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Wind Energy Finland

OPPORTUNITIES 2019/20



Legal Solutions with Industry Focus

Investments
Projects
Transactions

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Finland invests in wind energy

An overview

Over the past decade, Finland has seen a significant boost in the wind energy sector. A lucrative feed-in tariff scheme for renewable energy was introduced in 2011 and the number of wind power projects in planning and construction has since multiplied.

While subsidies are being phased out, attractive market conditions, beneficial wind conditions and the use of the latest technologies have enabled the transition to market-based wind power. The last two years have seen an increasing number of subsidy-free projects being developed and implemented.

At the same time, Finland's new government has introduced an ambitious programme that puts a strong focus on a climate-friendly reformation of the energy system. The objective is for Finland to achieve carbon neutrality by 2035. Wind energy will play an essential role in implementing this target.

Opportunities for international businesses

The total installed capacity (roughly 2 GW at the end of 2018) is still comparatively small and there is still large potential for new wind power. With almost 30 projects under construction and more than 200 projects in the pipeline, there are opportunities for international businesses to get involved in a variety of ways:

- *Feasibility, construction, service, and maintenance:* Collaboration opportunities exist at all stages of wind park projects for foreign companies who are experienced in the sector. This includes feasibility studies, technical planning, various consulting services as well as service and maintenance.
- *Turbine and component suppliers:* While some developers are already committed to specific turbine manufacturers, there are many projects in the pipeline where turbines still have to be selected and contracted.
- *Banks and financing institutions:* While project financing has been used successfully in the international wind power sector for many years, Finnish banks still take a

rather conservative approach to non-recourse financing. Until project financing has become more established in Finland, there is a significant market for foreign banks.

- *Private investment funds and institutional investors:* Given the attractive market conditions and the Government's commitment to clean energy one can expect that the Finnish wind energy sector will remain attractive for investors also in the future.
- *Offshore:* Commercial offshore wind is still at the very beginning but there is large potential for the future. Finland is expected to be an interesting market for experienced service providers and suppliers in the years to come.
- *Related sectors:* The transition from subsidized to market-based wind power provides a strong incentive for wind park operators to optimize power supply, reduce balancing costs and utilize additional revenue streams. This creates opportunities for providers of energy storage, virtual power plants, and similar solutions.



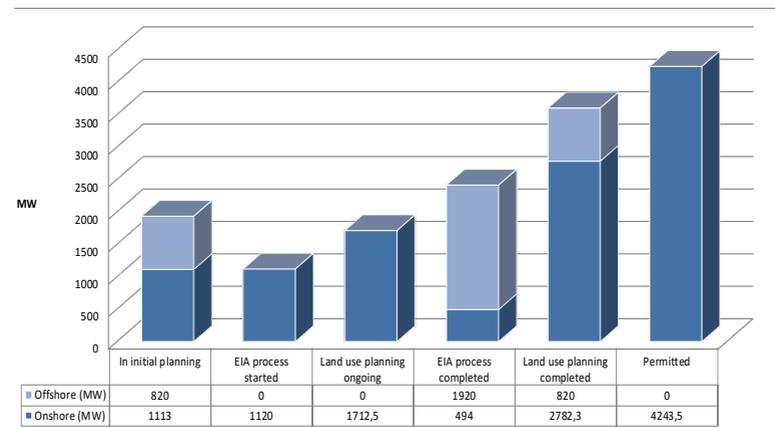
The Finnish wind energy sector

Onshore wind

The most immediate developments in the wind energy sector are onshore. The west coast of Finland and Lapland are perceived as the most advantageous areas for wind power production, which is also highlighted by the total share of wind energy projects under construction and in planning in these regions.

Some of the projects under development are significantly larger than those currently in operation or under construction. Almost one of four of the projects under development have an anticipated capacity of 100 MW or more.

Wind power projects under development in Finland



Source: Data compiled by the Finnish Wind Power Association (February 2018) and the electronic production subsidy system (SATU, February 2018).

In addition to large-scale projects, there are a great number of smaller projects in different stages of development. Opportunities exist especially for companies who are prepared to invest at an earlier stage of development and carry part of the development risk.

Offshore wind

Finland offers one of the largest capacities for offshore wind parks in the Baltic Sea Region. While shallow waters, low waves, and close distances to the coastline offer considerable logistical advantages compared to the North Sea, arctic weather conditions and icing bring about their own challenges.

In order to evaluate and investigate potential for offshore wind power and to develop best practices and technology, the Finnish Government granted an investment subsidy of EUR 20 million to the demonstration project Tahkoluoto, which comprises of 10 turbines with combined output of 40 MW. The wind farm was developed by Suomen Hyötytuuli Oy and has been in operation since 2017. The knowledge acquired during the construction, operation and maintenance of the park is being shared with other developers.

Especially with new technologies making offshore wind more cost-efficient, offshore wind power is expected to pick up in Finland in future years. For experienced offshore suppliers and consultants, Finland should therefore be an interesting market to watch.

Governmental support for wind energy

Of the projects currently in operation, 121 projects are eligible for feed-in-tariff under the system that was introduced in 2011 and has since been phased out. The tariff is paid for 12 years and is calculated as the difference between a fixed target price (EUR 83.50 per MWh) and the average market price (minimum of EUR 30 per MWh) of the previous three months.

A further seven projects with an anticipated aggregate annual production of 1.36 TWh were granted support in a competitive bidding process that was conducted in the end of 2018/beginning of 2019. Once in operation, these projects will receive a premium based on their respective bids for a period of 12 years. The average premium for winning bids was EUR 2.49 per MWh, with the lowest accepted bid being EUR 1.27 per MWh and the highest accepted bid EUR 3.97 per MWh. The premium will be paid in full if the average market price for three-months of electricity is equal to or lower than EUR 30 per MWh. If the market price exceeds EUR 30 per MWh, the premium will be reduced accordingly.

At least as far as onshore wind is concerned, further premium auction rounds appear unlikely. The current Government Programme rather assumes that the amount of wind power produced onshore will increase in line with market conditions. Policies to facilitate wind power rather focus on removing administrative, zoning-related, and other barriers to wind power construction. This includes property tax relief for offshore farms and relieving restrictions on wind power due to radars.



Merchant projects and PPAs

Thanks to advantageous wind conditions and constantly evolving technologies, Finnish wind power has become highly competitive. The last two years have seen the emergence of an increasing number of projects that will be implemented subsidy-free. None of the approximately 20 projects currently under construction have received financial support from the state.

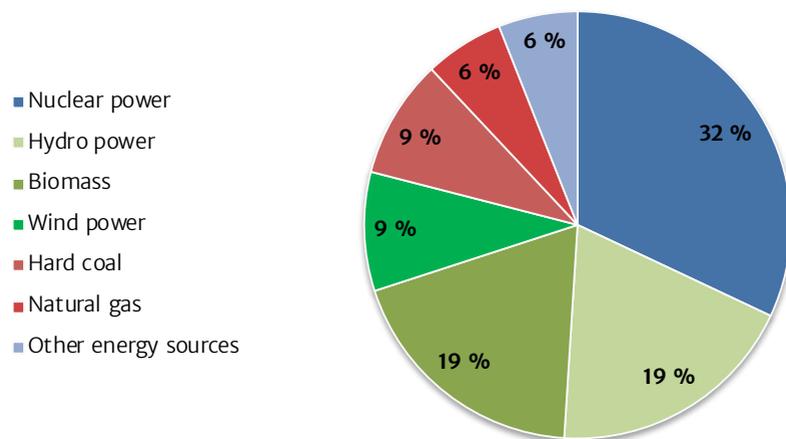
Some of these projects will be operated following the so-called “Mankala model” under which electricity is generated for the benefit of the shareholders of the company operating the park, who will receive the electricity at cost price.

In addition, corporate PPAs (i.e. long-term power purchase agreements with a corporate and industrial offtaker) are entering the Finnish market with full force. The first PPAs published

were with large multinationals (Google in particular). However, also Finnish offtakers are starting to recognize the benefits of long-term PPAs in terms of mitigating volatile electricity prices and meeting their green agenda and sustainability goals. The first purely domestic PPA between Fortum and Neste was just published in October of this year (2019).

There are numerous possibilities for structuring PPAs and it is too early to predict which will be the winning model for the Finnish market. Given the great variety of both power producers and potential offtakers, there will likely not be a “one-size-fits-all” solution. A workable PPA rather needs to cater to the specific circumstances of each project, including the size and financial standing of the parties, the energy consumption profile of the offtaker, the requirements of the financing bank, and the risk-appetite and return expectations of investors.

Electricity generation by energy source 2018



The Finnish energy sector in brief

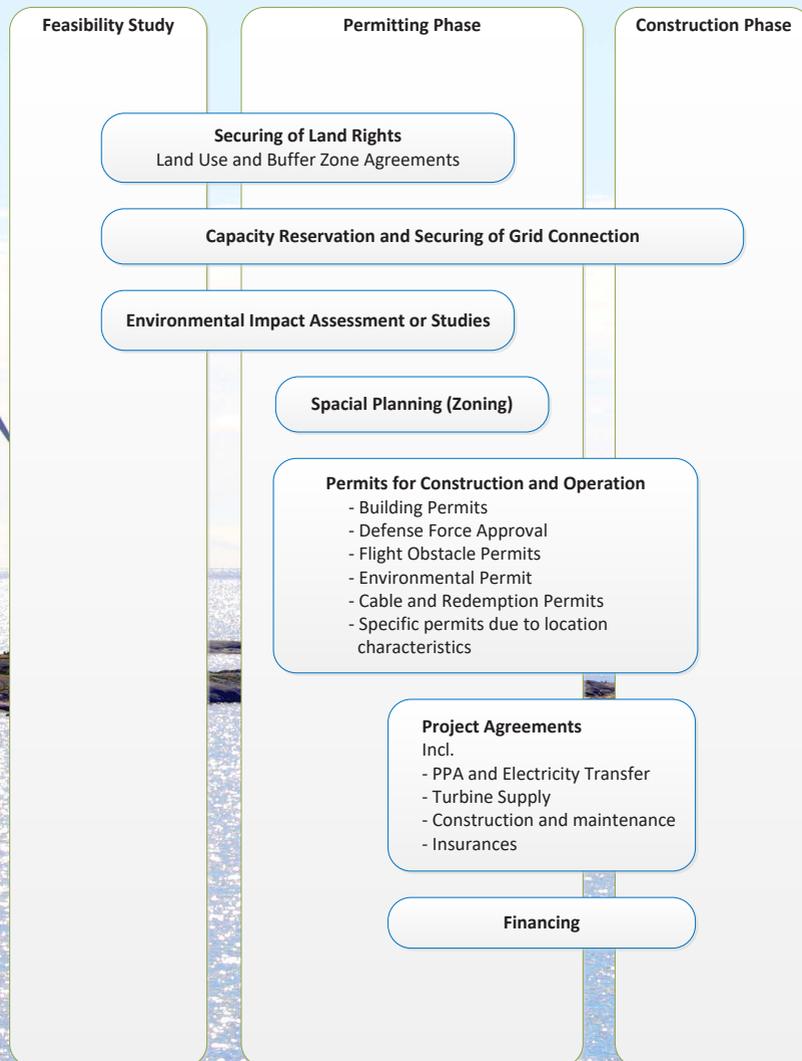
Finland is one of the leading nations in renewable energy. The national target for 2020 (38% total share of renewable energy in final consumption) has already been reached well ahead of time. The wind power’s share of the renewable energy is still comparatively modest, with hydro and bioenergy (especially wood and wood-based fuels) being the most common renewable sources.

The Finnish energy strategy also includes the construction of new nuclear power plants. The fifth Finnish reactor (Olkiluoto 3) is currently under construction, and political decisions have been made to authorise a sixth reactor in Hanhikivi, Pyhäjoki. Currently, the Finnish nuclear energy company Fennovoima is awaiting the construction permit for the respective Hanhikivi 1 nuclear power plant, which is anticipated for 2021.

The Finnish transmission grid is connected to Sweden, Estonia, Norway and Russia. The Transmission System Operator responsible for the nation-wide high-voltage transmission grid is *Fingrid Oyj*. The regional electricity and distribution networks are operated by 12 regional electricity network companies and 77 distribution network companies.

The transmission grid, which currently covers around 15,000 km, is going to be extended significantly over the next few years. In its investment plan, Fingrid envisages the construction of almost 3,000 kilometres of new transmission lines and about 30 new substations between 2015 and 2025. Cross-border connections will also be enhanced. In total, around EUR 1.2 billion is invested in the transmission network between 2015–2025.

Main development phases of an onshore wind park project



The regulatory framework

Over the recent years, the Finnish Government has taken active measures to promote the development of wind parks by simplifying the administrative permit system for wind power projects.

Permitting prerequisites were amended so that building permits for wind parks may be granted even if the relevant master plan has not gained legal force due to pending appeals. Municipalities can promote wind power by adopting a “wind power directing local master plan”, in which most of the required assessments have already been carried out.

Environmental permit conditions were clarified by a Governmental Decree that sets down noise limits specifically for wind parks. Permitting legislation was revised to allow for an expedited, smoother and more effective environmental permit process. Furthermore, the threshold for conducting a mandatory Environmental Impact Assessment was raised from 30 MW to 45 MW for projects with less than 10 turbines.

One practical challenge in wind park development is the fact that there is no centralized permitting procedure. Instead, developers must procure a whole number of different permits that are not only subject to different procedures, preconditions, and deadlines, but may also result in several appeal proceedings. The matter will be mitigated to some extent when a new one-stop shop model enters into force in 2020. This procedure will make it possible to apply for certain permits through one single channel.

Events

EnergyWeek



Vaasa Wind & Renewable Energy

17 March 2020

International wind power event arranged in the city of Vaasa in Finland as part of the annual Vaasa EnergyWeek.

www.energyvaasa.fi

Energia 2020 – The Energy Event of Finland

20–22 October 2020

International energy event arranged in the city of Tampere.

www.energiamessut.fi/energia/en/

WIND FINLAND

Wind Finland 2020

October 2020

Seminar organized by the Finnish Wind Power Association.

www.windfinland.fi

Finland Facts

Finland has been a European Union member state since 1995 and is the only Nordic state to have joined the euro. Key industries are electronics, metal, forestry and chemical industries. The main import partners are Germany, Sweden, the US, the Netherlands and China.

Population: 5.5 million (2018 estimate)

Total area: 338,434 km²

Largest cities by population:

Helsinki (648,042), Espoo (283,632), Tampere (235,239), Vantaa (228,166), Oulu (203,567) and Turku (191,331) (December 2018)

Currency: Euro (€, EUR)

GDP: EUR 232 bn (2018 estimate)

GDP per capita: EUR 42,076 (2018 estimate)

Official languages: Finnish and Swedish

Corporate tax rate: 20 %

Trade organizations: EU (1995), WTO (1995), OECD (1969)

Source: Statistics Finland and Population Register Center

Useful contacts

Networks and advisors

Bergmann Attorneys at Law

Helsinki-based law firm with a strong specialization in industrial projects in construction and engineering, energy, and infrastructure.

Pohjoisesplanadi 35 E
00100 Helsinki
office@bergmann.fi
www.bergmann.fi

The Finnish Wind Power Association

(Suomen Tuulivoimayhdistys ry.)

Association founded in 1988 for promotion of wind energy in Finland with over 180 private individual members and 140 member companies and associations.

Kauppakatu 19 A 9
40100 Jyväskylä
tuuli@tuulivoimayhdistys.fi
www.tuulivoimayhdistys.fi/

Invest in Finland

Government agency aiming at the promotion of foreign investments in Finland.

Porkkalankatu 1
00180 Helsinki
www.investinfinland.fi

Finnish Energy Industries

(Energiateollisuus ry)

Sector organisation for the industrial and labour market policy of the energy sector, with about 260 member companies.

Eteläranta 10
00130 Helsinki
info@energia.fi
www.energia.fi

Deutsch-Finnische Handelskammer

(German-Finnish Chamber of Commerce)

Being part of the network of German chambers of commerce, the Helsinki-based chamber offers various services in order to promote business relations between Germany and Finland.

Unioninkatu 32 B
00101 Helsinki
info@dfhk.fi
www.ahkfinnland.fi

State administration and state-owned companies

Finnish Energy Authority

(Energiavirasto)

The Energy Authority is responsible for supervision of the energy market.

Lintulahdenkuja 4
00530 Helsinki
Tel: +358 29 5050 000
kirjaamo@energiavirasto.fi
www.energiavirasto.fi/

Fingrid Oyj

Enterprise in majority state ownership responsible for the Finnish transmission grid. At present, the grid comprises lines at a total length of 14,400 km.

P. O. Box 530 (Läkkisepäntie 21)
00101 Helsinki
Tel. +358 30 395 5000
kirjaamo@fingrid.fi
www.fingrid.fi

Defence Command of the Finnish Defence Forces

Supreme headquarters of the Chief of Defence. Issues statements on requirement of radar impact assessment of a planned wind park and approves wind park projects in terms of their impact on military readiness.

P.O. BOX 919 (Fabianinkatu 2)
00131 Helsinki
Tel. +358 2 99 800
www.puolustusvoimat.fi/
kirjaamo.pe@mil.fi

Finavia Oyj

Wholly state-owned company maintaining and operating the 24 traffic airports as well as Finland's air navigation system.

P. O. Box 50 (Lentäjätie 3)
01531 Vantaa
Tel. +358 20 708 000
tietopalvelu@finavia.fi
www.finavia.fi

Finnish Transport and Communications Agency

(Liikenne- ja viestintävirasto, Traficom)

The Finnish Transport and Communications Agency Traficom is an authority in licence, registration and approval matters. Grants flight obstacle permits required for wind turbines.

P. O. Box 320
00059 Traficom
Tel. +358 29 534 5000
kirjaamo@traficom.fi
www.traficom.fi/

The Centres for Economic Development, Transport and the Environment (ELY Centres)

Elinkeino-, liikenne- ja ympäristökeskus (ELY-keskus)

There are 15 ELY Centres responsible for the regional implementation and development tasks of the central government. The ELY Centres are involved in the assessment of environmental impacts of the wind parks.

www.ely-keskus.fi/
Tel. +358 295 020 000

Metsähallitus

A state-owned enterprise responsible for administration of the state-owned land and water areas. Metsähallitus also develops state-owned land also for the purposes of wind energy production.

P.O. Box 94 (Ratatie 11)
01301 Vantaa
Tel. +358 206 39 4000
kirjaamo@metsa.fi
www.metsa.fi

Energy and environment policies

Ministry of Employment and the Economy (MEE)

(Työ- ja elinkeinoministeriö, TEM)

The ministry responsible for, i.a., energy policy and integration of the national preparation and implementation of climate policy.

P.O. Box 32
00023 Government
Tel. +358 2950 60660
kirjaamo@tem.fi
www.tem.fi

Ministry of the Environment

(Ympäristöministeriö, YM)

The ministry responsible for the built environment, housing, biodiversity, sustainable use of natural resources and environmental protection.

P. O. Box 35 (Aleksanterinkatu 7)
00023 Government
Tel. +358 2952 50300
kirjaamo@ym.fi
www.ym.fi

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Services – Wind energy

Project acquisition and divestment

- Due diligence scrutiny
- Financing and structuring
- Contract drafting and negotiation
- Process and document management

Project development and management

- Regulatory framework
- Project agreements
- Financing arrangements
- Taxation

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