteet/Fingrid_tuulivoimaesite_en.pdf.

power plants, the TSO's requirements for the connectee basically determine the process. The terms of the connection and transmission are approved by the Energy Authority prior their entry into force.¹⁰⁹ Section 20 of the Electricity Market Act (588/2013) also sets out a time limit which is applied under certain conditions to the construction of the connection after the signing of the Connection Agreement. In addition, the statutory required assessments and permits direct the schedule of projects.

3.2.2.3 Influence of Offshore Wind Power on Transmission System

The TSO has an obligation to develop the network according to its customers' reasonable needs¹¹⁰ and to guarantee the efficient functioning of the network and the preconditions for efficiently functioning electricity markets.¹¹¹ Thus, when developing the network, the TSO should take into account the needs and interests of the entire power system¹¹², and the major reinforcement works and new transmission lines follow these "systemic needs".

In terms of single connections, the possible network connection points are considered in the negotiations between the TSO and the wind power developer in the early stages of the project. If additional structures or equipment should be constructed to enable the single connection, the TSO conducts the necessary construction works. The connectee is responsible for the costs, which probably reduces the willingness to connect in the places where the network is weak and new major investments necessary.

3.3 Planning and Authorisation

3.3.1 Assessments

Certain assessments should be conducted when planning a new transmission line. The assessments concerning the connection cables are generally included in the assessments made for the production units.

Land Use Planning

Pursuant to Section 9 of the Land Use and Building Act (132/1999), the land use plans shall be based on sufficient studies and environmental assessments, addressing also the community economic, social, cultural, and other impacts.¹¹³ The planning authority is generally responsible for these assessments and their sufficiency. However, if the special local master plan for wind power or a local detailed plan is prepared mainly for the needs of private interest and initiated by the landowner or wind power developer, the municipality may require the costs of assessments to be borne by the initiator.¹¹⁴ In practice, the wind power developer often conducts the assessments.

If the spatial plan is prepared for the project to which the Environmental Impact Assessment (EIA) is applied in accordance with the Act on Environmental Impact Assessment Procedure (252/2017), the environmental impacts can be assessed in the land use planning process instead of a separate EIA procedure. However, the impacts shall be assessed in a similar way

¹⁰⁹ Act on Surveillance of Electricity and Natural Gas Markets (590/2013), Section 10.

¹¹⁰ Electricity Market Act (588/2013), Section 19.

¹¹¹ Electricity Market Act (588/2013), Section 45.

¹¹² Government Proposal 20/2013, 95.

¹¹³ The required assessments are stipulated in more detail in Land Use and Building Decree (895/1999), Section 1.

¹¹⁴ Land Use and Building Act (132/1999), Sections 59 and 77 c.

as in a separate EIA procedure.¹¹⁵

Environmental Impact Assessment of Programmes and Plans of Authorities

The Act on Environmental Impact Assessment of Programs and Plans of Authorities (200/2005) applies directly to certain programmes and plans of authorities including the area development, land use, and energy supply plans which give frames for authorisation decisions.¹¹⁶ The assessment can be applied also in a case-by-case basis.¹¹⁷ The authority is responsible for the sufficient assessment of the environmental impacts.¹¹⁸ In the land use planning, the Land Use and Building Act (132/1999) requires a similar assessment procedure, as described above.

In the event that the plan or programme is likely to have significant impacts in other EU Member States or other State parties to an international convention to which Finland is also a party, the proposal of the plan or programme and the environmental assessment report shall be delivered to this State. Negotiations on the programme/plan shall be commenced if the other State so wishes.¹¹⁹

Environmental Impact Assessment

The Environmental Impact Assessment Procedure is regulated by the Act on Environmental Impact Assessment Procedure (252/2017) and the EIA Decree (277/2017). The project developer has a responsibility to conduct the assessment if it applies to the project.¹²⁰ The list of projects to which the EIA is always applied is to be found in Annex 1 of the EIA Act. These include, for example:

- New 220 kV aboveground transmission grids exceeding 15 km, and
- Wind power projects of at least 10 turbines or with a capacity of at least 30 MW.¹²¹

The ELY Centre can also decide to require an EIA after a case-by-case evaluation regarding the applicability of the assessment if a specific project is likely to have remarkable detrimental environmental effects.¹²² The factors affecting the requirement of an EIA on a case-by-case basis are further elaborated in Annex 2 of the EIA Act (252/2017) and in the EIA Decree (277/2017). The competent ELY Centre may become aware of the project in different ways and it may start the evaluation of the applicability of the assessment by itself.¹²³ Thus, citizens or NGOs may claim that the EIA should be conducted. The wind power developer may also request from the ELY Centre its decision on applicability. After receiving the necessary information about the project and its environmental impacts, the ELY Centre shall give the decision within one month.¹²⁴

¹¹⁵ EIA Act (252/2017), Section 5.

¹¹⁶ Act on Environmental Impact Assessment of Programs and Plans of Authorities (200/2005), Sections 1 and 4.

¹¹⁷ Act on Environmental Impact Assessment of Programs and Plans of Authorities (200/2005), Section 5.

¹¹⁸ Act on Environmental Impact Assessment of Programs and Plans of Authorities (200/2005), Section 6.

¹¹⁹ Act on Environmental Impact Assessment of Programs and Plans of Authorities (200/2005), Section 10.

¹²⁰ EIA Act (252/2017), Section 2, subsection 1, paragraph 5.

¹²¹ EIA Act (252/2017), Annex 1.

¹²² EIA Act (252/2017), Section 3.

¹²³ Government Proposal 259/2016, 60.

¹²⁴ EIA Act (252/2017), Section 13.

Under the EIA Act (252/2017), the environmental impact refers to a direct or indirect impact of the project or activity occurring in Finland or outside its territory and affecting:

- population and human health, living conditions and comfort;
- ground, soil, water, air, climate, flora and fauna, and biodiversity, and in particular the species and habitats protected under the Directive (92/42/EEA) or the Directive (2009/147/EC);
- community structure, material property, landscape, urban landscape, and cultural heritage;
- exploitation of natural resources; or
- the interrelationships of these factors.¹²⁵

In the EIA procedure, the remarkable environmental impacts that the project is likely to have are identified, evaluated, and described.¹²⁶

Pursuant to the EIA Act, an EIA procedure consists of the following phases:

- the preparation of an EIA Programme and an EIA Report by the developer;
- the carrying out of consultations regarding the EIA Programme and the EIA Report including international consultations;
- the examination by the competent authority of the information presented in the EIA Programme and the EIA Report and any relevant information received through the consultations including international consultations;
- the opinion of the competent authority on the EIA Programme;
- the Reasoned Conclusion by the competent authority on the significant effects of the project on the environment; and
- taking into consideration the EIA Report, the results of the consultations and the Reasoned Conclusion in the permit process, and the inclusion of the Reasoned Conclusion to the permit decision.¹²⁷

In the first stage, the EIA Programme is submitted to the ELY Centre. The programme includes information about the project, different project scenarios, a description of the current stage of the environment, and an account on how the assessment will be conducted.¹²⁸ After this, the programme is subject to public consultation. The consultation normally takes 30 days, but it can be extended to up to 60 days.¹²⁹ Within a month after the public consultation, the ELY Centre gives its statement (not a decision) on the EIA Programme.¹³⁰ After this, the EIA is conducted. As a result of the assessment, an EIA Report is drafted. The report must include a description of the remarkable effects of the project and the project scenarios and possibilities to minimise the effects.¹³¹ A public consultation is also organised regarding

¹²⁵ EIA Act (252/2017) Section 2, subsection 1, paragraph 1.

¹²⁶ EIA Act (252/2017) Section 2, subsection 1, paragraph 2.

¹²⁷ EIA Act (252/2017), Section 14.

¹²⁸ EIA Act (252/2017), Section 16; see also EIA Decree (277/2017), Section 3.

¹²⁹ EIA Act (252/2017), Section 17; see also EIA Decree (277/2017), Section 5.

¹³⁰ EIA Act (252/2017), Section 18.

¹³¹ EIA Act (252/2017), Section 19; see also EIA Decree (277/2017), Section 4.

the EIA Report. The consultation can take 30–60 days.¹³² Within two months after the public consultation, the ELY Centre evaluates the quality and sufficiency of the EIA Report, and gives its Reasoned Conclusion.¹³³

If the project causes impacts in the other State's territory, the public consultations shall be organised by the Ministry of the Environment.¹³⁴ The ELY Centre will provide it with the EIA Programme in the needed languages. After this, the Ministry sends a notification to the other State and offers the opportunity to give statements and opinions. Should the State want to participate in the process, it will later be provided with the EIA Report and offered the opportunity to participate in the process.¹³⁵

The permit authority shall not grant a permit for the implementation of the project before it has received the EIA Report and the Reasoned Conclusion of the ELY Centre.¹³⁶ The Reasoned Conclusion must be included in the permit, and the results of the public consultations must be taken into account.¹³⁷

In the event that the EIA is not required, the EIA Act (252/2017) sets out a general obligation to be aware of the negative environmental effects of the project.¹³⁸

As a breach against the conservation provisions can be considered as a nature conservation crime or offense, the impacts of the project should be assessed in case there are protected species or nature types in the project area under the Nature Conservation Act (1096/1996). The impacts of the project on the protected nature values are normally assessed as part of the EIA.

Natura Assessment

The project developer has a responsibility to conduct a Natura assessment if the project itself or together with other projects is likely to have detrimental effects on the nature values protected in a planned or existing Natura 2000 area. The provision applies to the projects inside and outside the Natura 2000 area. If the EIA procedure is conducted, the Natura assessment should usually be made as part of it.¹³⁹ In the event that further assessments are required after the EIA procedure has ended, these assessments can also be made separately.¹⁴⁰

Assessments pursuant to the Electricity Market Act (588/2013)

If the permit for a power line of at least 110 kV is required¹⁴¹, the Energy Authority or the Ministry of Economic Affairs and Employment evaluates the following issues¹⁴²:

- In the case of a cross-border interconnector, the Ministry assesses whether the new

¹³² EIA Act (252/2017), Section 20.

¹³³ EIA Act (252/2017), Section 23.

¹³⁴ EIA Act (252/2017), Section 28.

¹³⁵ EIA Act (252/2017), Section 29.

¹³⁶ EIA Act (252/2017), Section 25.

¹³⁷ EIA Act (252/2017), Section 26.

¹³⁸ EIA Act (252/2017), Section 31.

¹³⁹ Nature Conservation Act (1096/1996), Section 65.

¹⁴⁰ Government Proposal 259/2016, 75.

¹⁴¹ Electricity Market Act (588/2013), Section 14.

¹⁴² Electricity Market Act (588/2013), Section 16.

cable is necessary to guarantee the power transmission, and whether the construction of the cable promotes the electricity market development and reciprocity.

- In the case of other high-voltage power line, i.e. not interconnectors, the Energy Authority assesses whether the new line is necessary to guarantee the power transmission.
- Where the line would be a connection cable connecting the consumption place or one or several power plant(s) to the nearest high-voltage network, the permit shall be granted regardless.¹⁴³

Assessments in Expropriation

If the TSO or the party responsible for the connection cable (project developer) does not own or control the required land area, the right to use the land may need to be acquired by expropriation. Pursuant to the Act on Redemption of Immovable Property and Special Rights (603/1977), it has to be shown by the applicant that a public need requires the expropriation if the applicant is a private corporation.¹⁴⁴ The right to use the water area (sea-bed) for installing the cable can be also based on the Water Act (587/2011)¹⁴⁵ or on the Act on Redemption of Immovable Property for an Electricity Utility (168/1928).

3.3.2 Authorisation

3.3.2.1 Permits

The connection cable starts at the production plant and ends at the TSO's switchyard (or power line) in accordance with the terms set out in the Connection Agreement. It can be noted that normally the authorisations for the connection cables are acquired in the authorisation process of the wind farm.

Permits and Consents pursuant to the Electricity Market Act (588/2013)

- If the power line's voltage is at least 110 kV, a separate project permit has to be received from the Energy Authority for the installation. If the line crosses the border of the state, the permission is granted by the Ministry of Economic Affairs and Employment.¹⁴⁶
- The permission for the connection cable not crossing the border of the state and connecting at least one production unit to the nearest network with a voltage of at least 110 kV, shall be granted without further conditions.¹⁴⁷
- If the right to use the land area is not based on expropriation pursuant to the Act on Redemption of Immovable Property and Special Rights (603/1977), and the high-voltage cable is not located in the area reserved for this purpose in the land use plan, a consent from the municipality for the cable construction should be acquired.¹⁴⁸

Where connection cables would connect a wind farm to several countries and simultaneously function as a cross-border interconnector, a network operation permit requirement

¹⁴³ Electricity Market Act (588/2013), Section 16.

¹⁴⁴ Act on Redemption of Immovable Property and Special Rights (603/1977), Section 4.

¹⁴⁵ Water Act (587/2011) Chapter 2, Sections 12 and 13.

¹⁴⁶ Electricity Market Act (588/2013), Section 14.

¹⁴⁷ Electricity Market Act (588/2013), Section 16.

¹⁴⁸ Electricity Market Act (588/2013), Section 17.

and unbundling rules are likely to become applicable.

Permits Relating to the Installation of the Cable

The most significant environmental impacts of the cable occur normally when the cable is installed.¹⁴⁹ Dredging and excavating the seabed normally require a permit under the Water Act (587/2011).

The permit pursuant to the Water Act is also needed if a project may cause a change in the state, depth, water level or flow, shore, or aquatic environment of the water body or the quality or quantity of groundwater, and such change (including but not limited to):

- results in detrimental changes in the natural environment and the way it functions, or deterioration in the ecological status of a water body or groundwater body, or
- significantly reduces the beauty of nature, causes deterioration in the amenities of the environment or in cultural values or the suitability of the water body for recreational use, or
- causes damage or harm to fishing or fish stocks, or
- causes damage or harm to waterborne traffic or timber floating.¹⁵⁰

A permit is always needed for (including but not limited to):

- dredging of a water area when the quantity of the dredged material exceeds 500 m³, unless the dredging is for maintaining of a public channel, or
- when placing of dredged material into the Finnish territorial waters for the purpose of dumping it and the quantity of the dredged material in question is not insignificant, or
- a construction of a bridge or a transport device over a public or main channel and water, sewer, power or other line under a public channel.¹⁵¹ The Water Act (587/2011) was amended by Act 611/2017 (which came into force on 1st January 2018), as previously a permit was always needed also for projects where a tunnel or a water, sewer, power, or transport line was constructed under a main channel.

In the authorisation process pursuant to the Water Act, a comparison of public and private interests and contradicting private interests has to be conducted. In the water permit, the environmental effects in the area are comprehensively taken into account, including the effects on nature, fishing, waterborne traffic, and landowners' rights.

The permit regulations necessary to minimise the negative effects, any monitoring obligation(s) for the applicant, and possible compensations for the affected parties (including in relation to fishing and owners of the sea area) shall be set out in the water permit decision. A separate fisheries fee can be ordered to be paid, or measures to prevent and decrease the effects on fish stock or fishing can be ordered to be taken. The project developer shall pre-

¹⁴⁹ For example, the permit decision under Water Act for EstLink 2, Aluehallintovirasto, Päätös, Dnro ESAVI/322/04.09/2010, 9.11.2010, 18, 41–42.

¹⁵⁰ Water Act (587/2011), Chapter 3, Section 2.

¹⁵¹ Water Act (587/2011), Chapter 3, Section 3.

pare a detailed plan for implementing the preventive measures, which the fisheries authority confirms.¹⁵² In the same process, a permit to start the activities before the decision regarding the water permit is unappealable can be granted (authorisation for preparation).¹⁵³

The local detailed plans drafted for the area shall be taken into account when deciding on the permit.¹⁵⁴ In addition, the directing effect of the regional plans and local master plans are to be taken into account. Here, it can be noted that the maritime spatial plans as non-binding planning instruments are not mentioned.

The requirements of the Nature Conservation Act (1096/1996) are also to be taken into account when deciding on the water permit. If the project has material detrimental effects on the nature values protected in a Natura area, the permit authority shall not grant the permit. The permit can be granted in these situations only if the Council of State decides to grant the permit on the ground that the project is very important for the public interest and there are no other ways to implement it. In these cases, compensating actions shall be ordered. If there are priority habitats listed in Annex I or priority species listed in Annex II of the Nature Directive, the requirements are even stricter. In addition, the detrimental impacts to the species under national protection shall be taken into account in the permit.¹⁵⁵

The Antiquities Act (295/1963) should be taken into account, as well.¹⁵⁶ According to Chapter 3 of the Antiquities Act, old shipwrecks shall not be interfered without a permit granted by ELY Centre under Section 11 of the Act.

Environmental Permit

The permit under the Environmental Protection Act (527/2014) does not normally apply to the offshore cable projects because a risk of soil contamination is usually taken into account in the water permit, and thus a separate environmental permit is not needed. In the case of a wind farm, the environmental permit can be required if the neighbours may suffer from noise or flickering light¹⁵⁷.

Permit for the Exploration and Survey of the Seabed

Pursuant to the Territorial Surveillance Act (755/2000), a permit is required for the exploration of the formation, structure, or composition of the seabed or sediments through geological or geophysical surveys in Finnish territorial waters. A permit is also required for systematic measurement and recording of the topography of the seabed.¹⁵⁸ The permit is issued if the activity in question does not put Finnish territorial surveillance at risk or if such risk can be materially reduced by the permit regulations. Regulations on the activity and equipment used in the activity, the technical characteristics of the equipment, and the area and duration of the activity can be included in the permit if such regulations are considered necessary for territorial surveillance and the safety of the applicant.¹⁵⁹ The permit is granted by the Defence Staff.¹⁶⁰ Permits for the exploration and survey of the sea bottom are not

¹⁵² Water Act (587/2011), Chapter 3, Sections 10–12 and 14–15.

¹⁵³ Water Act (587/2011), Chapter 3, Section 16.

¹⁵⁴ Water Act (587/2011), Chapter 3, Section 5.

¹⁵⁵ Nature Conservation Act (1096/1996), Section 66.

¹⁵⁶ Water Act (587/2011) Chapter 1, Section 2.

¹⁵⁷ Environmental Protection Act (527/2014), Section 27.

¹⁵⁸ Territorial Surveillance Act (755/2000), Section 12.

¹⁵⁹ Territorial Surveillance Act (755/2000), Section 19.

¹⁶⁰ Territorial Surveillance Act (755/2000), Section 20.

needed in the EEZ.

Construction or Action Permit

The installation of power lines does not require a building permit under the Land Use and Building Act (132/1999). Nevertheless, in the event that a new switchyard needs to be constructed, onshore or offshore, a separate building permit or action permit may become applicable.¹⁶¹ The permit should be acquired from the local building control authority of the municipality.¹⁶²

Right to Use the Land or Seabed

The wind power developer has to acquire the right to use the water and land areas where the cable route is planned. Normally the wind power developer does not purchase the required land areas. The right to use the area can be based on the consent of the land or water area owners (i.e. seabed owners (private or public)) or on lease, or the right can be pursuant to expropriation. A separate permit for the expropriation is needed in certain cases. An authorisation for preparation of the land/water area before the permit decision has become unappealable can also be granted.¹⁶³

When constructing new transmission network, the TSO may also purchase the necessary land areas.¹⁶⁴ It can also acquire the land use right in the expropriation process.¹⁶⁵

Authorisations in the Exclusive Economic Zone

The Act on the Exclusive Economic Zone of Finland (1058/2004) regulates the activities and applicability of other Acts in the EEZ. On artificial islands, installations, and other structures, Finnish law is applied as it is applied in the nearest territorial area.¹⁶⁶ A consent from the Council of State is needed to exploit the EEZ¹⁶⁷ and to build in the EEZ if the building could hinder the right of the Finnish State to use its rights under international law.¹⁶⁸ It should be noted that all the States have the right to lay cables in the EEZ of the other States under UNCLOS Article 58.

3.3.2.2 Concentration Opportunities

Pursuant to the EIA Act (252/2017), the environmental impacts of a project requiring an EIA can also be assessed in a procedure provided in another Act.¹⁶⁹ It could be the case, for example, in a land use planning process relating to a wind farm regulated by the Land Use and Building Act.¹⁷⁰

When a plan is drafted in order to implement a project requiring an EIA, the environmental impacts of a given project can be assessed in connection with the planning process instead

¹⁶¹ Land Use and Building Act (132/1999), Sections 125 and 126.

¹⁶² Land Use and Building Act (132/1999), Section 130.

¹⁶³ Water Act (587/2011), Chapter 3, Sections 16 and 17.

¹⁶⁴ Fingrid Oyj, "Maankäyttö- ja ympäristöpolitiikka," 2017, 7, https://www.fingrid.fi/globalassets/dokumentit/fi/julkaisut/fingrid_maankayttojaysmparisto_2017fi.pdf.

¹⁶⁵ Fingrid Oyj, "Näin etenee voimajohtohanke etenee," 10–11, https://www.fingrid.fi/globalassets/dokumentit/fi/julkaisut/nain_etenee_voimajohtohanke_6-2016.pdf.

¹⁶⁶ Act on the Finnish Exclusive Economic Zone of Finland (1058/2004), Section 17.

¹⁶⁷ Act on the Finnish Exclusive Economic Zone of Finland (1058/2004), Section 6.

¹⁶⁸ Act on the Finnish Exclusive Economic Zone of Finland (1058/2004), Section 7.

¹⁶⁹ EIA Act (252/2017), Section 5.

¹⁷⁰ Government Proposal 259/2016, 58.

of the process provided in the EIA Act (252/2017). In this case, the wind power company has to provide the authority responsible for drafting the plan with the EIA Programme and the EIA Report. The ELY Centre is responsible for assessing the adequacy of the EIA and for writing the Reasoned Conclusion.¹⁷¹

In the event that the abovementioned procedures are not applicable in the project, the public consultations connected to the EIA procedure and the spatial plan for the project can be connected if they are pending at the same time. First, the public consultation for the EIA Programme and the notification of the Participation and Assessment Scheme of the Land Use and Building Act (132/1999) can be organised in a joint procedure. Second, the public consultation for the EIA Report and the presenting of the spatial plan proposal can be merged.

Regarding the projects with PCI status¹⁷², the Energy Authority functions as a coordinating authority. The relevant permits for the electricity transmission included in the PCI process are the project permission for a high-voltage grid¹⁷³, the consent from the Council of State to exploit and use the Finnish EEZ¹⁷⁴, the water permit under the Water Act, the construction, action and exemption permits¹⁷⁵ under the Land Use and Building Act, and the expropriation permit (and the permit under the Environmental Protection Act (527/2014))¹⁷⁶.

The Ministry of the Environment is currently preparing a one-stop shop Act for environmental permits, water permits, nature protection exemptions, EIAs, and building permits. The Act would make it possible to obtain all the abovementioned permits from a point of single contact. The Ministry aims to give a Government Proposal on the harmonisation of the different permit procedures to the Parliament in the spring of 2018. Currently, the draft legislation is in public consultation.¹⁷⁷ Different ministries have also drafted a Government Proposal regarding, among other things, renewing the roles of provinces in Finland. A new state permit authority (LUOVA) is proposed to be founded. It would act as a permit authority for permit matters that are currently processed by the Regional State Administrative Agencies (AVI) and the ELY Centres.¹⁷⁸

3.3.2.3 Permit Authorities

The Regional State Administrative Agencies (AVI) are responsible for issuing the permits under the Water Act (587/2011) in their functioning areas.¹⁷⁹ If a permit under the Environmental Protection Act (527/2014) is also required in a project requiring a permit under the Water Act, the competent AVI is responsible for issuing both permits. Therefore, if a permit under the Environmental Protection Act is required for an offshore wind farm, the permit shall be issued by the competent AVI, as a water permit is also needed.¹⁸⁰ In the Finnish exclusive economic zone, the AVI of Southern Finland is responsible for issuing the water

¹⁷¹ Land Use and Building Act (132/1999), Section 9.

¹⁷² See Act on the authorisation procedure of the energy projects of common interest of European Union (684/2014).

¹⁷³ Electricity Market Act (588/2013), Section 14.

¹⁷⁴ Act on the Exclusive Economic Zone of Finland (1058/2004), Sections 6 and 7.

¹⁷⁵ Land Use and Building Act (132/1999), Sections 125, 126 and 171.

¹⁷⁶ Environmental Protection Act (527/2014), Section 27.

¹⁷⁷ Ministry of the Environment, "Yhden luukun lainsäädäntöhanke," http://www.ym.fi/fi-FI/Ymparisto/Lainsaadanto_ja_ohjeet/Ymparistonsuojelun_valmisteilla_oleva_lainsaadanto/Yhden_luukun_lainsaadantohanke.

¹⁷⁸ Government Proposal 14/2018, 1.

¹⁷⁹ Water Act (587/2011), Chapter 1, Section 7.

¹⁸⁰ Environmental Protection Act (527/2014), Sections 34 and 47.

permit and environmental permit.¹⁸¹

The expropriation permit is granted by the Council of State after its preparation by the Ministry of Economic Affairs and Employment. However, if the affected interest parties do not object to the expropriation and the expropriation has minor effect to private or public interest, the Finnish Land Survey may decide on the expropriation permit.¹⁸²

The building permit, if needed, is acquired from the local building control authority of the respective municipality.¹⁸³

The project permit for a high-voltage grid is granted by the Energy Authority, or in the case of a cross-border grid, the Ministry of Economic Affairs and Employment.¹⁸⁴

If the right to use the land area is not based on the Act on Redemption of Immovable Property and Special Rights (603/1977), and the high-voltage cable is not located in the area reserved for this purpose in the land use plan, the consent from the municipality for the cable construction should be acquired.¹⁸⁵

The PCI authorisation procedure is coordinated by the Energy Authority, but the permits are granted by the separate authorities.¹⁸⁶

3.3.2.4 International Coordination

Pursuant to the EIA Act, the Ministry of the Environment is responsible for fulfilling the tasks required by international agreements for Finnish projects that could have significant environmental effects in another EU Member State or a party to the international agreement. In these situations, the Ministry of the Environment has to offer the EU Member State or a party to the international agreement an opportunity to participate in the public consultation.¹⁸⁷

Despite the coordination in the EIA procedure, the permit procedures are usually not coordinated. In the interconnector projects, for example the environmental permits have to be acquired separately from the relevant authorities of the concerned countries. In the cross-border projects with PCI status, the competent authorities from different countries should coordinate and cooperate in the permit process.¹⁸⁸

3.3.3 Land Use Planning

3.3.3.1 Impact of the General Land Use Plan

The land use plans direct the land use as follows:

- The upper level plans direct the lower-level, more detailed plans
- When a detailed plan is given, the higher plan loses its directional effect

¹⁸¹ Act on the Exclusive Economic Zone of Finland (1058/2004), Section 18.

¹⁸² Act on the Redemption of Immoveable Property and Special Rights (603/1977), Section 5.

¹⁸³ Land Use and Building Act (132/1999), Section 130.

¹⁸⁴ Electricity Market Act (588/2013), Section 14.

¹⁸⁵ Electricity Market Act (588/2013), Section 17.

¹⁸⁶ Act on the Authorisation Procedure of Projects of Common Interest (684/2014), Section 3.

¹⁸⁷ EIA Act (252/2017), Section 28.

¹⁸⁸ Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009 Text with EEA relevance, Article 8.

- A contradiction with the land use plan may turn out to be an obstacle for construction.

The planning system is based on the plans at different levels:

- National Land Use Guidelines¹⁸⁹
- Regional plan
- Local master plan/ special local master plan (can be specifically for wind power)
- Local detailed plan.

The significant cable routes should be marked on the regional plans according to the National Land Use Guidelines.¹⁹⁰ Remarkable power lines can be interpreted to include at least the power lines included in the main grid. The power lines should primarily follow the existing channels, such as earlier cable routes.¹⁹¹

The land use plans direct the use of land areas under both private and public ownership. In the land areas, the plans are elementary instruments to direct the land use. In the water areas, the plans have not been drafted in such a comprehensive way. The municipalities and the regional councils have drafted plans which cover part of the municipal water areas until the exclusive economic zone (EEZ) begins.¹⁹²

Maritime spatial planning has been based on the regional, master, and local detailed plans, though the emphasis has been on the land areas.¹⁹³ The EEZ has not been planned earlier. In 2016, the Directive on Maritime Spatial Planning (2014/89/EU) was implemented into the national legislation. Today, Chapter 8a of Land Use and Building Act (132/1999) sets out the requirements for maritime spatial plans which direct the use of water areas in the Finnish territorial waters and the EEZ. The plans have no legal effect and they are not binding in relation to decisions and permissions concerning the use of the maritime areas. The plans are more to coordinate approaches of different authorities and achieve synergies in planning in the different fields.¹⁹⁴

The authorities, when granting permits, should take into account the land use planning. The plans are taken into account in expropriation and water permit procedures.

The Regional Councils are responsible for preparing the maritime spatial plans by 31st March 2021. Three maritime spatial plans will be prepared, and they should be updated at least every ten years. These plans have no legal effects but function as a coordinative instrument between different authorities.

3.3.3.2 Role of Land Use Plan

The construction should be based on the plan. The principal rule is that the construction should be based on the local detailed plan, or on a legally binding master plan.¹⁹⁵ If there is no spatial plan in force for the area in which a wind power farm is aimed to be constructed,

¹⁸⁹ The National Land Use Guidelines were updated in 2017 (in force 1st April 2018).

¹⁹⁰ The National Land Use Guidelines, 13.11. 2008, 14 (in force until 31st March 2018); the National Land Use Guidelines, 14.12.2017, 9 and 10 (in force 1st April 2018).

¹⁹¹ *Ibid.*

¹⁹² Government Proposal 62/2016, 2.

¹⁹³ Government Proposal 62/2016, 3.

¹⁹⁴ *Ibid.*, 7–8.

¹⁹⁵ Land Use and Building Act (132/1999), Sections 135 and 136.

such a plan should be drafted. A special local master plan for wind power can be prepared and if it is separately stated in the plan, the construction of the wind farm can be based on this master plan.¹⁹⁶

The construction of substations/switchyards may require a building permit or an action permit. The conditions for the building permit are elaborated in Chapter 19 of the Land Use and Building Act (132/1999) and in the Land Use and Building Decree (895/1999). The power cables do not need a separate building permit. If a high-voltage cable route is not included in the plan and the right to use the area is not given in the expropriation procedure pursuant the Act on Redemption of Immovable Property and Special Rights (603/1977), a consent from the municipality is required.¹⁹⁷

3.3.3.3 Private Property Acquirements and Company

In the case of power cables and substations, the right to use a certain property can be acquired by expropriation, by lease, or by purchase. Expropriation can be based on:

- Act on Redemption of Immovable Property and Special Rights (603/1977)
- Act on Redemption of Immovable Property for an Electricity Production Utility (168/1928)
- Water Act (587/2011)
- Highways Act (503/2005)
- Section 161 of Land Use and Building Act (132/1999).

The expropriation procedure includes two phases. The permit phase is not always applied but is required in some specific cases. The expropriation proceeding is the procedure to conduct the expropriation and to set the remunerations.

The Redemption Act (603/1977) is usually applied to the high-voltage cable projects on-shore.¹⁹⁸ In the case of the maritime power cables, the Water Act (587/2011) can also be applied.¹⁹⁹ According to the Redemption Act, a property or right to use the property can be expropriated if there is a public need for it.²⁰⁰ The expropriation of the right to use the water area pursuant to the Water Act requires also a public need for the project in some cases.²⁰¹

The Act on Redemption of Immovable Property for an Electricity Production Utility (168/1928) can be applied if the right to use the land area is needed for a wind farm and its cables. Here, the public-need requirement is not as strict as in the Redemption Act because the electricity production unit should have a “rather public” significance. The Act is rarely applied but is still in force.²⁰² In the event that the cable is located in the land areas of highways, the right to install the cable can be also granted under the Highways Act

¹⁹⁶ Land Use and Building Act (132/1999), Section 77a.

¹⁹⁷ Electricity Market Act (588/2013), Section 17.

¹⁹⁸ Ympäristöhallinnon ohjeita 5/2016, Tuulivoimarakentamisen suunnittelu, päivitys 2016, 60, <http://urn.fi/URN:ISBN:978-952-11-4634-3>.

¹⁹⁹ For example, the permit decision under the Water Act for EstLink 2, Aluehallintovirasto, Päätös, Dnro ESAVI/322/04.09/2010, 9.11.2010, 42. The permit was granted under the Water Act (264/1961) but analogy to the Water Act (587/2011) in force can be made here.

²⁰⁰ Act on Redemption of Immovable Property and Special Rights (603/1977), Section 4.

²⁰¹ Water Act (587/2011), Chapter 2, Section 13a.

²⁰² The Supreme Administrative Court applied the Act in its decision, KHO:2007:41.

(503/2005).²⁰³

The owner of the property may have an obligation to allow a cable route in the property in certain situations pursuant to the Land Use and Building Act.²⁰⁴ The provision has been seen applicable to the power cables inside the wind farm. Whether the right to use the property in the case of a high-voltage transmission grid could be based on the same provision does not seem to be probable in the light of wording of the provision and the Supreme Administrative Court Decision²⁰⁵.

The principal rule is full compensation for the resulting inconvenience. Pursuant to the Redemption Act (603/1977), the compensation for the value of the property, the inconvenience, and possible indemnity shall be paid to the property owner.²⁰⁶

3.3.3.4 Relations between Private Property, Property Use, the Exclusive Economic Zone and Land Use

The Land Use and Building Act (132/1999) regulates also the land use in relation to private properties. The right to use a property of a private owner can be acquired by purchase, lease, or expropriation.

The Finnish coastal waters can be owned by private persons or municipalities or by joint ownership²⁰⁷, and the right to use the water areas and seabed has to be acquired, too. The Act on the Borders in Water and Division of the Water Area (31/1902) stipulates also the ownership issues in the water areas.

In the EEZ, the Land Use and Building Act (132/1999) is applied only to the extent of Chapter 8a on maritime spatial plans. Thus, no other land use plans can be drafted for the EEZ. It can be noted that the United Nations Convention on the Law of Sea regulates also the activities in the EEZ, guaranteeing, for example, the right to lay cables.²⁰⁸

3.3.3.5 Role of Land Use in the Authorisation Process

Pursuant to the Land Use and Building Act (132/1999), the land use planning and objectives shall be taken into account, as separately prescribed, when planning and deciding on the use of environment under other legislation.²⁰⁹ The building permit, if applicable, cannot be contrary to the spatial plan.²¹⁰ The building permit can be based on the local detailed plan or a special local master plan for wind power.²¹¹

In the water permit procedure, the permit authority shall take into account the land use planning in the area. The special local master plans for wind power and regional plans shall be observed, but the local detailed plan shall be observed in particular. The permit shall not significantly hinder the planning of the area.²¹² The Supreme Administrative Court has con-

²⁰³ Highways Act (503/2005), Sections 42 and 42a.

²⁰⁴ Land Use and Building Act (132/1999), Section 161.

²⁰⁵ The Supreme Administrative Court Decision, KHO:2015:69.

²⁰⁶ Act on Redemption of Immovable Property and Special Rights (603/1977), Section 29.

²⁰⁷ Act on Common Areas (758/1989).

²⁰⁸ United Nations Convention on the Law of the Sea, Article 58.

²⁰⁹ Land Use and Building Act (132/1999), Section 3.

²¹⁰ Land Use and Building Act (132/1999), Sections 135 and 136.

²¹¹ Land Use and Building Act (132/1999), Sections 77a, 135, and 136.

²¹² Water Act (587/2011), Chapter 3, Section 5.

sidered land use planning and its effects on the systematic land use development in the context of the interest balancing in the water permit process.²¹³

In the expropriation permit procedure, the applicant should give an account of the planning situation in the area if necessary.²¹⁴ Thus, the planning is taken into account in the permit consideration. After the expropriation proceedings, the municipality has right to appeal against the expropriation if it considers that the permit hinders land use planning or implementation of a plan, and the issue is not decided in a legally binding way in the expropriation permit process.²¹⁵

3.3.4 Determination of the Offshore Cable Route

In accordance with the National Land Use Guidelines, the remarkable power cable routes should be marked on the regional plans.²¹⁶ It can be noted that the cable routes are approximate; nevertheless, they shall be then taken into account in the more detailed plans.

In the maritime areas, the final cable routes are usually not known before the actual installation. The regulations concerning the installation and the cable route can be given in the permit pursuant the Water Act (587/2011), and they may relate to, for example, the minimisation of the effects on Natura 2000 areas, protected natural values of the seabed, and shipping. The water permit regulations may also require that the cable is installed in the deepest places if there are public channels which the cable may disturb.

The exact location of the cable route depends also on the seabed and its geographical forms. In the installation phase, the difficult sections of the seabed surface are likely to be avoided. The elevation of the land may, at least theoretically, affect the secure use of the cable in the longer term, specifically in the shallow waters. Land elevation is relatively rapid on the west coast of Finland, especially near to Kvarken.

If the cable route deviates from the original plan and the conducted EIA does not cover properly the effects of new cable route, new assessment on these parts can be required by the ELY Centre under the EIA Act.²¹⁷

In accordance with the Act on Protection of Certain Underwater Cables (145/1965), the installer of a new cable is responsible for compensating any resulting damage if the old cable is affected.

The network connection point is in practice determined by the TSO according to the available capacity and reliability of the network. Thus, the existing transmission network infrastructure has a prevailing role when the TSO assesses where a new power production plant could be connected. In addition, the spatial plan and the building permit for the wind farm and potentially for the maritime substation(s) direct the connection cable route and distance to the onshore connection point. The other activities and functions in the maritime areas (for example, fishing, shipping, Natura 2000 areas, shipwrecks, and other undersea cables) are taken into account also when determining the location of the wind farm. The effects on the other activities are evaluated in the permit process pursuant to the Water Act

²¹³ The Supreme Administrative Court Decisions, KHO:2014:41 and KHO:2016:142.

²¹⁴ Act on Redemption of Immovable Property and Special Rights (603/1977), Section 7.

²¹⁵ Act on Redemption of Immovable Property and Special Rights (603/1977), Section 90.

²¹⁶ The National Land Use Guidelines, 13.11.2008, 14 (in force until 31st March 2018); the National Land Use Guidelines, 14.12.2017, 9 and 10 (in force 1st April 2018), http://www.ymparisto.fi/fi-FI/Elinymparisto_ja_kaavoitus/Maankayton_suunnittelujarjestelma/Valtakunnalliset_alueidenkayttotavoitteet.

²¹⁷ EIA Act (252/2017), Section 24.

(587/2011).²¹⁸

3.3.5 Administrative Process Time Frame

When it comes to connection cables, the authorisation process is normally conducted at the same time as the wind farm authorisation. The process including the EIA, a new special local master plan for wind power, and an environmental permit or water permit can take 1.5–3 years or more. In terms of the wind farm projects, the case of Pori Tahkoluoto II provides an example; the EIA Programme was prepared in 2006, and the farm was commissioned in August 2017²¹⁹.

The appeals on the land use plan and the water permit follow different appeal routes, and they are not necessarily handled simultaneously. The land use plan can be appealed in accordance with the Municipality Act (410/2015) in an administrative court, whereas the water permit can be challenged in the Administrative Court of Vaasa. In both cases, the grant of leave to appeal to the Supreme Administrative Court is possible. In addition, if the building permit is challenged, the process takes place in an administrative court.

In terms of onshore transmission grid projects, the authorisation process is simpler and shorter as neither a water permit nor an environmental permit is required and a separate land use plan is not needed. When constructed in maritime areas, the water permit procedure, if applicable, requires time.

3.3.6 Validity Period of Granted Authorisation and Extension Conditions

In the event that a building permit is required under the Land Use and Building Act (132/1999), as it is in the case of wind farms, the construction should be commenced within three years from the moment the building permit becomes unappealable, and should be completed within five years. Where the action permit is applied, the construction should be completed within three years. Prolongation can be granted by the local building authority.²²⁰

The permit under the Water Act (587/2011) can be granted for an indefinite period. In such case, the time limit for the commencement (up to 4 years) and completion (up to 10 years) of the project should be set. The permit expires if the time limits are exceeded. Where the permit expires, the granted right to use a property will also expire. The permit authority may, for a specific reason, prolong the abovementioned time period limits in the case of a permit granted for an indefinite period.²²¹

When the expropriation permit is granted, the expropriation proceedings begin. In that sense, the permit does not expire. The effects of the expropriation are permanent; however, changes can be made under Chapter 8a of the Redemption Act (603/1977) if the conditions have changed or if the expropriation has become useless for the expropriator.

The period of the project permit for a high-voltage line is not stipulated in the Electricity Market Act (588/2013). Pursuant to Section 16, the permit regulations can be given if necessary, and possibly also regarding the time limits.

²¹⁸ Water Act (587/2011), Chapter 3, Section 4.

²¹⁹ Suomen Hyötytuuli, “Tahkoluoto Offshore Wind Farm,” <http://hyotytuuli.fi/en/tuulipuistot/tahkoluoto-offshore-wind-farm/>.

²²⁰ Land Use and Building Act (132/1999), Section 143.

²²¹ Water Act (587/2011), Chapter 3, Sections 8 and 9.

3.3.7 Cost Allocation

3.3.7.1 Assessments

The wind power developer is responsible for the costs of the EIA²²² and Natura assessment²²³ relating to the wind farm and the connection cables, whereas the TSO is responsible for the assessment costs relating to the general development of the transmission system. The environmental assessments relating to the land use planning will be at the cost of the planning authority, though if the wind power developer has initiated the preparation of a new plan, it may have to bear the costs.²²⁴

3.3.7.2 Administrative Cost Responsibilities

The permits are not granted free of charge; the applicant has to pay a fee based on the Act on Criteria for Charges Payable to the State (150/1992) and the Decrees given thereunder. The applicant, the wind power developer, or the TSO is responsible for paying the fee.

- Pursuant to the Water Act, the water permit fee can be charged to the applicant, which is often the case in practice.²²⁵
- The applicant shall normally pay the costs of the expropriation proceedings, including also the inevitable costs of the property owner resulting from him/her defending his/her rights in the proceedings.²²⁶
- The wind power developer may initiate a preparation of a new land use plan for the wind farm. In these situations, the costs can be charged completely or partly to the company.²²⁷
- Pursuant to the Decree on Charges Payable for the Services of the Energy Authority (869/2016), the permit for a high-voltage grid is subject to charge. However, the assessment costs as such are not chargeable to the wind farm developer.²²⁸

Where the permit has been challenged in the competent appeal court, either the parties have to bear their own costs of the process, or the party may have to bear the costs of another party if it would be unreasonable for the latter to bear these costs.²²⁹ Thus, where the permit is challenged and it would be considered unreasonable that the offshore wind power developer (or the TSO) bears its own costs, the appellant can be obliged to do so.

3.3.7.3 Real Estate Tax

The Real Estate Tax Act (654/1992) was amended at the end of 2017 concerning the definition of a power plant. Consequently, as of 1st January 2018 wind power plants are defined as power plants under the Act if there is more than one power plant connected via a shared connection point to the distribution or transmission grid and the nominal power of the

²²² EIA Act (252/2017), Section 38.

²²³ Nature Conservation Act (1096/1996), Section 65.

²²⁴ Land Use and Building Act (132/1999), Section 9, 59, and 77c.

²²⁵ Water Act (587/2011), Chapter 18, Section 12.

²²⁶ The Redemption Act (603/1977), Sections 81 and 82.

²²⁷ Land Use and Building Act (132/1999), Sections, 59 and 77 c.

²²⁸ Decree on Fees Payable for the Services of the Energy Authority (869/2016), Sections 2 and 4. Electricity Market Act (588/2013), Section 116.

²²⁹ Administrative Judicial Procedure Act, Section 74.

plants accounts in total to more than 10 MVA.²³⁰ Power plants have a higher real estate tax, and as more wind power plants are now taxed at this rate according to the Real Estate Tax Act, this increases the production costs for wind power borne by the wind power developer.

3.3.8 Responsibility Division of International Grid Development

Pursuant to the Electricity Market Act (588/2013), the development of the network in a way that guarantees the efficient use of the network as well as preconditions for the efficient national, regional, and EU-wide electricity markets is a task of the TSO with system responsibility.²³¹ The TSO is also responsible for the development of the cross-border interconnections. When developing the network, the TSO should take into account the needs and interests of the entire power system.²³² In the case of cross-border interconnectors, the TSOs plan together the new transmission solutions.²³³ The costs of the new interconnectors are divided between the TSOs. The System Operation Agreement between Nordic TSOs stipulates the operation of the interconnections.

3.3.9 Stakeholder Participation in the Administrative Process

Pursuant to Section 20 of the Constitution of Finland (731/1999), the public authorities shall endeavour to guarantee for everyone the right to a healthy environment and the opportunity to influence the decisions that concern their own living environment. Finland has also ratified the Århus Convention by the Act 767/2004 and the Presidential Decree 866/2004.

In the transmission grid projects, the opportunities for the public to participate relate to the assessments and authorisation procedures. The relevant authority in each process is responsible for the public hearings. The hearings can in some cases be coordinated and in some cases “merged”.²³⁴

The entitled participants may vary between the different assessment and permit procedures:

- In terms of the public hearings in the EIA procedure, the entitled group of participants is not limited.²³⁵
- In land use planning, all the inhabitants of the municipality and affected parties are entitled to make objections.²³⁶
- In the water permit procedure, the interested parties have the opportunity to give objections, whereas others are entitled to express their opinion.²³⁷
- In the expropriation procedure, the landowner has the right to give a statement.²³⁸

²³⁰ Real Estate Tax Act (654/1992), Section 14.

²³¹ Electricity Market Act (588/2013), Section 45.

²³² Government Proposal 20/2013, 95.

²³³ Regulation 2009/714 of the European Parliament and the Council of 13 July 2009, art. 12. For example: Fingrid Oyj, “Fingrid enables power system transition: Mega investments and proposals for concrete reforms for the electricity market,” 2017, <https://www.fingrid.fi/en/pages/news/news/2017/fingrid-enables-power-system-transition-mega-investments-and-proposals-for-concrete-reforms-for-the-electricity-market/>.

²³⁴ EIA Act (252/2017), Section 5; Land Use and Building Decree (895/1999), Section 1.

²³⁵ EIA Act (252/2017), Sections 17 and 20.

²³⁶ Land Use and Building Act (132/1999), Section 65.

²³⁷ Water Act (587/2011), Chapter 11, Section 7.

²³⁸ Redemption Act (603/1977), Section 8.

The objective of arranging the public participation in the EIA to give everyone the opportunity to influence the decision making that affects his/her own living environment. At the same time, the EIA process gives information on the project to the public.²³⁹ The public participation also helps to gather knowledge on the issues that would not otherwise come out. This may reduce the possible appeals against the authorisation decision as the relevant interest can be taken into account in the authorisation decision.

The public hearing is arranged regarding the EIA in two phases. The first phase concerns the EIA Programme and the second phase EIA Report. The EIA Programme should normally be displayed to the public after which the affected parties have, according to the proclamation, between 30 and 60 days to give their objections concerning the Programme.²⁴⁰ Second, after the EIA Report is ready, the other formally similar hearing is arranged. The EIA Report proclamation and hearing can be organised together with the other proclamations and hearing for the same project.²⁴¹ In addition, the project developer and the ELY Centre may conclude other arrangements concerning the proclamation and hearing.²⁴² The connection authority shall give its statement on the EIA Report and its sufficiency. This statement will also include a summary on the objections and statements of other authorities.

In terms of the land use planning, the public participation will be required involving the landowners and those whose living, working, and other conditions may be substantially affected by the plan, as well as the authorities and organizations in the relevant field of operation (interested parties).²⁴³ When drafting a new land use plan, a participation and communication plan shall be done.²⁴⁴ The draft plan shall be displayed and informed to the public. Citizens of the municipality and other interested parties shall have the opportunity to make objections to the draft. The objections can be given in writing or orally, and a public hearing can be organised.²⁴⁵ If the plan is substantially modified after the public hearing, the new draft has to be displayed.²⁴⁶ For those who have made objections on the land use plan, the municipality has to give a justified statement (i.e. response).²⁴⁷ Also, the accepted plan has to be sent to those parties.²⁴⁸

Where the water permit is applicable, the public participation is also required.²⁴⁹ The permit authority shall reserve to the parties whose rights, benefits, or obligations the matter may involve (interested parties) the opportunity to lodge an objection to the matter. Other parties shall be given an opportunity to express their opinions. The application shall be communicated to the public by a public proclamation. The proclamation shall be available to the public for 30–45 days, depending on the decision of the permit authority.²⁵⁰ The interested parties whom the matter specifically concerns, shall be individually informed.²⁵¹ The permit

²³⁹ EIA Act (252/2017), Section 1.

²⁴⁰ EIA Act (252/2017), Section 17.

²⁴¹ EIA Act (252/2017), Section 5; Government Proposal 259/2016, 58.

²⁴² EIA Act (252/2017), Section 21.

²⁴³ Land Use and Building Act (132/1999), Section 62.

²⁴⁴ Land Use and Building Act (132/1999), Section 63.

²⁴⁵ Land Use and Building Decree (895/1999), Section 30.

²⁴⁶ Land Use and Building Decree (895/1999), Section 32.

²⁴⁷ Land Use and Building Act (132/1999), Section 65.

²⁴⁸ Land Use and Building Act (132/1999), Section 67.

²⁴⁹ Water Act (587/2011), Chapter 11, Section 7.

²⁵⁰ Water Act (587/2011), Chapter 11, Section 10.

²⁵¹ Water Act (587/2011), Chapter 11, Section 11.

authority shall reserve to the interested parties an opportunity to present oral evidence, if considered necessary.²⁵²

If the right to use the land is acquired pursuant to the Water Act (587/2011), the expropriation can be dealt with in the water permit procedure.

If the Redemption Act (603/2011) applies to the expropriation, the owner of the land shall be afforded the opportunity to give a statement if the owner has not given written consent to the expropriation.²⁵³ The time to give a statement shall be 30–60 days from the day the application was published.

The participation is possible in practice at every stage of the authorisation process as follows:

- In the EIA procedure, in relation to both the EIA Programme and the EIA Report
- In the spatial planning, in relation to initially the draft plan and the assessments, and later the proposal for the spatial plan
- In the water permit process, after the application has been informed
- In the expropriation process, either simultaneously with the permit procedure or separately in the process under the Redemption Act (603/1977).

Objections and opinions expressed in the public participation process are not binding, though they should be taken into account in the authorisation: the EIA Report and the statement of the coordinating authority (the authority ensuring that the environmental impact assessment procedure is carried out for the project) shall be taken into account in the applicable permit procedures;²⁵⁴ in the land use planning procedure, the municipality has to give justified statements (by way of a response) for those who have made objections on the land use plan;²⁵⁵ if objections to a water permit application have been given, the permit authority shall inspect them.²⁵⁶

3.3.10 Reviewing Granted Authorisation

3.3.10.1 Possibilities and Eligibilities

The different permit decisions are challenged separately. In the following, the appeal processes relating to abovementioned permits and the entitled appellants are described. The time frame to appeal against the permit is normally 30 days from the public announcement or other service of the permit decision.²⁵⁷ The project developer bears the risks of the review process.

Generally, decisions by administrative authorities can be appealed directly to the Administrative Court. A decision taken by the Administrative Court may be further appealed before the Supreme Administrative Court. In some cases, however, a leave to appeal is required from the Supreme Administrative Court, as is the case in many environmental matters. If

²⁵² Water Act (587/2011), Chapter 11, Section 15.

²⁵³ Redemption Act (603/1977), Section 8.

²⁵⁴ EIA Act (252/2017), Section 25.

²⁵⁵ Land Use and Building Act (132/1999), Section 65.

²⁵⁶ Water Act (587/2011), Chapter 11, Section 17.

²⁵⁷ Water Act (587/2011), Chapter 15, Section 5; Act on Administrative Judicial Procedure Section 22; Municipality Act (410/2015), Section 138.

the leave to appeal is not granted, the decision of the Administrative Court becomes unappealable.

Water Permit

Pursuant to Chapter 15 of the Water Act (587/2011), the permit decision can be appealed by an interested party within 30 days from the publication of the decision. The permit decision can be also challenged by: a registered organisation or foundation whose operation field is affected (environment, health, nature, living environment); the municipality affected by the project; a state authority or an environmental authority of the municipality; another authority which surveys the public interest; and the Sami Parliament of Finland if the effects occur in the living area of the Sami or if the project may influence the rights of the Sami as indigenous people.

The appeal regarding a water permit decision is handled in the Administrative Court of Vaasa, which has expertise on water issues. After the decision of the Administrative Court, a leave to appeal to the Supreme Administrative Court may be granted.

Expropriation

If the use of the water area is established in the permit procedure pursuant to the Water Act (587/2011), the permit can be challenged as described above. If the expropriation is conducted in the process under the Redemption Act (603/1977) or the Act on Redemption for Electricity Utility (168/1928), the 'general' Act on Administration (434/2003) and the Act on Administrative Judicial Procedure (586/1996) are applied. If the expropriation permit is given by the Land Survey, it can be challenged in the Administrative Court. If the Council of State has taken the decision, the permit can be only challenged by the argument that it is illegal in the Supreme Administrative Court.²⁵⁸

The expropriation proceedings (i.e. the decision on the remunerations and the right to use the land) can be challenged in the 'land court'. Some of the district courts function as land courts.²⁵⁹ Both the expropriation permit and the remunerations can be challenged by an interested party.²⁶⁰ The municipality is entitled to appeal against the expropriation permit if it considers that the expropriation would hinder the spatial planning and this was not taken into account in the permit procedure.²⁶¹

The Act on Expropriation Permit for Certain Projects with Environmental Impacts (768/2004) requires that for some projects (for example, the aboveground power line of at least 220 kV and exceeding 15 km), the expropriation permit is always needed. The parties entitled to challenge the decision is a larger group than under the Act on Administrative Judicial Procedure (586/1996); the organisations and foundations whose purpose is to promote environmental, health, or nature protection, or the comfort of living areas are also entitled to challenge the expropriation permit.²⁶² Otherwise, the process follows the Redemption Act (603/1977).

²⁵⁸ Act on Administrative Judicial Procedure (586/1996), Section 7.

²⁵⁹ Redemption Act (603/1977), Section 89.

²⁶⁰ Act on Administrative Judicial Procedure (586/1996), Section 6.

²⁶¹ Redemption Act (603/1977), Section 90.

²⁶² Act on Expropriation Permit for Certain Projects with Environmental Impacts (768/2004), Section 5.

Decisions under the Electricity Market Act (588/2013)

Pursuant to Section 114 of the Electricity Market Act, the decision taken by the Energy Authority can be appealed in the administrative court (or in some cases in the Market Court), and the decision taken by the Ministry of Economic Affairs and the Economy can be challenged in the Supreme Administrative Court. The general Administrative Judicial Procedure Act (586/1996) is applied to the appeals against decisions under the Electricity Market Act.

Land Use Plan

The appeal process against the approved land use plans is regulated by the Municipality Act (410/2015). The appeal is made to the Administrative Court.²⁶³ The group entitled to make the appeal includes, with some exceptions, those whose rights or interests are affected by the plan, the inhabitants of the municipality, affected other municipalities and the regional council, the authorities in their field of operation, and registered local, regional, and in some cases national organisations in their field of operation.²⁶⁴ The appeal can be based only on the arguments that the decision was not taken in the proper sequence, the authority has exceeded its powers, or the decision is otherwise illegal.²⁶⁵ In some cases, the competent ELY Centre may request for rectification of the approved plan.²⁶⁶

After the decision of the Administrative Court, a leave to appeal from the Supreme Administrative Court may be applied. Only the municipality is entitled to appeal to the Supreme Administrative Court, if the Administrative Court has overturned the land use plan approved by the municipality. The regional council is entitled to appeal if the Administrative Court has overturned the regional plan.²⁶⁷ If the leave to appeal is not granted, the decision of the Administrative court becomes unappealable.

Building permit

The building permit can be challenged in the administrative court as provided in the Administrative Judicial Procedure Act (586/1996). The right to appeal to the Supreme Administrative Court requires a leave to appeal from the Supreme Administrative Court. The group entitled to appeal are the 'direct' neighbours, owners, and holders of the properties which the decision may materially affect, those whose rights, duties, or interests are immediately impacted by the decision, and local authorities.²⁶⁸

3.3.10.2 Modification and Prerequisites of Granted Authorisation

If the appeal court deems the appealed permit incorrect, the permit can be either amended by the appeal court or sent back to the permit authority.

Pursuant to the Water Act (587/2011), the permit regulations of the permit that is in force for an indefinite period can be ordered to be amended within a certain time frame if this is necessary to prevent remarkable impacts of the project. The original permit should order when the holder of the permit should ask for the inspection from the permit authority.²⁶⁹ The inspection shall be asked for after ten years if no other time frame is given. The revision

²⁶³ Land Use and Building Act (132/1999), Section 188.

²⁶⁴ Land Use and Building Act (132/1999), Section 188 and 191; Municipality Act (410/2015), Section 137.

²⁶⁵ Municipality Act (410/2015), Section 135.

²⁶⁶ Land Use and Building Act (132/1999), Section 195.

²⁶⁷ Land Use and Building Act (132/1999), Sections 188 and 191.

²⁶⁸ Land Use and Building Act (132/1999), Sections 190 and 192.

²⁶⁹ Water Act (587/2011), Chapter 3, Section 20.

of permit regulations can be made only subject to certain conditions, and it should not substantially reduce the benefit gained from the project.²⁷⁰

Chapter 8a of the Redemption Act (603/1977) lays down the rules of the amendments to expropriation. If the conditions have been changed, or the expropriation has become useless for the applicant, the expropriated property or the right to use the property can be changed, ceased, or transferred to a third party.

3.4 Construction

3.4.1 Obstacles and Risks

Concrete risks, such as detrimental impacts to the environment, are usually assessed in the EIA process. Risks and effects are taken into account when granting the required permits and they can be addressed by including special terms in the permit. However, in some cases, the project cannot proceed. For example, impacts to a Natura 2000 area with protected species or nature types may block a project.

3.4.2 Time Frame, Responsibilities, and Process Reference

Where a building permit is required under Land Use and Building Act (132/1999), the construction should be commenced within three years from the moment the building permit has become unappealable and should be completed within five years. Where the action permit under the Land Use and Building Act is granted, the construction should be completed within three years. Prolongation can be granted by the local building authority for a maximum period of two years if there are still legal prerequisites for construction.²⁷¹

The water permit is normally granted for an indefinite period, and in these cases the time limit for the commencement (maximum 4 years) and completion (maximum 10 years) of the project should be set. The permit authority may for a specific reason prolong these time limits. The permit expires if the time limits are not adhered to. Where the permit expires, the granted right to use a property will also expire.

The Connection Agreement concluded with the TSO in practice sets a time limit for the construction of the wind power plant and connection cables. The TSO has an obligation, under certain conditions, to connect users of the network within 24 months after concluding the connection.²⁷² In accordance with the Connection Agreement, the TSO normally has the right to decommission the Connection Agreement if the high-voltage part of the network user is not completed within the 24-month time limit.

3.4.3 Supervision

The ELY Centre and the environmental authority of the municipality has the competence and responsibility to supervise the projects that require a water permit. The ELY Centre functions also as a local fishery authority.²⁷³ The local building authority has surveillance competence when it comes to construction.²⁷⁴

In the water permit, an obligation to survey the impacts of the project can be placed upon

²⁷⁰ Water Act (587/2011), Chapter 3, Section 21.

²⁷¹ Land Use and Building Act (132/1999), Section 143.

²⁷² Electricity Market Act (588/2013), Section 20.

²⁷³ Water Act (587/2011), Chapter 14, Section 1.

²⁷⁴ Land Use and Building Act (132/1999), Section 124.

the project developer.²⁷⁵ If the obligation to survey the project is set out in the permit regulations, an obligation to inform the authorities on negative effects is usually set simultaneously. Where the project developer damages the environment in breach of the Water Act (587/2011), or breaches the permit conditions, criminal liability may arise.²⁷⁶

The users of the network shall comply with the technical requirements set out in the Connection Agreement and its Annexes. In accordance with the Main Grid Contract, the electricity quality measurements shall be arranged properly. The contracts made with the TSO are strengthened with monetary liability if damages are caused by breaches of the technical requirements. The breaches are also monitored by the TSO. The Energy Authority supervises that the TSO complies with requirements of the Electricity Market Act (588/2013) and of the Decrees, Orders and Decisions given thereunder.²⁷⁷

3.5 Cost-Relevant Aspects

3.5.1 Regulatory Framework for Grid Investments

The economic regulation of the network operation is based on the methodology prepared by the Energy Authority. As stipulated in the Act on Surveillance of Electricity and Natural Gas Markets (590/2013), the network operators are obliged to comply with the methodology by an administrative decision of the Energy Authority. After the four-year surveillance period (2016–2019), the Energy Authority gives a decision on whether the return of the network operator is within the given limits.²⁷⁸

The methodologies applied to the distribution network operators and the transmission network operator are different. In both cases, the regulation is based on the rate-of-return model which also includes incentives (investment incentive, quality incentive, efficiency incentive, innovation incentive). In the model, the obtained return of the company, adjusted by the effects of the incentives and some accounting rates, is compared to the “reasonable return” calculated by using the model given in the methodology of economic regulation.²⁷⁹ In particular, the investment incentive and the quality incentive encourage the TSO to make investments. The quality incentive can also be negative as the interruptions in electricity transmission are sanctioned by up to 3% of the reasonable return per year.²⁸⁰

The costs of the construction of the transmission network are ultimately passed through to the network users through the network tariffs. The network tariffs for the usage of the transmission network are paid by the distribution network operators and larger-scale power generators connected to the transmission network. If not affected by the incentives of the regulation model, also the overrun costs can be included in the rate-of-return calculations as decreasing the obtained return, and thus they can be passed onto the users of the network via network tariffs in the following surveillance period. However, from September 2017, a

²⁷⁵ Water Act (587/2011), Chapter 3, Section 11.

²⁷⁶ Water Act (587/2011), Chapter 16.

²⁷⁷ Electricity Market Act (588/2013), Section 106, Act on Surveillance of Electricity and Natural Gas Markets (590/2013), Sections 5 and 9.

²⁷⁸ Act on Surveillance of Electricity and Natural Gas Markets (590/2013), Sections 10 and 14.

²⁷⁹ The Energy Authority, “Regulation Methods for the Main Grid Operation, 2016–2023,” 7, in Finnish, http://www.energiavirasto.fi/documents/10191/0/Liite_2_Valvontamenetelm%C3%A4t_S%C3%A4hk%C3%B6nkanta.pdf/9b9f5e5f-3b7a-4f9f-b461-27318cdca5db.

²⁸⁰ The Energy Authority, “Regulation Methods for the Main Grid Operation, 2016–2023,” 67, in Finnish, http://www.energiavirasto.fi/documents/10191/0/Liite_2_Valvontamenetelm%C3%A4t_S%C3%A4hk%C3%B6nkanta.pdf/9b9f5e5f-3b7a-4f9f-b461-27318cdca5db.

cap limiting the increases in network tariffs has been applied to all network operators. Consequently, the TSO is not allowed to raise the tariffs more than 15 % within 12 months' period. The Energy Authority may, in response to an application, approve a higher increase if the network operator would not otherwise be able to comply with the statutory requirements or the conditions of the network operation permit.²⁸¹

As the TSO has to comply with the requirements set out in the applicable legislation (quality of transmission, connection requirements, and the system responsibility), the reasonable needs of users and the reliable functioning of the system are the key issues that direct the investments. In the case of cross-border interconnectors, the congestions in the cross-border capacity direct the development of new interconnectors. The congestion revenues from allocating the capacity of cross-border interconnectors shall be used in accordance with Article 16(6) of the Regulation No. 714/2009 (EC) to guarantee the actual availability of the allocated capacity and/ or to maintain or increase interconnection capacities through network investments, in particular in new interconnectors²⁸².

3.5.2 Risks Relating to the Costs

For the network development, the planned wind power farms that become cancelled may cause challenges. However, the TSO's practice to conclude the Connection Agreement only after an unappealable land use plan exists and the application for expropriation of the land areas has been submitted²⁸³ is likely to prevent unnecessary investments in the network.

3.5.3 Missed Deadlines in Construction and Financial Damages

Pursuant to the Electricity Market Act, the TSO may in some cases become responsible for remunerating damages resulting from the failure to connect the wind power farm to the network, if the construction is not delayed because of the wind power developer.²⁸⁴ If the delay is caused by the wind power developer, the TSO has the right to decommission the Connection Agreement²⁸⁵ and give the connection place to another plant.

The general Tort Liability Act (412/1974) is applied if the parties have not contracted as to the compensation of damages. If the general Tort Liability Act (412/1974) is applicable, liability can arise if the damage has been caused deliberately or negligently. The contract is followed if it lays down the rules for liability. The contracting party or the one who has, according to the law, the right to claim compensation may claim compensation.

Neither the Electricity Market Act nor the Tort Liability Act prescribe limitations on compensation, though overcompensation in general is not possible. However, in the contract a certain limit can be set, as can be seen below.

3.5.4 Responsibilities for Unmet Technical Standards and Defects in Transmission

If the technical standards are not complied with, the respective party is liable for any loss or damage suffered. The liability between the TSO and the connectee/user of the grid is laid

²⁸¹ Electricity Market Act (588/2013), Section 26a.

²⁸² Electricity Market Act (588/2013), Section 53.

²⁸³ Fingrid Oyj, "Guide for Wind Power Provider," 2016, 7, https://www.fingrid.fi/globalassets/dokumentit/en/publications/fingrid_tuulivoimaesite_en.pdf.

²⁸⁴ Electricity Market Act (588/2013), Sections 107 and 20.

²⁸⁵ Fingrid Oyj, "Liittymissopimus," 2. Liittymispisteistä sopiminen ja muutokset, 1.12.2017, https://www.fingrid.fi/globalassets/dokumentit/fi/palvelut/kulutuksen-ja-tuotannon-liittaminen-kantaverkkoon/asiakas_isop_paikka_liittymissopimusmalli.pdf.

down in the Main Grid Service Terms and Conditions 2016 annexed to the Main Grid Contract.²⁸⁶

As a general requirement, the customer's electrical devices and equipment shall conform to the General Connection Terms (YLE2017) and Specifications for the Operational Performance of Power Generating Facilities (VJV2013).²⁸⁷ The TSO is, subject to certain conditions, responsible for damages for personal injury and damage to property suffered by the customer in Finland where the transmission does not comply with the rules laid down in the Main Grid Contract or Connection Agreement. Where there is no contract in force, the general liability legislation will be applicable.

The TSO's liability to pay damages is subject to the following conditions:

- The negligence resulting in the injury or damage cannot be considered as slight.
- The damages/injuries are caused by a deviation from the voltage or frequency limits set in the General Connection Terms, from repeated outages, or from a single outage caused by failure to develop the main grid.²⁸⁸

The TSO is not liable:

- If the customer's devices and equipment do not conform to the Connection Agreement and this has affected the injury/damage.
- If the customer could otherwise have been required to be prepared for the prevention or restriction of the damage or injury resulting from the outage or disturbance by means of protective equipment, instructions, or other arrangements.
- If the property damage is caused by a single outage, or the disturbances result from the networks of other network operators.
- For "profit not received, loss of production, damaged raw materials, costs of restarting production, costs of replacing arrangements for the transmission service as a result of outage, damage to the equipment of the customer's customer, damages paid or ordered to be paid by the customer, or other consequential damage similar to the types described above, resulting from the damage or injury".

The overall limit of the liability for all the customers is EUR 12 million per year. If the amount of damages claimed is higher, all the compensation amounts are decreased pro rata.²⁸⁹

Where the injury or damage has been caused to a customer of the TSO's customer, special liability rules apply. The TSO is also liable under the peremptory legislation.

²⁸⁶ Fingrid Oyj, "Main Grid Contract," 2016, Annex 1 ("Main Grid Service Terms and Conditions"), <https://www.fingrid.fi/globalassets/dokumentit/en/customers/grid-connection/appendix-1-main-grid-service-terms-and-conditions.pdf>.

²⁸⁷ The draft version of VJV2018 was published in February 2018 and the proposal will be given to the Energy Authority for the public hearing and the approval process in Spring/Summer 2018. Before VJV2018 enters into force, the Specifications for the Operational Performance of Power Generating Facilities (VJV2013) continue to apply.

²⁸⁸ Fingrid Oyj, "Main Grid Contract," 2016, Annex 1 ("Main Grid Service Terms and Conditions"), Section 11.2. Damages payable to the Customer, <https://www.fingrid.fi/globalassets/dokumentit/en/customers/grid-connection/appendix-1-main-grid-service-terms-and-conditions.pdf>.

²⁸⁹ Fingrid Oyj, "Main Grid Contract," 2016, Annex 1 ("Main Grid Service Terms and Conditions"), Section 11.2. Damages payable to the Customer, <https://www.fingrid.fi/globalassets/dokumentit/en/customers/grid-connection/appendix-1-main-grid-service-terms-and-conditions.pdf>.

The TSO is not liable:

- For indirect damages suffered by the users of a high-voltage distribution network.
- For standard compensations paid by a DSO to its customers.²⁹⁰
- If the damage is valued at 1,000 euros or less.
- If the customer has not without delay and in writing informed the TSO of the damage and concluded with the TSO on the grounds and the amount of the loss.
- If the customer or the customer's customer could have been required to be prepared "for the prevention or restriction of the damage or injury resulting from the outage or disturbance by means of protective equipment, instructions or other arrangements."²⁹¹

The TSO's liability for the injuries/damages above is limited to EUR 2 million per year.²⁹² The TSO is not liable for any other damages or injuries.

The customer is liable to the TSO for property damage and personal injury if its negligence cannot be considered as slight and the damage has resulted from deviation from the voltage and frequency limits set in the TSO's recommendations.

The customer's liability is limited to EUR 500,000 per year. The customer is not liable to the TSO as follows:

- If the TSO could have been required to be prepared "for the prevention or restriction of the damage or injury resulting from the outage or disturbance by means of protective equipment, instructions, or other arrangements."
- Damage or injury resulted from an electricity outage.
- For "profit not received, loss of production, damaged raw materials, costs of restarting production, costs of replacing arrangements for the transmission service as a result of outage, damage to the equipment of the TSO's customer, damages paid or ordered to be paid by the TSO, or other consequential damage similar to the types described above, resulting from the damage or injury".²⁹³

²⁹⁰ Electricity Market Act (588/2013), Section 100.

²⁹¹ Fingrid Oyj, "Main Grid Contract," 2016, Annex 1 ("Main Grid Service Terms and Conditions"), Section 11.3. Damages payable to the Customer's customer.

²⁹² Ibid.

²⁹³ Fingrid Oyj, "Main Grid Contract," 2016, Annex 1 ("Main Grid Service Terms and Conditions"), Section 11.4. Customer's liability for damages, <https://www.fingrid.fi/globalassets/dokumentit/en/customers/grid-connection/appendix-1-main-grid-service-terms-and-conditions.pdf>.

4. Energy Production

4.1 The Development Process (Siting, Planning, Authorisation)

4.1.1 Overview of Development Process

The setup process of offshore wind farms in Finland consists of multiple administrative steps. The procedures differ depending on whether the project is built in Finnish territorial waters or in the Finnish exclusive economic zone (EEZ).

The development process of offshore wind power farm consists usually of the following phases:

- 1) Feasibility studies
- 2) Environmental Impact Assessment – either directly applicable or ELY centres' decision about whether an EIA is required
- 3) Updating or drafting the land use plan (in territorial waters)
- 4) Acquiring the required permits and the right to use the land area
- 5) Construction

In territorial waters, the following assessments and permits could be needed: land use planning, the EIA process, Natura Assessment, building permit, environmental permit, water permit, and flight obstacle permit. It should be noted, that the development procedure of wind power projects in territorial waters and in the exclusive economic zone (EEZ) differs. In the EEZ, an EIA process, a water permit, and an environmental permit can be required. The most significant differences are related to spatial planning and building permits. This is due to the fact that only the chapter 8a of the Land Use and Building Act (132/1999) regarding maritime spatial planning is applicable in the EEZ.²⁹⁴ Finnish law is applied to artificial islands, equipment and other constructions built in accordance with the Act of the Exclusive Economic Zone of Finland (1058/2004) in the same way as if the construction was located in the nearest Finnish territory.²⁹⁵ Non-binding maritime spatial plans will be drafted for the Finnish EEZ by the end of March 2021. Additionally, a consent from the Council of State could be needed.

4.1.2 Siting of Offshore Wind Power

There is no government-driven offshore wind power planning process in place in Finland. Suitable sites for offshore wind power can be marked on regional land use plans, local master plans, and local detailed plans in territorial waters. Regional land use plans are drafted by the Regional Councils. The drafting of local master plans and local detailed plans can be initiated by the municipality or by the offshore wind power developer. In accordance with the Guidelines in force until 31st March 2018, areas best suited for wind power development must be indicated in the regional land use plans that are drafted by regional authorities.²⁹⁶ New National Land Use Guidelines enter into force 1st April 2018. Pursuant to the New Guidelines, wind power should primarily be concentrated in units of several power plants.

²⁹⁴ The Act of the Exclusive Economic Zone of Finland (1058/2004).

²⁹⁵ The Act of the Exclusive Economic Zone of Finland (1058/2004), Section 17.

²⁹⁶ The National Land Use Guidelines, 13.11.2008 (in force until 31st March 2018).

Areas best suited for wind power development are no longer mentioned in the New Land Use Guidelines, but may still be marked in the regional plan.²⁹⁷

The Maritime Spatial Planning Directive has been implemented by a new Chapter 8a in the Land Use and Building Act (132/1999) and by the Decree of State Council on Maritime Spatial Planning (816/2016). Three maritime spatial plans will guide the land use in the Finnish EEZ and the territorial waters once they have been drafted. The Regional Councils of Uusimaa, Varsinais-Suomi, and Satakunta have the responsibility to draft and adopt the plans by 31st March 2021.²⁹⁸ Suitable sites for offshore wind power can be marked to the maritime spatial plans. However, the maritime spatial plans will not be legally binding but function more as a coordination tool between different authorities and other stakeholders.²⁹⁹

Constructions can be permitted before the plans have been drafted and they can also deviate from the plans once they have been released.³⁰⁰

In territorial waters, the offshore wind power developer can choose an area and request authorities to initiate the drafting process of a local detailed plan or a special local master plan for wind power. In some cases, the authorities might already have drafted a special local master plan for wind power. Even if the area has not been marked as suitable for wind power in the regional land use plan, the developer can request that a local detailed plan or a special local master plan for wind power be drafted.

If the special local master plan for wind power or a local detailed plan is prepared mainly for the needs of private interest and initiated by the landowner or wind power developer, the municipality is entitled to charge the costs of assessments to the initiator.³⁰¹ If a developer has to cover these costs and a building permit is not granted later on, the planning costs would constitute a stranded cost.

²⁹⁷ The National Land Use Guidelines, 14.12.2017 (in force 1st April 2018), http://www.ymparisto.fi/fi-FI/Elinymparisto_ja_kaavoitus/Maankayton_suunnittelujarjestelma/Valtakunnalliset_alueidenkayttotavoitteet.

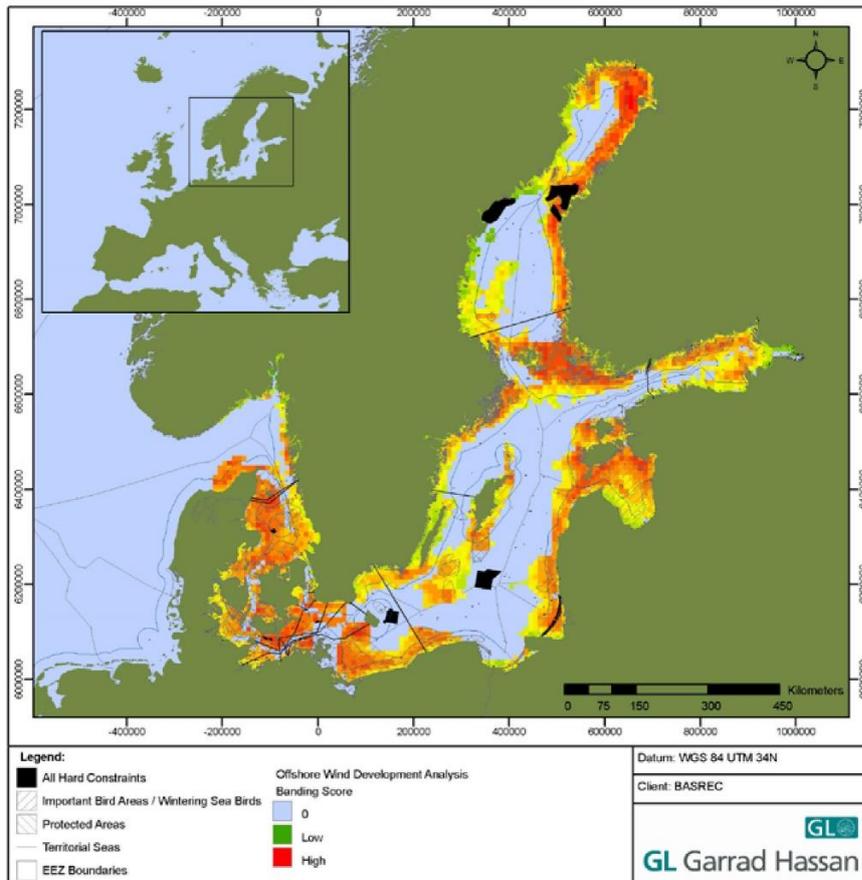
²⁹⁸ Government Decree on Maritime Spatial Planning (816/2016), Section 2.

²⁹⁹ Government Proposal 62/2016, 7–8.

³⁰⁰ Government Proposal 62/2016, 7–8.

³⁰¹ Land Use and Building Act (132/1999), Sections 59 and 77c.

4.1.3 Suitable Areas for Offshore Wind Power in the Baltic Sea



The above picture from the BASREC report (2012) illustrates the economic attractiveness of the Baltic Sea area for offshore wind power. Red areas are most attractive. The colours from orange to yellow to green mark lower economic viability. The blue areas are considered uneconomic. The black areas represent hard constraints. The attractiveness has been calculated taking into account water depth, distance from shore, and wind resource in a weighted scoring system.³⁰² According to the report, large areas in Finnish territorial waters and the Finnish EEZ are suitable for offshore wind power.³⁰³ The picture does not, however, consider constraints related to onshore or offshore environment, social issues, grid infrastructure, seabed conditions, land use matters, ocean conditions, or accessibility. The constraints not taken into account on the map can affect the economic viability and admissibility of projects significantly.

4.1.4 Assessments

Wind power can affect the radars of the defence forces. These effects are assessed usually during the planning process. The Defence Staff gives an opinion regarding the possible adverse effects from the wind power project on their radars. If they conclude that adverse effects might result, a Radar Effect Survey has to be conducted by the Technical Research

³⁰² Baltic Sea Region Energy Co-operation (BASREC), “Conditions for deployment of wind power in the Baltic sea region – Analysis part II: Strategic Outline offshore wind promotion,” 32–33, http://basrec.net/wp-content/uploads/2013/09/BASREC-wind-2_strategic-outline_120424.pdf.

³⁰³ *Ibid.*, 14.

Centre of Finland (VTT).

Most of the assessments needed for an offshore wind farm have already been mentioned earlier in this document in connection to transmission cables. Please refer to the chapter 3.3.1 “Assessments” regarding other assessments connected to planning, the EIA process, the environmental impact assessment of programmes and plans of authorities, and the Nature Conservation Act (1096/1996).

The planning authority is responsible for the assessments relating to planning, but if the plan is initiated and prepared mainly for the needs of private interest, the wind power developer bears the costs and often also conducts the assessments. The project developer is responsible for executing the possible Natura assessment and the assessments connected to the EIA process.

4.1.5 Offshore Wind Power Authorisation

4.1.5.1 Mandatory Permits

Water Permit

Please refer to the chapter 3.3.2.1 “Permits” for information about the water permit.

Building permit

The construction of an offshore wind farm in territorial waters requires a building permit under Section 125 of the Land Use and Building Act (132/1999). Each wind power turbine requires a separate building permit. The permit can be obtained from the local building control authority of the municipality.³⁰⁴ Building permits are not needed in the EEZ.

Flight Obstacle Permit

Section 158 of the Aviation Act (864/2014) lays down the conditions under which offshore wind farms must apply for a flight obstacle permit from the Finnish Transport Safety Agency. Flight obstacle permits are not required in the EEZ.

Environmental Permit

If the project poses a risk to contamination of soil that would not be considered in the water permit, an environmental permit could be required. The permit can also be required if the neighbours may suffer from noise or flickering effects.³⁰⁵

Permit for the Exploration and Survey of the Sea Bottom

Pursuant to the Territorial Surveillance Act (755/2000), a permit is required for the exploration of the formation, structure, or composition of the sea bottom or sediments through geological or geophysical surveys in Finnish territorial waters. A permit is also required for systematic measurement and recording of the topography of the sea bottom.³⁰⁶ Permits for the exploration and survey of the sea bottom are not needed in the EEZ.

Permits in the Exclusive Economic Zone

All of the abovementioned permits may be required in the territorial waters. In the EEZ, only a water permit and possibly an environmental permit are needed as the laws stipulating the other permits do not apply in the EEZ. Additionally, a consent from the Council of

³⁰⁴ Land Use and Building Act (132/1999), Section 130.

³⁰⁵ Environmental Protection Act (527/2014), Section 27.

³⁰⁶ Territorial Surveillance Act (755/2000), Section 12.

State is needed for exploiting the EEZ³⁰⁷ and for building in the EEZ if the building could hinder the Finnish State to use its rights under international law.³⁰⁸

4.1.5.2 Concentration Opportunities

Certain authorisation procedures mentioned above may be combined in some circumstances. Please refer to the chapter 3.3.2.2 “Concentration Opportunities” for information regarding combined permit procedures.

4.1.5.3 Exclusive Economic Zone Regulation for International Planning and Its Impacts

The Act on the Exclusive Economic Zone of Finland (1058/2004, the EEZ Act) regulates the activities and applicability of other Acts in the EEZ. On artificial islands, devices, and other constructions, Finnish law is applied as it is applied in the nearest territorial water area. As stated above, a consent from the Council of State is required for the exploitation of the EEZ³⁰⁹ and building in the EEZ if the building could hinder the right of the Finnish State to use its rights under international law.³¹⁰

The EEZ Act (1058/2004) states which Acts are in force in the Finnish EEZ. The EIA Act (525/2017), the Environmental Protection Act (527/2014), the Water Act (587/2011), and Chapter 8a of the Land Use and Building Act (132/1999) are all applicable in the EEZ.³¹¹ Also national, international, and EU-legislation concerning nature protection, fishing, and hunting is applied in the EEZ. It should be noted, however, that the Land Use and Building Act is not in force in the EEZ other than for the chapter 8a, that regulates maritime spatial planning.

4.1.5.4 Farm Size and Authorisation Process

An offshore wind power project requires an EIA if the farm consists of 10 or more turbines or if total installed nominal capacity is 30 MW or more.³¹² The height of the offshore wind farm is relevant when evaluating whether or not a flight obstacle permit is needed.³¹³ Flight obstacle permits are not needed in the EEZ.

4.1.5.5 Permit Authorities

The Regional State Administrative Agencies (AVI) are responsible for the permits under the Water Act (587/2011) and the Environmental Protection Act (527/2014) in their functioning areas. Also, the right to use a water area under the Water Act is granted by the AVI.³¹⁴ In the EEZ of Finland, the AVI of Southern Finland is responsible for the water permit and environmental permits.³¹⁵

³⁰⁷ Act on the Exclusive Economic Zone of Finland (1058/2004), Section 6.

³⁰⁸ Act on the Exclusive Economic Zone of Finland (1058/2004), Section 7.

³⁰⁹ Act on the Exclusive Economic Zone of Finland (1058/2004), Section 6.

³¹⁰ Act on the Exclusive Economic Zone of Finland (1058/2004), Section 7.

³¹¹ Act on the Exclusive Economic Zone of Finland (1058/2004), Section 3.

³¹² EIA Act (252/2017), Annex 1.

³¹³ Aviation Act (864/2014), Section 158.

³¹⁴ Water Act (587/2011), Chapter 1, Section 7.

³¹⁵ Act on the Exclusive Economic Zone of Finland (1058/2004), Section 18.

A building permit in the territorial waters is acquired from the local building control authority of the respective municipality.³¹⁶ A building permit is not needed in the EEZ. A flight obstacle permit application should be addressed to the Finnish Transport Safety Agency.³¹⁷ The consent to build in the EEZ is granted by the Council of State.³¹⁸

During the EIA procedure, the Ministry of the Environment is responsible for tasks related to international treaties. It has to organise a cross-border hearing in certain cases. The Ministry also takes part in hearings regarding projects developed in other countries that could have a significant impact on Finland.³¹⁹

4.1.5.6 Length of Administrative Process

The process of drafting a special local master plan for wind power, which usually is enough for offshore wind power projects, can take 1–3 years. A possible appeal procedure will lengthen the process by approximately 1–2 years. Acquiring the water permit, environmental permit, and building permit for the concrete offshore wind power project, not taking into account a possible EIA, takes around 1 year. The duration of the EIA procedure has been in average 12–15 months. The fastest procedures have lasted 7–9 months, and 6 months might be theoretically possible. The EIA for large projects can last up to 2–3 years.³²⁰

In the case of Pori Tahkoluoto II (10 new offshore wind turbines), the EIA procedure started in 2007. The land use planning was initiated by the offshore wind farm in 2013. The wind farm was commissioned in August 2017. The EIA process for the Suurhiekka project started in 2007. The water permit was granted in 2011. An appeal was made and the water permit became legally binding in 2012 after the decision of an administrative court rejecting the appeal. The land use plan for the project area was accepted in 2013. From these examples, it can be seen that offshore wind power in Finland may take up to 10 years.

4.1.5.7 Validity Period of Granted Authorisation and Extension Conditions

Once a building permit has been obtained for a project in the territorial waters, the construction should be commenced within three years from the moment the building permit becomes unappealable and finished within five years.³²¹ Prolongation can be granted by the local building authority for a maximum of two years if the prerequisites for construction are still fulfilled.³²²

A water permit is normally granted for an indefinite period. In these cases, the permit shall include the time period during which the project is to be commenced (maximum of 4 years) and finished (maximum of 10 years). These time limits for implementation may, for special reasons, be extended by the permit authority. The permit expires if the time limits are not followed. In the event that the permit expires, the granted right to use a property will also expire.³²³

Environmental permits are generally granted for an indefinite duration. The environmental

³¹⁶ Land Use and Building Act (132/1999), Section 130.

³¹⁷ Aviation Act (864/2014), Section 158.

³¹⁸ Act on the Exclusive Economic Zone of Finland (1058/2004), Section 7.

³¹⁹ EIA Act (252/2017), Chapter 5.

³²⁰ University of Jyväskylä, "YVA-menettelyn kulku," <http://yvako.jyu.fi/yva-tietoa/yva-menettelyn-kulku-1>.

³²¹ Therefore, in the case of offshore wind power projects, it is not sensible to apply for a building permit until there is sufficient certainty of the implementation of the project.

³²² Land Use and Building Act (132/1999), Section 143.

³²³ Water Act (587/2011), Chapter 3, Sections 8 and 9.

permit can, however, be granted for a fixed term for important reasons—for example, the novelty of the used technology or the difficulty of evaluating environmental effects. A fixed-term environmental permit expires at the end of the term, unless otherwise stated in the permit decision.³²⁴ The permit authority may decide that the permit will lapse if the actions requiring the permit have not been commenced within 5 years of the permit decision becoming unappealable. The period can be marked as longer than 5 years in the permit decision. The permit can also lapse if the activities requiring the permit have been on hold for at least 5 years.³²⁵ The Aviation Act (864/2014) does not set a validity period for the flight obstacle permit.

4.1.6 Land Use Planning

4.1.6.1 Role of Land Use Planning in Offshore Wind Power Projects

A building permit for an offshore wind farm in territorial waters can in general only be obtained if it has been marked in a local master plan or a local detailed plan. In the EEZ, only a non-binding maritime spatial plan will be drafted. An offshore wind farm can be built even if it is not marked on the maritime spatial plan.

Please refer to the chapter 3.3.3 “Land Use Planning” for further information regarding the different land use plans.

4.1.6.2 Relations between Private Property, the Exclusive Economic Zone, and Land Use

The Land use and Building Act (132/1999) regulates also the land use in private properties in territorial waters. To get the right to use property of a private owner, expropriation or lease can be applied. The right can be based on a contract with or the consent of the proprietor.

Finnish coastal waters can be owned by private persons or municipalities, or by joint ownership.³²⁶ The Act on the Borders in Water and Division of the Water Area (31/1902) regulates ownership of the water areas. Most of the territorial waters are owned by the Finnish State and governed by the State Enterprise Metsähallitus.³²⁷ Metsähallitus is a state-owned company in charge of administrating the Finnish State-owned land and water areas. The Act on the Right to Transfer State Real Estate Assets (973/2002) lays down how and under which conditions government-owned land can be sold or leased. In accordance with the international maritime law, the Finnish State has extended some of its jurisdiction on the EEZ but does not have sovereign rights in the zone.

4.1.6.3 Implementation of Land Use Questions in the Offshore Wind Farm Siting Process

There is no government-led offshore wind power siting process in Finland. Pursuant to the Land Use and Building Act (132/1999), the National Land Use Guidelines and land use plans shall be taken into account when planning and deciding on the use of the environment on the basis of other legislation.³²⁸ Constructions in local detailed plan areas and special local master plan areas for wind power must fit into the built environment and landscape, and

³²⁴ Environmental Protection Act (527/2014) Section 87.

³²⁵ Environmental Protection Act (527/2014) Section 88.

³²⁶ Act on Common Areas (758/1989).

³²⁷ Metsähallitus, “One Third of Finland’s Area,” last modified 1st December 2016, <http://www.metsa.fi/web/en/lands-and-waters>.

³²⁸ Land Use and Building Act (132/1999), Section 3.

must fulfil the requirements of beauty and proportion.³²⁹ Offshore wind power built in local detailed plan areas must also be in keeping with the valid local detailed plan.³³⁰

In the water permit procedure, the permit authority shall take into account the planning in the area. In particular, the local detailed plan shall be observed, as well as local master plans and regional plans. The permit shall not significantly hinder the planning of the area.³³¹ The Supreme Administrative Court has considered land use planning and its effects on the systematic land use development in the context of interest comparison in the water permit process.³³²

4.1.7 Stakeholder Participation in the Administrative Process

Please refer to the chapter 3.3.9 “Stakeholder Participation in the Administrative Process” for information regarding the public hearing processes related to the EIA, land use planning, and the water permit.

4.1.8 Supervision and Monitoring System

In the case of a water permit, an obligation to survey the impacts of the project can be placed upon the project developer.³³³ In the event that the project developer causes damage to the environment contrary to the Water Act (587/2011), or breaches the permit conditions, criminal liability may arise.³³⁴

Pursuant to the Main Grid Contract, electricity quality measurements shall be arranged properly. The users of the network shall comply with the technical requirements set in the Connection Agreement and its Annexes.

The local Centre for Economic Development, Transport and Environment (ELY Centre) and the environmental authority of the municipality have the competence to supervise the projects that require a water permit. The ELY Centres function also as local fishery authorities.³³⁵ The local building authority has surveillance competence when it comes to construction.³³⁶ If the obligation to survey the project is set in the permit conditions, an obligation to inform the authorities on negative effects is usually set simultaneously.

The ELY Centre, the environmental authority, and the building authority of the municipality bear the costs of the surveillance conducted by them. If the developer has been obliged to survey the impact of the project in the water permit, it bears the cost of its own surveillance activities.

4.1.9 Administrative Process Cost

If the land use planning is initiated by the regional authorities, they bear the costs arising from it. If the developer has requested the commencement of a plan, the developer can be required to finance it wholly or partly.³³⁷ The developer bears the costs of the permit and assessment procedures.

³²⁹ Land Use and Building Act (132/1999), Section 117.

³³⁰ Land Use and Building Act (132/1999), Section 135.

³³¹ Water Act (587/2011), Chapter 3, Section 5.

³³² The Supreme Administrative Court Decisions, KHO:2014:41 and KHO:2016:142.

³³³ Water Act (587/2011), Chapter 3, Section 11.

³³⁴ Water Act (587/2011), Chapter 16.

³³⁵ Water Act (587/2011), Chapter 14, Section 1.

³³⁶ Land Use and Building Act (132/1999), Section 124.

³³⁷ Land Use and Building Act (132/1999), Section 77c.

4.1.10 Challenging Granted Authorisation

In many wind power cases, appeals have been submitted by neighbours. The environmental effects (including noise and flickering) and nature conservation (regarding, for example, underwater nature and birds) can be grounds for appeal. If fishing and shipping are affected, appeals could come from interest groups.

An overturned permit can be either amended by the appeal body or sent back to the permit authority if the appeal body deems fit. Pursuant to the Water Act (587/2011), the conditions of a permit that is in force for an indefinite period can require a review of such conditions within a certain time frame if this is necessary to prevent remarkable impacts of the project. The original permit should provide the time by which the holder of the permit should request a review of the permit conditions from the permit authority.³³⁸ The review shall be conducted after ten years if the timeframe is not otherwise given. The review of permit conditions can be made only under certain terms, and this should not substantially limit the permit holder's benefit gained from the project.³³⁹

Please refer to the chapter 3.3.10.1 "Possibilities and Eligibilities" for information about challenging decisions regarding water permits, land use plans, and building permits.

4.2 Financing Sources and Mechanisms

4.2.1 Design of Current and Proposed Support Schemes

Wind power production has been subsidised by a special state aid as a guaranteed price for MWh, but the quota for wind power (2,500 MVA) has been used in full. However, all the plants accepted to the quota are not yet constructed.

The Finnish Government has made a Proposal for a technology-neutral operating aid for renewable energy in the form of a tendering process for the period 2018–2020. In total, 2 TWh will be tendered for bio, wind, solar, and wave energy projects.³⁴⁰ Once the projects selected have started production in the early 2020s, the need for a new further scheme will be assessed.³⁴¹

The current 'feed-in-tariff' support system offers the power plants accepted to the system a guaranteed electricity price of EUR 83.5 /MWh for 12 years which is determined by law and does not change over time.³⁴² Power plants accepted to the system before the end of 2015 had a guaranteed electricity price of EUR 105.3 /MWh for three years.³⁴³ The current system could be also described as a sliding premium. The level of support decreases should the average electricity price in Finland go below EUR 30 /MWh making the maximum tariff EUR

³³⁸ Water Act (587/2011), Chapter 3, Section 20.

³³⁹ Water Act (587/2011), Chapter 3, Section 21.

³⁴⁰ Government Proposal 175/2017. However, the details of the proposed tendering scheme are still subject to change. In April 2018, the Government proposed an incentives package for district heating companies that commit to phasing out coal use by 2025 and this incentives package would be financed by lowering the annual production level, proposed for the tendering scheme for renewable electricity, from 2 TWh to 1.4 TWh.

³⁴¹ Ministry of Economic Affairs and Employment, "Government report on the National Energy and Climate Strategy for 2030," *Publications of the Ministry of Economic Affairs and Employment*, vol. 12/2017, 43.

³⁴² Act on Subsidies for Electricity Produced by Using Renewable Energy Sources (1396/2010), Section 23.

³⁴³ Act on Subsidies for Electricity Produced by Using Renewable Energy Sources (1396/2010), Section 62.

53.5 /MWh.³⁴⁴ The feed-in-tariff is paid every 3 months.³⁴⁵ The producers fulfilling the criteria of acceptance to the scheme were accepted on a “first come, first served” basis. As stated above, practically no new projects are accepted to the scheme anymore.

In the new proposed support scheme, a premium per MWh fed to the grid is determined in a public tendering process. The amount of the support would vary depending on the market price, making it a sliding premium like the current support system.³⁴⁶ The new support would also be paid every 3 months.³⁴⁷

Technology Neutrality

The current support scheme is not technology-neutral; it offers different types of support to wind power, biogas, and wood fuel production. Offshore wind power and onshore wind power are however treated the same way in the support scheme.

The proposed tendering process and operating aid are planned to be technology-neutral. According to the Government Proposal, onshore and offshore wind power, bioenergy, solar energy, and wave energy projects could receive the support. They would all take part in the same tendering process.³⁴⁸

Preconditions for Application

According to the Government Proposal, in order to take part in the proposed tendering process, a wind power plant must meet certain qualifications set for the project type and for the stage of the project.³⁴⁹ A wind power plant must:

- 1) be located in Finland or in Finnish territorial waters (excluding the Åland Islands);
- 2) be in its entirety new, with the exception of its foundations, and not contain used parts;
- 3) not have state aid granted for the operation or investment of the plant;
- 4) not be constructed in place of a power plant at the same site which has been granted state aid and has more than little technical lifetime;
- 5) no binding decision has been made on the acquisition of fixed assets or the commencement of construction work;
- 6) the permits required for the construction of the plant are unappealable; and
- 7) the plant has a connection offer from a TSO or a connection agreement has been concluded.

It should be noted, that offshore wind power is only supported in territorial waters and not in the EEZ in the current and purposed support systems.

4.2.2 Risks of the Offshore Wind Farm Operator

The most substantial risk of the offshore wind power operator is not being accepted to the

³⁴⁴ Act on Subsidies for Electricity Produced by Using Renewable Energy Sources (1396/2010), Section 25.

³⁴⁵ Act on Subsidies for Electricity Produced by Using Renewable Energy Sources (1396/2010), Section 16.

³⁴⁶ Government Proposal 175/2017.

³⁴⁷ Government Proposal 175/2017.

³⁴⁸ Government Proposal 175/2017.

³⁴⁹ Government Proposal 175/2017, 32–34.

proposed support scheme. In the proposed scheme, offshore wind power competes together with onshore wind power and other renewable energy production in the same tender.

Both in the current and the proposed support systems, the amount of the support is diminished should the three months' average electricity area price in Finland go below EUR 30 /MWh. If the market price of the location is negative, the wind power operator is not entitled to the guaranteed price for these hours.³⁵⁰

4.2.3 Complementary Mechanisms

The Finnish Government offers two investment support systems to which an offshore wind farm could apply: the energy support programme and key energy project support. The energy support programme is planned to continue until 2023. The amount of support granted is decided annually in the Government budget. In 2018, EUR 55 million will be given out for renewable energy projects. The support under the new Decree (1098/2017) in force 1st January 2018 will be directed more than before towards projects that include new technologies.³⁵¹ In 2014, EUR 20 million was granted to Suomen Hyötytuuli Oy for the construction of the offshore wind farm in Tahkoluoto.³⁵²

The Government offered investment support for key energy projects in 2016–2018. The support was offered to future energy solutions in order to reach the national and EU goals for 2030. It could be obtained for projects requiring more than EUR 5 million for, inter alia, demonstration projects of new energy technology, that advance renewable energy production or the commercialisation of other energy technology. The Ministry of Economic Affairs and Employment decided which projects were to receive support by comparing the sums of support applied for, the energy effects of the projects, their cost-effectiveness, their feasibility, the novelty of the technology used, the scalability, and other impacts.³⁵³ The support covered a maximum of 40% of the investment costs.³⁵⁴

4.2.4 Impacts of Political Shifts and the Compensation Mechanisms

The Act on Subsidies for Electricity Produced by Renewable Energy Sources (1396/2010) was amended in 2015 with the aim of closing off the subsidy system to wind farms in a controlled way.³⁵⁵ After the amendments came into force, a wind farm could be accepted into the subsidy system only after the Energy Authority had first reserved a capacity from the 2500 MVA quota for the project (a quota decision).³⁵⁶ Earlier, a quota decision on capac-

³⁵⁰ Act on Subsidies for Electricity Produced by Using Renewable Energy Sources (1396/2010), Section 24; Government proposal 175/2017.

³⁵¹ Finnish Government, "Energiatuki kohdistetaan entistä enemmän uuden teknologian hankkeisiin," http://valtioneuvosto.fi/artikkelii/-/asset_publisher/1410877/energiatuki-kohdistetaan-entista-enemman-uuden-teknologian-hankkeisiin, Government Decree (1098/2017) on the general conditions for granting energy support in 2018–2022.

³⁵² Hyötytuuli, "Suomen Hyötytuuli's Pori Tahkoluoto Project Selected as Demonstration project for Offshore Wind Power," 19.11.2014, <http://hyotytuuli.fi/en/tyo-ja-elinkeinoministerio-myonsi-20-miljoonan-euron-demonstraatiotuen-suomen-hyoty-tuulen-merituulivoimahankkeelle-rakentamisaatos-tehdaan-ensi-kevaana/>.

³⁵³ Ministry of Employment and the Economy, "Uusiutuvan energian ja uuden energiateknologian investointituki," <http://tem.fi/uusiutuvan-energian-ja-uuden-energiateknologian-investointituki>.

³⁵⁴ Government Decree (145/2016), Section 10.

³⁵⁵ Government Proposal 15/2015, 4.

³⁵⁶ Act on Subsidies for Electricity Produced by Renewable Energy Sources (1396/2010), Section 17b as in force from 26.10.2015 (amended by the Act 1247/2015).

ity reservation was not required, but the projects with a quota decision had priority to become accepted into the subsidy system.³⁵⁷

After the amendments, the Energy Authority rejects the applications once the decisions and applications to reserve capacity from the quota together with the projects accepted to the subsidy system have reached the threshold of 2500 MVA³⁵⁸—i.e. the capacity would not become available again even if a project with a quota decision was cancelled. Thus, new quota decisions cannot be granted after the quota of 2500 MVA was reached in June 2015.³⁵⁹

The 2015 amendments also affected the wind farms that have been granted a quota decision but that are not yet constructed. Pursuant to the amended Subsidy Act, the quota decision expired at the latest 1st November 2017 and the application to the subsidy system had to be made before this date.³⁶⁰ Before being able to apply to the subsidy system the wind farm had to be connected to the electricity network and the developer had to provide the Energy Authority with a continuous erection plan for the turbines of the wind farm. The farm is considered as connected to the network if:

- at least the substation is electrified, or if there is no need for a new substation, the Connection Agreement has been concluded and the connection date is known, and
- at least the first turbine of the wind farm will be erected and connected to network within two months from the application.³⁶¹

In Finland, there are no specific national compensation mechanisms for the situation where political changes cause stranded costs. However, the impacts of the proposed legislation shall be assessed against the constitutional rights, for example, the protection of property and freedom to conduct a business.³⁶²

4.3 Construction

4.3.1 Risks and Obstacles in Offshore Wind Farm Construction

Risks—such as other cables and discoveries of e.g. war instruments and shipwrecks—are taken into account in the water permit consideration. The EIA process, if applied to the projects, produces mainly the information on the environmental, social, and cultural impacts. Detrimental and even dangerous effects of the project can be often avoided by permit conditions. However, for example, Natura 2000 areas with protected species or nature types can also hinder construction projects.

The climate may cause a concrete hindrance to the construction, as construction has to be ceased for the periods that the sea is frozen. The ice conditions also have to be taken into account, especially when locating the wind farm and planning the foundation of the turbines.

4.3.2 Completion Time Frame

In the event that a building permit is required under the Land Use and Building Act

³⁵⁷ Act on Subsidies for Electricity Produced by Renewable Energy Sources (1396/2010), Section 17b as in force until 25.10.2015 (before amendments included in the Act 1247/2015).

³⁵⁸ Act on Subsidies for Electricity Produced by Renewable Energy Sources (1396/2010), Section 17b.

³⁵⁹ Government Proposal 15/2015, 1–2.

³⁶⁰ Act on Subsidies for Electricity Produced by Renewable Energy Sources (1396/2010), Sections 9 and 17b.

³⁶¹ Government Decree on Subsidies for Electricity Produced by Renewable Energy Sources (1397/2010), Section 1.

³⁶² Constitution of Finland (731/1999), Sections 15, 18, and 74.

(132/1999), the construction should be commenced within three years from the moment the building permit has become unappealable and completed within five years.³⁶³ Prolongation can be granted by a local building authority for a maximum of two years if the prerequisites for construction are still in force.³⁶⁴ If the deadlines are not met and no prolongation is granted, the building permit will expire.

The water permit is normally granted for an indefinite period, and in these cases the time limit for the commencement (maximum 4 years) and completion (maximum 10 years) of the project should be set.³⁶⁵ These time limits for implementation may, for special reasons, be extended by the permit authority. The permit expires if the time limits are not complied with. In the event that the permit expires, the granted right to use a property will also expire.³⁶⁶

In practice, a relevant time frame for completion of the construction phase was sometimes set under the Subsidy Act (1396/2010). This was the case if the wind power plant had been granted a so-called quota decision but had not yet applied to be accepted the feed-in-tariff system. The wind power plant owners had to apply for acceptance to the feed-in-tariff system at the latest before 1st November 2017. One prerequisite for the feed-in-tariff decision was that the wind power company gives a timetable on the commissioning of the plant. Also, a statement that the wind power plant is possible to connect to the network had to be given by a verifier.

4.4 Operation and Feed-in Management

The General Connection Terms (YLE2017) state the conditions in which an operator has to limit its energy production. The Terms are drafted by the TSO under the Electricity Market Act (588/2013) and Decree on the System Responsibility of the TSO (635/2013). Pursuant to YLE2017, the TSO and the operator have to agree on principles regarding disturbance clearing and the cost-sharing connected to it. The TSO has the right to disconnect a power plant without prior notice if it is necessary for disturbance clearing and reparation.³⁶⁷

If the safety or reliability of the system is endangered, the TSO has the right to ask the operator to regulate the active and reactive power fed into the grid by plants connected directly or indirectly to the grid. In extreme situations, the TSO is entitled to disconnect production units.³⁶⁸

According to the 2016 Main Grid Service Terms and Conditions, the TSO is not liable for the monetary losses of its clients. There are some exceptions relating to monetary losses suffered by a client's client.³⁶⁹

³⁶³ Land Use and Building Act (132/1999), Section 143.

³⁶⁴ Land Use and Building Act (132/1999), Section 143.

³⁶⁵ Water Act (587/2011), Chapter 3, Sections 8 and 9.

³⁶⁶ Water Act (587/2011), Chapter 3, Sections 8 and 9.

³⁶⁷ Fingrid Oyj, "General Connection Terms" (YLE2017), Chapter 3.8.

³⁶⁸ Ibid.

³⁶⁹ Fingrid Oyj, "Main Grid Contract," 2016, Annex 1 ("Main Grid Service Terms and Conditions"), Sections 11.2–11.3.

4.5 Cost-Relevant Aspects

4.5.1 Compensations

4.5.1.1 Grounds for Compensation of Environmental Damages

Pursuant to the Water Act (587/2011), the party responsible for the project is liable for compensation for any loss of benefit resulting from an operation performed or to be performed under the Act or a permit based on it. The Act states that such losses of benefit can be related to for example fishing rights, commercial fishing and the right of use or the right to purchase ownership of immovable or movable property granted under the Water Act.

If the disturbance is the result of noise, vibration, radiation, light, heat, or smell, the Act on Compensation for Environmental Damage (737/1994) applies. It also applies when environmental damage has resulted from measures in violation of the provisions of the Water Act (587/2011) or regulations issued thereunder.³⁷⁰ Compensation is paid for financial loss not connected with bodily injury, or material loss if the loss is not minor. Compensation is, however, always paid for loss inflicted criminally. In the determination of this compensation, due consideration is given to the duration of the nuisance and the loss, and whether the person suffering the loss could have or should have avoided or prevented the loss. Compensation has to be paid also for the costs of measures needed to be taken to prevent environmental damage and for restoration.

4.5.1.2 Eligibility of Compensation

The party suffering the disturbance, damage, or loss of benefit can claim compensation. When granting a permit or right under the Water Act, the authority may order *ex officio* compensation for losses of benefit resulting from the project. The authority may also process a claim for compensation for a loss of benefit resulting from the same activity before the permit matter was decided on.³⁷¹

4.5.1.3 Conditions of the Claims

In terms of environmental damage, the liable party is the one whose activities have likely caused the damage. Compensation is paid for environmental damage if it is shown that there is a probable causal link between the activities and the loss. The loss has to be compensated only if tolerance of the nuisance is deemed unreasonable taking into consideration, inter alia, local circumstances, the situation resulting in the occurrence of the nuisance, and the regularity of the nuisance elsewhere in similar circumstances.³⁷²

Financial loss can be compensated under the Act on Compensation for Environmental Damage (737/1994) if the loss is not minor. The operator can be liable also for deliberate and negligently caused bodily injury³⁷³ and material loss³⁷⁴.

The party responsible for the project is liable for compensation for any loss of benefit resulting from an operation performed or to be performed under the Water Act (587/2011) or a permit based thereon.

³⁷⁰ Water Act (587/2011), Chapter 13, Section 5.

³⁷¹ Water Act (587/2011), Chapter 13, Section 7.

³⁷² Act on Compensation for Environmental Damage (737/1994), Sections 3–4, 7.

³⁷³ Tort Liability Act (412/1974), Chapter 5, Section 2.

³⁷⁴ Tort Liability Act (412/1974), Chapter 5, Section 5.

4.5.2 Insurance

Insurances for the operational time of an offshore wind farm are available. Wind turbines are often insured, and the insurance costs may form up to one third of the operation costs. For offshore wind turbines, the insurance is even more expensive than for onshore turbines.³⁷⁵ The central union Finance Finland has given guidance on wind power farms in terms of compliance with insurances.³⁷⁶ For the construction period, erection all risk and contractors all risks insurances are also available.³⁷⁷

The Environmental Damage Insurance Act (81/1998) provides that any private corporation whose operations involve a material risk of environmental damage or whose operations cause harm to the environment in general shall be covered by environmental damage insurance.³⁷⁸ Normally such insurance would not be needed for offshore wind power, and it can only be required in territorial waters, not in the Finnish EEZ. The requirement is specified in the Environmental Damage Decree (47/2015), according to which insurance has to be taken out for activities requiring an environmental permit granted by a state authority.³⁷⁹ The state authority grants an environmental permit when:

- 1) The activities may have significant environmental impact, or a state authority decision is otherwise justified taking into account the characteristics of the activities;
- 2) The activities may have a significant impact on areas outside of the municipality;
- 3) The activities require also a water permit, and the permits are processed together;
or
- 4) The activities may cause pollution to river systems and no water permit is required.³⁸⁰

In all cases listed above, mandatory environmental damage insurance is required. If the project does not fall into the above categories (like most offshore wind farms probably would not) and a regional authority can grant the environmental permit, no insurance is legally required. It should be noted that the abovementioned insurance does not offer an opportunity to mitigate the company's risks, but only ensures the compensation of environmental damages when the party responsible for them cannot pay or cannot be identified.³⁸¹

The maximum compensation payable under the Environmental Damage Insurance Act (81/1998) for one insurance event is EUR 6 million. Compensation for two or more insurance events reported during one insurance period cannot exceed a total of EUR 10 million.³⁸² However, compensation in accordance with the Environmental Damage Insurance Act is only paid if the owner of the project cannot pay for the damage in full. The Act on Compensation for Environmental Damage (737/1994), the Tort Liability Act (412/1974),

³⁷⁵ The Finnish Wind Power Association, "Vakuuttaminen,"

<http://www.tuulivoimayhdistys.fi/tietoa-tuulivoimasta/tietoa-tuulivoimasta/tuulivoimaprojekti/vakuuttaminen>

³⁷⁶ Federation of Finnish Financial Services, "Wind Turbine Damage Prevention," http://www.finanssiala.fi/vahingontorjunta/dokumentit/Tuulivoimalan%20vahingontorjunta_EN.pdf.

³⁷⁷ Risk Consult, Tuulivoiman vakuuttaminen, 1.6.2015, <http://www.riskconsult.fi/395/>.

³⁷⁸ Environmental Damage Insurance Act (81/1998), Section 2.

³⁷⁹ Environmental Damage Insurance Decree (47/2015), Section 1.

³⁸⁰ Environmental Protection Act (527/2014), Section 34.

³⁸¹ Environmental Damage Insurance Act (81/1998), Section 1.

³⁸² Environmental Damage Insurance Decree (47/2015), Section 4.

or the Water Act (587/2011) do not state maximum amounts for compensation for the offshore wind farm owner.

5. Decommissioning of Service

If parts of the offshore wind farm are not removed, they can cause the continuation of some impacts that offshore wind farms can have in general. They can affect marine habitats, benthic communities, sediment transport paths, seabed forms, wave or tidal current, fish migration patterns, and nursery areas.³⁸³

In order to avoid negative impacts due to the lack of proper dismantling, the permit conditions of a water permit may include the necessary requirements regarding it. The dismantling duty can also be included in the lease of the area so that the lessee is responsible for dismantling and renaturing the site. Also an environmental permit may include provisions regarding the dismantling of the offshore wind farm. If the permit does not include sufficient dismantling provisions, the permit authority may stipulate these provisions.³⁸⁴

A specific dismantling permit for constructions can be also applied for pursuant to the Land Use and Building Act (132/1999). If a dismantling permit is not required, the construction authority of the relevant municipality has to be notified 30 days before the start of the dismantling activities.³⁸⁵ If a building is no longer used, the building site and its surroundings must be put into a condition that does not compromise safety or degrade the environment. The building must also be protected against weather and potential vandalism.³⁸⁶

The cost of dismantling and restoration is the responsibility of the party that has been responsible for the operation before dismantling, i.e. the owner of the offshore wind farm is responsible for the dismantling of the wind farm and the connection cable, and the TSO for the dismantling of the transmission network. In the case of bankruptcy, the costs are borne by the trustee in bankruptcy. The lease contract of the area can include provisions about the allocation of costs pertaining to dismantling.

The owner of the offshore wind farm is primarily liable if the dismantling is not executed in accordance with legal requirements. The liability deriving from law or permits cannot be shifted or avoided using contracts, but contractual sanctions can follow from improper dismantling done by a third party.

In addition to dismantling, also renaturation duties can be laid down in the conditions of the water permit. Also, in accordance with the lease of the land/water area, the lessee can be responsible for the renaturation. The owner of the offshore wind power normally bears the costs.

³⁸³ “BASREC Analysis Part I,” 2012, 17–18, http://www.lisehenningsson.com/pictures/Basrec_OK_120424.pdf.

³⁸⁴ Environmental Protection Act (527/2014), Section 94.

³⁸⁵ Land Use and Building Act (132/1999), Section 127.

³⁸⁶ Land Use and Building Act (132/1999), Section 170.