



Technical support for RES policy development and implementation – Simplification of permission and administrative procedures for RES installations (RES Simplify)



Finland

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Executive summary

This report covers three emerging RES-E or RES-HC technologies: onshore wind, geothermal and ambient heat.

For onshore wind, the main obstacle in the site selection phase is obtaining the approval of the Finnish Defence Forces, which has the right to veto any wind power project due to national security reasons. For geothermal and ambient heat, finding a suitable location for the installation in an urban setting can prove to be challenging.

All in all, the most significant barriers to RES installation permitting take place in administrative authorisation phase. For example, there are numerous processes to undergo and permits to obtain before an onshore wind power project can be realised. Municipalities enjoy wide autonomy in Finland, and their approval of the project is vital in the spatial planning process. Furthermore, the general public has wide complaint rights in connection of many processes, such as spatial planning and different environmental permits, and they can hinder a project or slow it down by years. As emerging technologies, large-scale geothermal and ambient heat projects have, so far, been able to complete the authorisation process with a light administrative burden, but the situation may change as these technologies expand in the future.

Obtaining the grid connection permit is usually an uncomplicated negotiation with the local DSO, which will result in a bilateral agreement between the producer and the DSO. However, as grid capacity cannot be reserved before the project is close to realisation, it is sometimes unclear to the developer whether there is space for the installation in the grid, causing them financial uncertainty. In case of geothermal and ambient heat projects, the project is usually either developed by the district heating operator or in close cooperation with them, ensuring them access to the district heating network.

Finland has already started implementing the RED II directive into its national legislation. The process has entered into a transition stage where small changes have already been made into the legislation (Act 764/2019) but the most significant changes are currently being processed in the Finnish parliament and its working group and are planned to enter into force in mid-2021.

Table 1 contains a traffic light assessment of the relevant process steps for the installation of onshore wind, geothermal and ambient heat in Finland.

Table 1: Traffic light assessment of the relevant process steps

Process step	Site selection	Electricity production license	Application preparation process	Administrative authorisation	Grid connection permit	Corporate legal-fiscal	Other
Onshore wind	Minor barriers identified	Not relevant for target country	Not relevant for target country	Moderate barriers identified	Minor barriers identified	No barriers identified	Not relevant for target country
Geothermal	Minor barriers identified	Not relevant for target country	Not relevant for target country	Minor barriers identified	No barriers identified	No barriers identified	Not relevant for target country
Ambient heat	Minor barriers identified	Not relevant for target country	Not relevant for target country	Minor barriers identified	No barriers identified	No barriers identified	Not relevant for target country

■ No barriers identified	■ Moderate barriers identified
■ Minor barriers identified	■ Not relevant for target country
■ Severe barriers identified	■ No projects implemented

Table of contents

Executive summary	2
Table of contents.....	3
1. National RES targets and relevant RES technologies	4
2. Administrative and grid connection procedure	5
2.1. Relevant process steps.....	5
2.1.1. Site selection	6
2.1.2. Administrative authorisation	9
2.1.3. Grid connection permit.....	18
2.1.4. Corporate legal fiscal	19
3. Use of IT systems.....	20
4. Complaint procedure.....	20
5. Specific features to ease administrative procedure.....	22
6. Indicators to measure the performance of the overall process.....	23
References	25

1. National RES targets and relevant RES technologies

Finland is planning to increase the overall share of renewable energy sources (RES) in its final energy consumption to 54% by 2030, compared to the 2020 level of 44% (NECP Finland, 2019). In the electricity sector, the share of renewables will rise from 41% to 53%, and in the heating sector, from the current 54% to 61% (ibid.).

When looking at the current consumption figures, hydropower and bioenergy would be more relevant than onshore wind power, but their share in the energy system is already very established, and few changes are expected to take place in those sectors in the upcoming decade (ibid.). According to the Finnish NECP, onshore wind is projected to expand rapidly, growing its share of national electricity production from the current 8 % into 18 % of final consumption in a mere decade (ibid.). In order to enable such an exponential growth, the administrative and permitting procedures needed for constructing new wind parks are supposed to proceed smoothly. Finnish wind power has been subject to serious structural constraints in the past, such as the ongoing conflict of interest between wind power sector and the Defence Forces. Some of these obstacles still remain relevant, which will be explored further in the subsequent chapters of this report.

The need for heating is considerably higher in Finland than in many other EU member states due to Finland's Northern location. Geothermal and ambient heat – two rather experiment technologies – have been chosen for this report as key technologies, as well, even though they do not yet constitute a remarkable share of Finland's heat consumption. Biomass is already an established RES-H technology in Finland, and according to preliminary assessments, its importance is not in a steep rise, and its permitting procedures are already rather established and unproblematic. Therefore, geothermal and ambient heat can serve as a window to the future of European renewable heating, and the information on their permitting and spatial planning procedures in Finland can be highly helpful for other EU member states when they begin adopting these technologies in large scale.

Figure 1 displays the annual deployment of PV, onshore and onshore wind between 2010 and 2019. The figure underlines that a constant deployment of onshore wind has taken place in the recent years, with some interruptions in 2011 and 2018 and with a peak in 2016. New offshore wind capacities were added in 2017 only. The annual installed capacity of solar PV started to grow slightly since 2016.

Technical support for RES policy development and implementation – Simplification of permission and administrative procedures for RES installations (RES Simplify) Finland

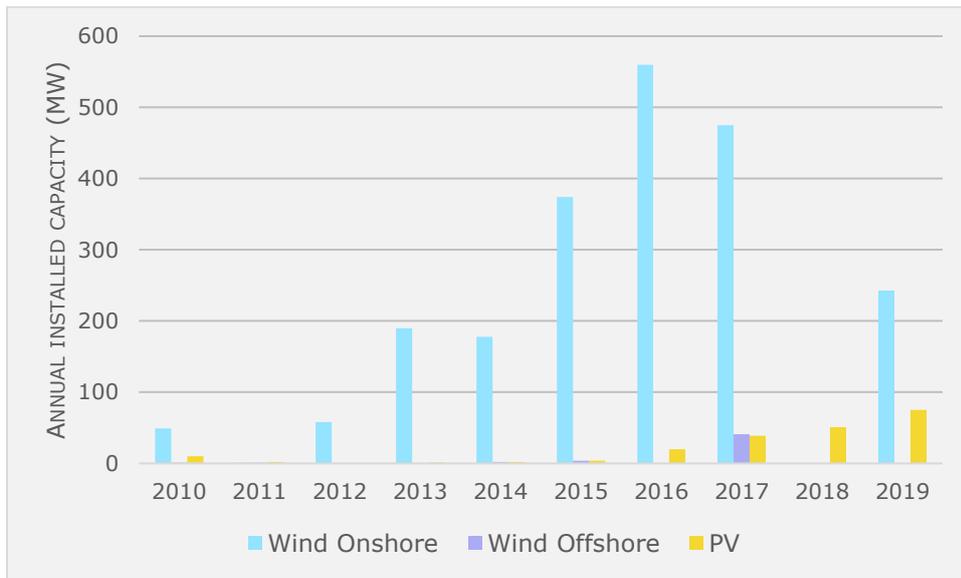


Figure 1: Annual installed capacity of PV and Wind power 2010-2019 (source: EurObserv'ER)

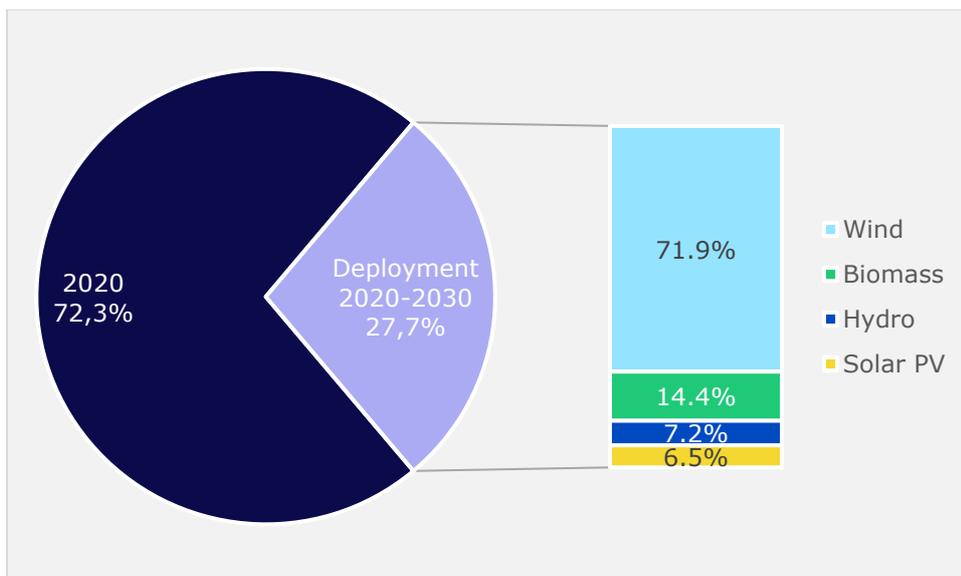


Figure 2: Deployment of RES-E 2020-2030 (source: NECP)

2. Administrative and grid connection procedure

2.1. Relevant process steps

The first step towards the realisation of a renewable energy project is choosing a suitable site, including renting or buying the property, which the installation will be placed on. This step also includes concluding preliminary assessments in order to find out whether the site is appropriate for the intended installation, and in case of an onshore wind project, also consulting the Finnish Defence Forces.

Most permitting and spatial planning work is done in the process step “Administrative authorisation”, where zoning processes, environmental permit applications, environmental impact assessments and construction permitting take place. This process step can consist of many separate or joint procedures and entail several rounds of public hearings and legal complaints.

Once all the necessary permits have been obtained, the project will proceed to the “Grid connection permit” stage, which is a relatively straight-forward process of the DSO and the project developer entering into a bilateral agreement.

Only onshore wind projects in a certain area in Western Finland are required to complete the “Corporate legal-fiscal” stage.

2.1.1. Site selection

Process flow

The process of constructing a renewable energy installation (RES installation) begins with looking for a suitable location. The initiative for the project can originate from different actors: developers, municipalities, land owners, local entrepreneurs, or others, which has an impact on how the projects and thus permitting, too, will proceed. The most common form of securing the lot for a RES installation is to rent it from the land owner (either a municipality or a private owner).

It is important to be in contact with the municipality from the start in order to map out whether they would be open to the idea of a RES plant or installation to be built within their limits. Without the municipality’s approval, it will be impossible to enter into the spatial planning stage. If the municipality is involved in the project since the beginning, it is highly likely that the project will not be rejected due to spatial planning issues.

Sometimes, suitable sites for RES installations, such as onshore wind power, are identified in regional land use plans (Rönkä, 2020). However, municipalities have the autonomy to decide whether to use those areas for wind power or not. All in all, municipalities have a high degree of autonomy in Finland (Local Government Act). Municipal-level spatial plans can also include suggested areas for RES installations.

At this stage, the project developer will also usually contact the local transmission system operator (TSO) and inquire information about free grid capacity in the area. Grid availability cannot, however, be reserved before the project fulfils the DSO requirements, which are individual to each DSO (Kauppinen, 2020).

The Defence Forces technology, especially radar systems, are susceptible to interference from wind power installations and thus, Defence Forces possess the right to veto a wind power project due to national security reasons. Wind mills exceeding 50m in height always require the Defence Forces approval, which implies that all commercial wind power installations having to undergo the consultation process. The consultation is free of charge. Therefore, the consultation takes place at a very early stage in order to find out whether the project can even potentially proceed (RNP, 2020). The developers are required to submit their request for the military opinion to the Defence Forces headquarters in electronic form (Defence Forces, 2020a). In case the Defence Forces Wind Power unit cannot undertake the assessment on their own, Technical Research Centre of Finland (VTT) will assist them and then, forward the assessment results directly

to the Defence Forces, who will issue their final opinion on the matter (Defence Forces, 2020a; Defence Forces, 2020b).

Small-scale devices

Before purchasing a micro- or small-scale RES installation, it is highly recommended to confirm the compatibility of the installation with the local distribution system operator (DSO) in order to make sure the intended installation matches the grid requirements and electricity safety requirements (Lehto, 2011).

Deadlines

As the preliminary negotiations or dialogue with the municipality and the local TSO are not official procedures, there are no deadlines related to them. The Defence Forces consultation, as well, does not follow a set timeline but in general, interviewees and previous research describe it as a quick and efficient (Kauppinen, 2020; RNP database 2020). Developers usually do it as early as possible as the Defence Forces have the power to reject the project completely (RNP, 2020).

Even though the Defence Forces consultation is not an official assessment but a mere consultation from a legal point of view, it has been criticised for its lack of transparency. The criteria for approving or disapproving wind power projects are not public information due to their delicate nature as national security matters. This is highly problematic for developers and spatial planners as they have no way of finding out, which kinds of locations are not conflicting with the Defence Forces needs, except for consulting them with a project plan (Kauppinen, 2020; wind power consultant, 2020).

Detected barriers

Unclear grid capacity at early stage of the project. In Finland, developers can only inquire about the available grid capacity in the moment of deciding on the site, but not reserve future capacity for their use before they have secured a valid construction permit. If permitting procedures will prove more complicated than anticipated or if the project is delayed due to time spent in courts caused by complaints, there may not be grid availability left anymore once years have passed since the initial inquiry (Kauppinen, 2020). Therefore, delayed projects always entail the risk of changes in the grid capacity and access. This barrier is unlikely to change as reserving space in the grid for unsure projects would be a significant risk for the local TSO.

Difficulties with finding a suitable location in an urban setting. Finding a suitable spot for any RES installation in a densely populated area, such as a large city, is all in all challenging due to several factors. Firstly, the more inhabitants and businesses there are in the area, the more people have the right to impact the construction permit process. In a similar manner, environmental permit processes and zoning become increasingly complicated when large numbers of local residents, associations or businesses are involved. Therefore, developers either try to choose a remote location for the new installation, which is a common strategy for onshore wind projects. Heating producers cannot place heating production far from the consumers, which has led to heating project developers preferring locations that are already in energy production use. For example, the Otaniemi geothermal plant and two large heat pump facilities in the Helsinki area are located adjacent to already existing plants (district heat operator, 2020; Maasta lämpöä, 2020).

Defence Forces consultation. The Defence Forces consultation process is perceived as the most significant barrier to onshore wind development as a whole (Kauppinen, 2020;

RNP, 2020; Rönkä, 2020). The consultation is mandatory for all commercial wind power projects as all installations exceeding 50-metres in height are required to obtain it, and no commercial projects would construct turbines lower than 50 metres. The Defence Forces approval impacts a very high share of wind power projects, especially in the Eastern and Southern parts of the country, where it is virtually impossible to get a project approved by the Defence Forces (RNP 2020, Kauppinen 2020). Officially, the Defence Forces approval rate for the past decade is 88,2% (Defence Forces, 2020b) but applicants have already developed a sense of the kinds of locations could stand a chance of getting the approval and which not. The current imbalance in the distribution of wind parks across the country is so vast that it already threatens the grid access of potential new projects as large wind parks are clustered to Western Finland's coastal areas (Kauppinen, 2020; RNP, 2020). As wind power is projected to expand significantly in the upcoming decade (NECP, 2020), the issue of grid access is likely to worsen and to seriously hinder onshore wind power development in the country. The current Finnish government programme entails a pledge to address the issue, and a governmental working group has been assembled to work on it.

Another aspect of this barrier is the complete intransparency regarding the requirements of the Defence Forces approval. Information on the locations and features of radar systems and other military technologies that could suffer from wind turbine interference is classified and cannot be made public due to national security reasons. The software, with which the suitability of wind turbine locations is determined, is also not publicly available, which makes the developers' work very complicated according to interviewed experts (Kauppinen 2020; wind power consultant, 2020). The Finnish Defence Forces software appears to be more stringent than others used for similar purposes: for example, an external software from a NATO country was used to determine the suitability of a potential wind park location in Northern Finland by a developer, and it did not detect conflict between the turbine locations and military technology, but the Finnish Defence Forces software did (Personal interview, 2020).

The barrier also includes other problematic features for onshore wind projects. VTT has been appointed as the auxiliary body to Defence Forces without any kind of accreditation or tendering, and its expertise in the subject has never been questioned. Furthermore, the Defence Forces consultation "team" consists of a single officer, who holds a disproportionate amount of power in their hands according to the Finnish wind power sector (Kauppinen 2020, RNP 2020).

Identified good practice

Addressing the issues of Defence Forces Consultation. In the recent years, the limiting effect of the Defence Forces on the onshore wind installations in the country has been addressed increasingly in Finland. The current government's programme, too, mentions the negative effects and pledges to conduct assessments on how to diminish them. A governmental working group has been set to work on the combining the needs of both wind power sector and Defence Forces better in the future as wind power's role in de-carbonising the Finnish electricity system will be significant (Jylhä, 2020; NECP Finland, 2019). According to an official from the Ministry of the Environment, the working group will deliver its first report in spring 2021 (Jylhä, 2020). The Defence Forces, too, are willing to increase the compatibility of their military technology and the pressure to install more onshore wind turbines in the country.

Involving the public. Developers planning urban projects acknowledge the locals' right to information about new projects and voicing out their opinion on them, and the

interviewed experts state that their companies are doing their best to inform the public and to involve them in the projects from the beginning by considering their opinions about the preferred and not preferred locations for the installation (district heat operator, 2020; Maasta lämpöä, 2020; Kauppinen, 2020; RNP, 2020). Many developers strive for acquiring the locals' consent to their project at an early stage. According to the interviews, the developers' attitude towards public participation has also undergone a change within the last decade. Years ago, developers could appear as arrogant to the local population, not wanting to involve them in the process, but now the importance of local support has been acknowledged (wind power consultant; 2020; Veistola, 2020).

2.1.2. Administrative authorisation

Process flow

Spatial planning

The Land Use and Building Act sets the stage for the whole spatial planning and construction permit process. The spatial planning process begins with the developer and the municipality discussing the possibility of realising the project in the municipality altogether.

The spatial planning process usually consists of the following stages: initiating, preparation, proposal and adoption. The initiating stage entails making a plan for participation and assessment and the scale of the impact assessments necessary. In the preparation stage, the necessary assessments are conducted, and a public hearing will be organised. Once finalised, the proposed spatial plan will be made available to the public and relevant stakeholders (such as authorities or those impacted directly by the change) can submit their opinions on it. At the adoption stage, the municipal zoning board will take a decision whether to adopt the proposal plan or not. After adopting the changed plan, the public still has wide rights to file complaints about the municipal board's decision. Regional land use plans may entail areas that are preliminarily determined suitable for e.g., wind parks, but municipalities have the right to decide whether to use those areas for wind power or not (art.35-45 Land Use and Building Act).

The following elements are relevant to include in the proposal in case of a RES installation: road connections, cables (including underground or under-sea cables), potential power stations, protected areas and potential archeological relics located in the area (Land Use and Building Act; Tuulivoimayhdistys, 2020; Wind power consultant, 2020;).

Some Finnish municipalities are still new to permitting RES installations, which can lead to delays and miscommunications during the spatial planning process.

Onshore wind

The kind of spatial planning needed for an onshore wind power installation depends on where the planned project is located and what kind of impact it could have on the local environment. The simplest way is when the planned installation does not require changing the local master plan or other spatial plans, nor poses a potential risk for the local environment. In that case, the developer will apply for an exemption from spatial planning (suunnittelutarveratkaisu) from the municipality authorities (Tuulivoimayhdistys, 2020). If the local master plan or other relevant spatial plan has to be changed in order to include the planned wind power project, the developer and the

municipality will begin working on changing the plan – if the municipality is politically willing to develop wind power in the area.

According to the 2011 adjustment to the legislation, the costs of changes made to the municipal master plan could be covered by the developer and not the municipality in some cases (Tuulivoimayhdistys, 2020). In the standard procedure, municipalities are responsible for the costs of spatial planning.

Depending on whether environmental impact assessments are needed or not, the whole process of acquiring all necessary permits varies from a year (no EIAs) to up to three years (making changes to the zoning plan and conducting EIAs) (Tuulivoimayhdistys, 2019; art. 77 Land Use and Building Act). It is recommended to conduct environmental assessments necessary for EIA's and spatial planning in a coordinated manner as the same studies can often be used for both (Tuulivoimayhdistys, 2020).

Environmental permit

In general, RES installations do not need environmental permits as they are primarily intended for facilities causing environmental pollution or other harm to people or the environment, especially water bodies (art. 8-9 Environmental Protection Act).

Onshore wind power installations may need to acquire an environmental permit if the noise or light interference could cause significant harm to the residents of the area. The best way to ensure the realisation of a wind power project is to choose the location so that such risk can be avoided and no environmental permits will be needed (Ymparisto.fi, 2018). Similar guidelines are applicable to geothermal power plants as they, too, can cause disturbing noise. Ambient heat and geothermal installations may also cause interference to the underground or surface water systems, in case of which they can be required to apply for an environmental permit (Ymparisto.fi, 2020). The process as a whole takes approximately 4 months (Tuulivoimayhdistys, 2019).

The permit procedure begins with submitting the necessary application documents to the online portal of the Regional State Administrative Agency. In some cases, the application can also be submitted in paper. There are several types of environmental permits but only the general permit is applicable to the types of RES installations described in this report (Ymparisto.fi, 2020). As is the case with other environment-related permit procedures, a public hearing will be organised before the authority will take its decision on the matter. The competent authority takes the decision based on the relevant pieces of legislation, and the decision will be given in writing. The decision is a public document and will be published on the Regional State Administrative Agency website (ibid.).

Environmental permits are part of the set of permits that can be applied for using a joint procedure (art. 3-15 Act 764/2019). In the joint procedure, all relevant applications are initiated at the same time on the same online platform, and all public hearings and feedback sessions are organised jointly. In a similar manner, all authorities will require additional documents at the same time, if needed, and all decisions are given to the applicant at the same time. It is still possible to apply for the permits through separate procedures (Ibid.)

Environmental Impact Assessment (EIA)

Not all power plants or installations are required to conduct EIAs. Therefore, the first step in the EIA process is to consult the regional Centre for Economic Development, Transport and the Environment (ELY-keskus) to determine whether EIA is needed for to the project.

In the onshore wind sector, EIAs are usually only necessary when the planned wind power project is either located near inhabited areas that could be potentially impacted by the noise or lights caused by the turbines, or if the project is located in or in the vicinity of protected areas or prominent bird migration routes, or it could have a negative impact to the scenery as a whole. These scenarios can usually be avoided by the careful consideration of the installation or plant location. Furthermore, the environmental administration has issued several documents informing developers about suitable levels of interference, e.g. noise (Jylhä, 2017).

The regional ELY-keskus is, in general, responsible for coordinating and monitoring the EIA process. Conducting the assessments and covering their costs is on the responsibility of the project developers. The general purpose of EIAs is to map out the potential impacts the project would have on the local population, nature, built environment, natural resources, and landscapes. Under the pre-2020 legislation, EIAs were already available for a joint procedure together with the spatial planning process, and since the Act 764/2019 entered into force in September 2020, they can also be harmonised with other environmental permits, such as water permits.

The project developer is responsible for covering the costs of the EIA itself as well as public hearings and communication (art 38 EIA Act).

All EIA processes consist of two stages: the program stage, which determines the nature and amount of assessments necessary and how to ensure public participation in the processes; and the review stage, in which the necessary assessments are conducted and the results are compiled into the EIA review (Ympäristöministeriö 2018, art. 14-20 EIA Act).

A decade ago, both national and regional authorities were rather inexperienced with conducting EIAs in connection to onshore wind installations. As the number of onshore wind parks has steadily grown in the country within the past decade, the regional and state-level authorities' permitting expertise has increased. According to several interviewees and previous research, EIA processes have become smoother, more efficient and more cooperative in the last ten years (Kauppinen, 2020; wind power consultant, 2020; Veistola, 2020; RNP, 2020). Emerging technologies, such as large-scale ambient heat and deep geothermal, may be facing similar initial difficulties in the EIA processes but the example set by onshore wind indicates that authorities and other stakeholders will be familiarised with them relatively quickly, too (Veistola, 2020).

Onshore wind

The need for EIAs for onshore wind parks depends on the location and the number of turbines installed. If the park consists of 10 turbines or more, it is always necessary to enter into the EIA process (Tuulivoimayhdistys, 2019). It is usually in the developer's interest to combine EIAs with other assessments and public hearings, such as those included in the spatial planning process.

Construction permit

In order to be granted a construction permit, the planned construct has to comply with all the applicable provisions of the Land Use and Building Act. The first step in the construction permit process for RES installation is finding out whether a regular construction permit will be sufficient, or if special conditions for construction permit need to be addressed by the applicant, or whether the intended location requires a deviation

from the already existing zoning plan. In the last case, the applicant has to apply for a deviation decision before moving on to the construction permit application. The competent authority for granting a deviation decision is the technical department of the local municipality. When applying for a deviation, the applicant has to provide detailed documents and technical drawings of the intended building and other infrastructure that will be installed (e.g., roads, cables, or sewage systems), show their ownership or lease agreement of the property, and consult their neighbours and others impacted by the project (art. 171-175 Land Use and Building Act). The applicant is responsible for covering the costs of organising the stakeholder hearing. If the deviation decision is positive, it will be delivered to the applicant in writing by mail. The deviation is granted with the condition of applying for a construction permit within a certain time window (max. two years) (Ymparisto.fi, 2017b; art. 130-143 Land Use and Building Act).

The regular construction permit application process proceeds in the following manner: the applicant will submit necessary documents to the municipal construction inspection authority. The applicant is legally obliged to announce having initiated the application process to the neighbours of the project property, giving them a chance to comment the plan. The owners of the properties next to the project property or opposite to it count as neighbours. Once the municipal authorities have either accepted or rejected the construction permit application, the decision will be delivered to the applicants, to other competent authorities and to those who have requested to receive it. In case the necessary changes to the spatial plan have not entered into force yet, a conditional construction permit can be issued. In such a situation, the construction permit will only become valid once the spatial plan has been accepted (art. 130-143 Land Use and Building Act; Ymparisto.fi, 2015). Constructions can only begin when all necessary permits have been obtained and the deadline for making a complaint has expired, as well.

The applicant is responsible for the financial expenses covering inspection and monitoring fees, or other administrative costs caused to the municipality (Ymparisto.fi, 2015). The municipal building inspector is in charge of the supervision of construction permits and ensuring the compliance with all conditions and legal requirement applicable to the project (art. 149 Land Use and Building Act).

The issue with municipal authorities' inexperience with renewable energy technologies can occur during the construction permit procedure, as well. However, according to an interviewee, construction inspectors have begun to network across the country and share their expertise with RES installations with their colleagues. All in all, an interviewed expert described the construction permit process as one of the swiftest procedures – if not dragged by neighbour complaints (wind power consultant, 2020).

Obstacle permit

In case a construction, such as a wind turbine, may constitute a hazard to air traffic, an obstacle permit is necessary, as codified in the Aviation Act. The permit is applied from the Finnish Transport and Communications Agency (Traficom) in a following manner: first, the developer needs to ask the air traffic service provider, ANS Finland, for a statement. For wind power plants located at the sea or in the coastal areas, a statement from the Finnish Border Guard may also be necessary. These statements are required to be attached to the obstacle permit application submitted to Traficom. The planned wind turbines are required to comply with the Traficom instructions for flickering and signalling. The constructions, such as wind farms, are also required to follow the grouping obstruction instructions with a two-level safety zone system where the inner

safety zone needs to be at least 450 metres wide and the outer zone shall be at least 1.600 metres wide. The processing time for issuing obstacle permits vary and applications are subject to a fee (Traficom website, 2020).

Demolition permit

When decommissioning an old power plant or installation, a deconstruction permit may be necessary. The Land Use and Building Act determines the need for the deconstruction permit: in general, it is not permitted to demolish a building or other construction without a permit if the construction is located in a city plan area (art. 127 Land Use and Building Act).

When applying for a deconstruction permit from the municipal building inspection authority, the applicant has to provide information on its plans to comply with the deconstruction regulations, set by the article 139 of the Land Use and Building Act.

Water permit

The RES installations and plants that have the potential to influence the state, depth, flow or quality of the local waters, may be required to apply for a water permit. Deep geothermal installations, some ambient heat technologies or offshore wind turbines could have such an impact. The water permit is applied for from the local Regional State Administrative Agency. For example, one of the two large heat pump facilities of the Helsinki area district heating company, Helen, was required to acquire a water permit since it extracts heat from seawater (district heating operator, 2020). However, the interviewed expert states that the permitting process was uncomplicated as the heat pump system does not cause significant emissions or noise.

The interviewed experts raised no concerns about staffing issues in the competent authorities. As the number of RES installations and plants has steadily grown in the country within the past decade, the regional and state-level authorities' expertise has increased regarding permitting processes and RES technologies.

Small-scale devices

Micro installations joining the 24kV distribution grid are exempt from most of the above-mentioned permitting procedures. Before installing a small-scale RES installation, such as small wind turbine, the municipal construction authority needs to be consulted in order to find out whether a construction permit or an action permit will be necessary. Action permit is a light version of a construction permit for small non-interfering constructions or new parts to an already existing building (art. 126 Land Use and Construction Act). If yes, the procedures described above will be applicable, albeit in a smaller scale as the potential impacts of the project are only limited to the immediate vicinity of the installation, e.g., next-door neighbours.

Deadlines

No universal deadlines apply to any environmental permit or spatial planning processes, as long as the process proceeds within the limits of good governance codified in the Administrative Procedure Act and other legislation regulating administrative processes. Each individual application is treated as a case of its own as they are subject to individual requirements regarding, for example, documents submitted or public hearings or neighbour consultations.

Construction permit

The construction permit can be revoked if construction works have not begun within three years of granting the permit, or have not been finished within five (art. 143 Land Use and Building Act). It is possible to extend these time limits by a maximum of three years at a time.

Demolition permit

It is required to inform the municipal construction inspection authority of the upcoming demolition works at least 30 days prior to beginning the demolition. If a demolition permit is needed, the authority in question will notify the addressee (art. 127 Land Use and Building Act).

The demolition permit can be revoked if the demolition works have not been carried out within three years of granting the permit (art. 143 Land Use and Building Act).

Detected barriers

Spatial planning and cables. According to an expert from an environmentalist organisation, spatial plans for power plants or installations do not need to include very detailed plans of where cables will be drawn, and sometimes, the location of the cable is simply expressed as an arrow roughly pointing to a direction. More exact plans would be useful to know in order to assess the cables' impacts on the local environment and scenery as the placing the cable may have a serious impact on the ecosystem. The current regulation is that large cables (400kV) require an EIA made whereas smaller cables very rarely do, which is a grievance for environmentalist organisations and other actors concerned about environmental damage (Veistola, 2020). However, if an EIA is conducted, attention is paid to the planned project's energy transmission infrastructure, including cables.

Slow spatial planning processes. Making local zoning plans, which could enable wind power developers, for instance, to apply for a construction permit without making changes to the spatial plan, is a slow and very detailed process. In the worst-case scenario, making the plan and getting it approved by the administrative court can take so long that the wind turbine technology included in the plan has already become outdated (wind power consultant, 2020). As a result, the maximum height for buildings in the municipal spatial plans ends up being lower than the height of the newest windmill models. The fast technological advance has taken even developers by surprise, and higher models are being released at an accelerating pace (RNP, 2020). After all, spatial planning is a political and not an administrative process, and municipalities have local autonomy over spatial planning in their area (wind power consultant, 2020).

Wide complaint rights. As can be seen from the complaint procedure descriptions above, citizens and other legal persons have wide rights to express their opinion and complain about decisions made. Having such extensive complaint rights in almost all permitting and spatial planning processes can lead to serious delays to renewable energy projects if these rights are evoked by several actors in many or all permitting processes. According to the interviewed experts, a renewable energy project may be subject to a lengthy legal complaint procedure four times, causing several years of delay as each individual complaint round can take up to 1,5 years (Kauppinen, 2020; district heating operator, 2020). The wind power sector regards the right to public participation as a very positive and necessary civil right to have, in general, but it is its abuses that wind power

projects suffer from (RNP, 2020). The legal process in itself does not often prove costly to the developer as most complaints are rejected but delaying the project may cause direct financial losses, or lead to other issues, such as decreased grid availability. According to the experts, the most complaint-heavy process is spatial planning.

Complaints getting more “professional”. As RES technologies are becoming more and more common in Finland, all stakeholders are gaining more experience in the field: developing new projects, issuing permits or issuing complaints. According to an interviewee with more than a decade of experience in the wind power industry, those opposing wind power are becoming more “professional” at compiling compelling complaints. Skilfully drafted complaints can lead to longer delays in courts than insubstantial complaints (wind power consultant, 2020). On the other hand, some interviewees note that the overall public support for, for instance, wind power is on the rise, and local residents are no longer opposed to the idea of wind power *per se* after becoming more familiar with the technology (Veistola, 2020; Kauppinen, 2020).

Unpredictable permitting procedure length. As there are no binding rules in place for how long permitting procedures or spatial planning can take, it is difficult for developers to estimate the time needed (Kauppinen, 2020; district heating operator, 2020). The most significant cause for the uncertainty is whether substantial complaints will be issued and how many times during each permitting procedure (district heating operator, 2020). A complaint may take anything between 9 and 18 months in the Administrative Court and double the time in the higher court level, sometimes even resulting in the discontinuation of the project. According to the Finnish Wind Power Association statistics, a whopping 70% of all projects end up in court because of public appeals – but only very few complaints are successful (RNP, 2020).

Conducting unnecessary EIAs. If EIAs need to be conducted, the administrative officials usually require a higher number of them to be done than perhaps necessary due to two factors. Administrative officials may not assess the individual needs of the particular project but to demand more than EIAs than necessary “to stay on the safe side” (Kauppinen, 2020; Veistola, 2020). The officials can also be worried about making a mistake and want to ensure possible misconducts are not their fault. This barrier has been more prominent in the past when neither administrative officials nor developers were experienced with the number and nature of necessary EIAs, and the situation has significantly improved in the recent years (Kauppinen, 2020; Veistola, 2020; RNP, 2020). This barrier is mentioned by both a wind power project developer and an expert from an environmental organisation, which may indicate that the number of assessments required is indeed too high.

Research from other EU countries not considered in assessments. Developers, who have expertise gained from other countries and international research to appeal to, regard their expertise or research data to be considered invalid by Finnish authorities, who would like to produce national assessments of a very similar topic. For example, a developer mentioned that Finnish authorities rejected a research conducted in another EU country, regarding the compatibility of a certain technology with a bat species, even though the species and the technology were exactly the same in the original research as in the assessment site. This could be potentially regarded as conflicting with EU legislation as EU goods and services should be treated equally in the area of free mobility. Furthermore, experiences from other EU countries are often based on more expertise as these countries may have employing the technologies in hand in larger scale or for a longer time than Finland (Kauppinen, 2020).

Complicated procedures for updating construction permits to newer technologies. As described throughout this report, long delays in especially wind power project permitting can lead to a situation where once the project finally acquires a construction permit, so much time has passed that the intended technology has already become outdated. Replacing it with more efficient and newer technology may prove very complicated and time-consuming, depending on the magnitude of change in technology, especially turbine height. If the municipal construction authorities regard the proposed change as minor, it is sufficient for the municipal construction inspector to approve the change. For example, updating the turbine into a 10 metres taller model could classify as a minor change. If the change is more substantial, an adjustment to the spatial plan may be required, leading to a considerable delay as the general public will be allowed to comment and complain again, and the change has to be approved by the municipality council, as well. All in all, this barrier is very common and highly impactful in Finland (wind power consultant, 2020; Kauppinen, 2020; RNP, 2020).

Too much streamlining in permitting procedures. Environmentalist organisations and other civil society actors are concerned about excessive streamlining and acceleration of permitting procedures due to two main reasons. According to the interviewee, “the lemon has already been squeezed dry” when it comes to further combining and streamlining of permitting procedures, at least in the wind power sector. (Veistola, 2020). Firstly, accelerated permit procedures could lead to shorter time windows for citizens to express their opinions on the planned projects, endangering the right to public participation. Secondly, some important assessments can be only carried out at a certain time of the year (e.g., during bat or bird migration), and rushing them could lead to poorer assessment quality and possibly harm the environment or the people living in the vicinity of the power plant or installation (Veistola, 2020).

Another side of the streamlining coin is the wind power sector’s worry about a hasty implementation of the RED II directive in Finland without assessing its impact on the wind power sector. Both developers interviewed for this report are somewhat happy with the current procedures, and are worried that applying the RED II framework to an already functioning system could, in fact, complicate it further, slowing it down. For example, many processes, such as construction permitting, are municipal only, and centralising them to a regional one-stop-shop could increase the number of authorities involved, perhaps delaying it unnecessarily. In addition, all wind power developers are experienced in the field and not in need of a national information point or assistance (wind power developer, 2020).

Municipality autonomy causing inconsistent permitting requirements. There are no state-wide guidelines for dealing with small-scale RES plants, and each municipality has to create their own rules. As a result, there is large variation between different municipalities: some require a building permission, some do not, others ask for administrative fees and some require full plans in drawing. As a result, renewable energy developers have to spend additional time with each project. For example, some municipalities oblige all geothermal energy producers to apply for permits on a regional level whereas others grant them to producers themselves. Another example is granting building permissions on ground water areas: some municipalities allow that and others have prohibited the practice completely (RNP, 2020).

Perfect one-stop-shop impossible due to the Constitution. The Finnish constitution ensures a certain level of autonomy to municipalities, and centralising all permitting procedures in a state- or regional-level one-stop-shop would interfere with the autonomy of municipalities. In addition, further acceleration of permits for RES installations could

lead to prioritising renewable energy projects over others, which interferes with the constitutional principle of equal treatment (The Constitution of Finland; Veistola 2020).

Lack of environmental permits can endanger bird or bat populations. As most wind turbines do not need to acquire an environmental permit, they cannot be subject to regulations that could safeguard the local bird or bat population. Environmental permits are mostly required from facilities causing emissions or other pollution, which is not the case for wind turbines. For example, the current environmental legislation does not allow for temporarily stopping wind turbines during bird migration, which could be a useful way to combine the interests of both wind power industry and nature conservation (Veistola, 2020). Another issue lies in spatial planning: major bird migration routes may have been taken into account by regional land use plans but they can be overlooked by municipalities conducting their own spatial planning (Veistola, 2020).

Identified good practice

Construction permitting authorities gaining experience in wind power. As onshore wind has expanded rapidly within the last decade in Finland, the municipal authorities' expertise with it has also increased drastically. Municipal environmental and construction authorities exchange information with each other and have begun to network country-wide (wind power consultant, 2020). In addition, construction permit decisions from all across the country are public documents, and can be consulted as examples when in doubt.

Light permitting procedures for underground operations. Unlike wind power, which can interfere with several stakeholders' interests varying from the Defence Forces to noise-avoiding local population, and which is often subject to lengthy permitting processes, underground technologies such as deep geothermal can be installed with relatively light permitting procedures. The brand new Otaniemi deep geothermal plant, for example, only had to obtain an action permit (instead of a construction permit). If the planned installation is not located in ground water area and does not cause significant noise or light harm to the local population, nor significant emissions or pollution, there is no need for it to undergo heavy EIAs or obtain environmental permits. Furthermore, legal experts have concluded that the depths of several kilometres are comparable to open sea or open skies, enabling the installation to operate rather freely. The city of Espoo did not have an existing framework of acceptable values for the micro earthquakes caused by the drilling, which led to the developer and the University of Helsinki to develop a safety scale and to install measuring systems underground in order to safeguard the residents' health and safety. In addition to protecting the local population, conducting such measurements gave the University of Helsinki with valuable data for research use (Maasta lämpöä, 2020).

Emerging framework for geothermal installations. The construction works of the first deep geothermal installation in Finland are finished, and the technology has raised interest across the country. Therefore, the competent ministries have published guidelines on permitting geothermal installations for municipality use. The document does not set requirements as to which permit procedures will be applicable: municipalities have the right to decide on that by themselves. For example, the city of Helsinki has commented on the guidelines and recommended future geothermal installations to conduct EIAs, whereas the city of Turku is considering not requiring EIAs from a potential project that is currently being planned (Maasta lämpöä, 2020).

2.1.3. Grid connection permit

Process flow

Developers cannot secure a grid connection permit before the project has been approved in the local spatial plan. The local grid operator has the right to decide on which stage of the permitting procedure a project can be considered for joining the grid and therefore, they impose different requirements to electricity producers wanting to join the grid. Usually, the TSO will require at least an approval in the local spatial plan but some grid operators even require the project to possess a construction permit, too. When the grid connection agreement has been made between the project developer and the grid, the developer has 30 days to pay the grid access fee, which is EUR 600.000. TSO's treat all potential electricity producers equally and do not favour renewable energy sources over any other types of electricity production (Kauppinen, 2020).

During the survey, no problems regarding the competency and sufficient staffing of grid operators were identified. On the contrary, their experience with RES and openness to dialogue and new ideas have been emphasized (Kauppinen 2020, RNP 2020).

Small-scale devices

Small RES installations, too, usually have to enter into an agreement with the DSO. Both the production of the micro installation and the electricity consumption by the household have to be measurable. The small-scale electricity producer – in this case, the owner of the micro RES installation – has the right to join the installation to the local grid if the installation fulfils all technical and safety requirements, and if the grid has a buyer for the produced electricity (Lehto, 2011).

Deadlines

Joining the grid is always an agreement between the power plant owner and the TSO, and the timeline for that is determined by the parties of the agreement. However, the new facility needs to pay the joining fee within 30 days of signing the agreement (Kauppinen, 2020).

On average, project developers and other stakeholders in the RES sector are highly satisfied with their interaction with both local grid and the TSO, Fingrid.

Detected barriers

Unclear grid capacity at early stage of the project. As stated in chapter 2.1.1. of this report, developers can only inquire about the available grid capacity in the moment of deciding on the site, but not reserve future capacity for their use before they fulfil the requirements for joining the local grid. If permitting procedures will prove more complicated than anticipated or if the project is delayed due to time spent in courts caused by complaints, there may not be grid availability left anymore once years have passed since the initial inquiry (Kauppinen, 2020). Therefore, this barrier mainly concerns projects that are undergoing several permitting and zoning processes entailing wide rights for legal complaints as the complaint rounds in the administrative court are usually the most time-consuming part of RES project development. There is always a risk that a project riddled with several delays can be too late for applying for the grid connection if another electricity project in the same area proceeds faster and is granted the capacity that was still available at the time of the initial inquiry (Kauppinen, 2020; wind power consultant, 2020). Therefore, this barrier is actually not created by the TSOs

themselves but other barriers encountered by the project in other permitting processes, such as continuous complaints, delayed EIAs and construction permits. By solving these barriers, the issue of unclear grid capacity would also diminish in relevance.

Identified good practice

Smooth interaction with DSOs. During the survey, the stakeholders expressed a high overall level of satisfaction with their interaction with the DSOs and the TSO, Fingrid (Kauppinen, 2020; RNP, 2020). Both levels of grid administration and development are regarded as fluent and transparent. Fingrid is very willing to enable connection of the fast-growing wind power sector to the grid. The good communication between RES installations and Fingrid has developed through years of cooperation and being open to each other's needs, leading to mutual benefit. Stakeholders in the wind power sector emphasized the grid's willingness to being updated about the future prospects of the wind power sector, and its interest in being notified about projects that are still in development or planning stages. Project developers have a good working relationship with Fingrid, enabling them to have conversations about the future development of the main grid and access to it together. Fingrid is willing to make reparations to the grid in order to ensure access to wind power facilities. Unlike local grid operators, Fingrid also has a clear and consistent pricing system (RNP, 2020).

2.1.4. Corporate legal fiscal

Process flow

Wind power compensation area

There is a special wind power compensation area located in coast of the Bay of Bothnia, where wind power projects are not required to consult the Finnish Defence Forces regarding potential wind power projects. The area has already been pre-mapped for the purpose (Act 490/2013). The wind power sector and the Defence Forces have established wind power compatible military technology in the compensation area, which obligates the owner of every new wind farm built in the area to pay a fee to the Energy Authority. The fee is paid in five yearly instalments. If the total of wind power fees collected from the compensation area exceed the compensation, some of the excessive payments can be paid back to the electricity producers. The Act can be amended by adding other special compensation areas in the future.

Deadlines

Wind power compensation area

The first out of five instalments of the compensation fee will be due six months from the announcement to the Energy Authority of beginning commercial electricity production activities (art. 6-7 Act 490/2013).

Detected barriers

The wind power compensation area system is rather new and thus no barriers related to this process were identified.

Identified good practice

No good practice related to this process was identified.

3. Use of IT systems

Several Finnish permitting authorities have electronic application portals or other systems in place. In general, Finland is currently undergoing a transition period from paper to online applications, and in many cases, both electronic and paper applications are allowed.

Water permits and environmental permits can be applied in the Regional State Administrative Agency online portal¹. Supplementing documents can also be uploaded there, if required by the authority. In addition, there is a separate online portal “YLVA” for monitoring and reporting on already acquired environmental permits (Aluehallintovirasto, 2017).

There is also an online portal for applying for construction permits (Lupapiste.fi, 2020). Since municipalities have a high level of administrative autonomy in Finland, the portal system is not used in all municipalities yet; only those who have already joined the system. All stages of the application procedure can be realised in the portal, starting from the pre-application consultation with the municipal authorities to receiving the competent authority’s decision. Public hearings and neighbour consultations can also be submitted to the portal (Lupapiste.fi, 2020).

Since the new joint procedure entered into force in September 2020, several permitting procedures can be conducted simultaneously but only if the applications are submitted using online application portals (art. 7 Act 764/2019). Since the system is brand new, stakeholders were not able to comment its functionality yet.

RES sector stakeholders expressed their dissatisfaction with the current condition of use of electronic systems in permitting processes. Firstly, there are country-wide inconsistencies with adopting these systems: some municipalities have smooth electronic procedures whereas others have none (Lupapiste.fi, 2020). Furthermore, the existing systems are not sufficiently incorporated and harmonised, and the same information has to be submitted separately to each system. As an example of the latter issue, there are different types of environmental permits (district heating operator, 2020). As it stands, the one-stop-shop principle is not yet functional in Finland. Systems are constantly being developed and enhanced but the pace of the change has not struck RES sector actors as impressive, yet.

4. Complaint procedure

As a rule of thumb, there are two different kinds of official complaint procedures applicable to RES permitting: spatial planning and different environmental permit processes entail wide public rights to complain about the decisions made, whereas construction permitting only ensures this right to those directly impacted by the potential building and its construction works. More detailed descriptions of these complaint procedures can be found below. The most notable recent change is that the new Administrative Judicial Procedure Act, which entered into force in early 2020, does not automatically allow the plaintiff to challenge the Administrative Court ruling in Supreme Administrative Court in spatial planning and environmental matters anymore (art. 108, Administrative Judicial Procedure Act). Previously, there was a wider right of appeal against the Administrative Court decisions.

¹ Online portal for all permits from regional administration: <https://sahkoinenasiointi.ahtp.fi/fi/>

The Defence Forces consultation process, which impacts wind power projects, is not a permitting procedure but a consultation, and does not grant the developer any right of appeal, which has been considered as problematic and intransparent by the wind power sector (wind power consultant, 2020; Kauppinen, 2020; RNP, 2020).

Spatial planning

There are wide complaint rights connected to zoning in Finland and the complaint procedure is described in the Land Use and Building Act. First, relevant stakeholders, such as land owners and neighbours, need to be consulted after drafting the zoning proposal. At this stage, the proposal also needs to be published for 14-30 days (depending on the gravity of changes made in the zoning plan), and all residents of the municipality have the rights to comment on it. After the municipal zoning board decision, all resident of the municipality have the right to submit a complaint to the regional Administrative Court on the decision. Complaints on the municipal zoning boards' decision are submitted to the regional Administrative Courts. There are six administrative courts in the country. All municipality residents have the right to submit a complaint – not only those directly affected by the change in the spatial plan. No specific reason for filing a complaint is needed. If the complaint is rejected by the Administrative Court, the change in the spatial plan will become effective immediately. Most complaints submitted to Administrative Courts by municipality residents are unsubstantial and are rejected. The Administrative Court ruling can only be appealed if the ruling entails the right to do so (art. 108, Administrative Judicial Procedure Act).

EIA

The EIA procedure is not a permit *per se*, which is why the results of an EIA cannot be appealed – their sufficiency can in connection of a proper permitting procedure, i.a., environmental permit, or the decision to conduct an EIA, taken by the local Centre for Economic Development, Transport and Environment.

The project developer can appeal the decision local Centre for Economic Development, Transport and Environment whether the project is subject to an EIA (art. 37 EIA Act). The appeal is lodged in the regional Administrative Court.

The local Centre for Economic Development, Transport and Environment is entitled to appealing a permit decision (i.a., environmental permit) involving an EIA on the grounds of an insufficiently executed EIA (art. 34 EIA Act). Similarly, all other stakeholders with a complaint right with the permitting decision involving an EIA can appeal to an insufficient EIA in their complaint (art. 34 EIA Act).

Environmental permit(s), including water permit

If the applicant disagrees with the authority's decision, it can challenge the decision legally within 30 days of issuing the decision – very similarly to the spatial planning complaint procedure (Ymparisto.fi, 2020). In a similar manner, those potentially impacted by the activities caused by the applicant's project can issue a complaint against a decision they are unhappy with, as well as registered associations or organisations advocating for the protection of health, environment or nature, government authorities, the Sámi parliament or the Skolt Sámi representative body if the action permitted by the environmental permit would endanger Sámi rights (art. 191 Environmental Protection Act). The complaint will be addressed in the Administrative Court of Vaasa. The decision of

the Administrative Court can be challenged in the Supreme Administrative Court, if the court has granted the right to do so (art. 108, Administrative Judicial Procedure Act).

Construction/action/demolition permit

Unlike zoning and EIAs, the construction permitting procedure does not include a universal right for complaint. Once the construction permit has been granted, there are two ways to appeal it: an appeal, or a demand for rectification.

If the decision was taken by a municipal authority and not a political entity (e.g., a municipality construction board), the decision cannot be appealed but a demand for rectification can be lodged within 14 days of taking the decision (art. 187 Land Use and Building Act). The demand for rectification means that the authority re-examine the decision at hand. If the new decision is taken by a politically appointed body and not the municipal building inspection authority, it is possible to proceed to a proper appeal procedure.

Only Land Use and Building Act decisions taken by politically appointed bodies can be appealed. The right to appeal a Land Use and Building Act-related decision is not universal: an appeal can be lodged by a neighbour, owners of property that are directly affected by the project, or anyone, whose rights or benefits are directly affected by the project, or a municipality. The complaint needs to be filed to the regional administrative court within 30 days of granting the construction permit. Complaints can also be filed if there is a reason to suspect misconduct or non-compliance with administrative procedures during the permitting process. If the complaint is turned down in court, the issuer is subject to a fee of EUR 250 in an administrative court and EUR 500 in the Supreme Administrative Court (Ymparisto.fi, 2017).

Deviation decision (construction permit)

The deviation decision made by the municipality can be legally challenged by neighbours or others directly impacted by the applicant’s construction project. Registered environmentalist or nature conservation associations that operate in the area are also qualified to issue a complaint. The complaint has to be filed to the regional administrative court within 30 days of making the decision. The administrative court ruling can only be brought to Supreme Court if the Supreme Court has granted the permission to do so in that particular case (Ymparisto.fi, 2020b).

5. Specific features to ease administrative procedure

Table 2 below provides information on the existing specific features to ease administrative procedures in Finland.

Table 2: Specific features to ease administrative procedures

Specific feature	Existing	Short description
Simultaneous procedures	yes	Since September 2020, it has been possible to combine and harmonise construction permit and different environmental permit processes (Act 764/2019). In the joint procedure, all applications are submitted electronically to the competent authorities and systems at the same time, the applicant can provide supplements to the different applications on one go, public hearings for all the processes are organised simultaneously, and the

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		decision will be given simultaneously. The fact that the joint procedure option exists does not mean the applicant is obliged to participate in it: all permits can still be applied for individually.
National contact points and one-stop-shops	yes	A perfect one-stop-shop system does not exist yet but in the new, harmonised procedure, one authority is assigned to coordinate the combined permit process from the beginning. The authority is either the Regional State Administrative Agency or the municipal environmental authority, depending on the permits needed (Act 764/2019).
Application of 2+1 and 1+1 rules	no	
Simple notification procedure	no	
Pre-planning	no	
Pre-application consultation	yes	Before initiating the joint procedure codified in Act 764/2019, the applicant and the competent authority will hold a meeting to discuss the applicable permits and the necessary documents.
Project acceptance measures	no	
Measures to streamline litigation by third parties	no	
Other	no	

6. Indicators to measure the performance of the overall process

Table 3 below provides information on the indicators to measure the performance of the overall administrative and grid connection process in Finland.

Table 3: Performance indicators to assess administrative and grid connection processes

Performance indicator	Description
Average response time by the competent authorities and TSO/DSO for grid connection procedures	N.A.
Process duration	According to the Finnish Wind Power Association, the average length for process duration for onshore wind parks larger than 10 turbines is 2-4 years, depending on which permits are required and how much spatial planning is needed.
Project approval rates	N.A.
Costs of administrative processes	Usually, the applicant is responsible for covering the costs of all assessments and public hearings. Municipalities are generally responsible for the costs of spatial planning. However, sometimes municipal authorities require the developer to contribute to the costs caused by spatial planning undertaken when including their project into the zoning plan. The costs of a construction permit vary based on the relevant municipality, necessary public hearings and assessments, the size of the construction, etc.

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	The cost of grid connection is EUR 600.00, and in addition, in some cases, the project developer is responsible for constructing new cables necessary to join the installation to the grid (this is the case with, for example, onshore wind parks).
Share of permits that are legally challenged	Approx. 70% (onshore wind) and less than 10% of complaints are valid.
Share of legal challenges that are overruled	90%
Stakeholder interests	Most permitting processes, including spatial planning and environmental impact assessment, include compulsory stakeholder hearings embedded in the permitting process itself and are codified in all relevant pieces of legislation (e.g. art. 43-44 Environmental Protection Act). All relevant stakeholders are required to be notified as the permitting process starts and to comment on the planned project before any decisions are made. In all but construction permitting, these rights are relatively wide and almost all actors in the area count as stakeholders, varying from environmentalist organisations to local residents. Furthermore, the same stakeholders have the right to appeal the permitting decision once it has been made.

References

- Aluehallintovirasto, 2017. Yleisohjeet – vesilain ja ympäristönsuojelulain mukaiset hakemusasiat. [online] Available at: <http://www.avi.fi/web/avi/vesilain_ja_ymparistonsuojelulain_mukaisten_hakemusasioiden_yleisohjeet> [Accessed 13 November 2020].
- Defence Forces, 2020a. Tuulivoimahankkeet. [online] Available at: <<https://puolustusvoimat.fi/tuulivoimalahankkeet>> [Accessed 11 November 2020].
- Defence Forces, 2020b. Puolustusvoimat antaa lausuntoja tuulivoimahankkeista. [online] Available at: <<https://puolustusvoimat.fi/tuulivoimaloiden-lausuntoprosessi>> [Accessed 11 November 2020].
- Jylhä, S., 2017. Tuulivoimaloiden ympäristövaikutusten ohjeet ja selvitykset – Katsaus.
- Lehto, I., 2011. Sähköntuotantolaitoksen liittäminen jakeluverkkoon. Energiategollisuus oy online guidance material. Available at: <https://www.oulunenergia.fi/sites/default/files/attachments/et_ohje_sahkontuotantolaitoksen_liittaminen_jakeluverkkoon_1.pdf> [Accessed 27 November 2020].
- Lupapiste.fi, 2020. Rakennuslupa pähkinänkuoressa. [online] Available at: <<https://www.lupapiste.fi/info/rakennuslupa-pahkinankuoressa>> [Accessed 17 November 2020].
- Ministry of Economic Affairs and Employment et al., 2019. Finland’s Integrated Energy and Climate Plan. [online] Available at: <https://ec.europa.eu/energy/sites/ener/files/documents/fi_final_necp_main_en.pdf> [Accessed 26 October 2020].
- RED II Permitting Working Group, 2020. RED II -työryhmän raportti. Available at: <<https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/8>> [Accessed 26 October 2020].
- Renewables Networking Platform, 2020. Obstacles and Best Practices database. [online] Available at <<https://www.renewables-networking.eu/obstacles>> [Accessed 17 October 2020].
- Traficom (Finnish Transport and Communication Agency), 2020. Apply for an obstacle permission. [online] Available at: <<https://www.traficom.fi/en/services/apply-obstacle-permission>> [Accessed 10 November 2020].
- Tuulivoimayhdistys, 2019. Tuulivoimahankkeen luvitus Suomessa. [online] Available at: <https://www.tuulivoimayhdistys.fi/media/1397-sty_tuulivoiman_luvittaminen_5_2019.pdf> [Accessed 27 November 2020].
- Tuulivoimayhdistys, 2020. Tuulivoimaloiden kaavoitus. [online] Available at <<https://tuulivoimayhdistys.fi/tietoa-tuulivoimasta-2/tuulivoimasta-kunnille/tuulivoimahanke/tuulivoimaloiden-kaavoitus>> [Accessed December 2 2020].
- WindEurope, 2020. Presentation: “Assessing effectiveness – for project developers”.
- Ymparisto.fi, 2015. Rakennusluvan hakeminen. [online] Available at <https://www.ymparisto.fi/fi-fi/asiointi_luvat_ja_ymparistovaikutusten_arviointi/luvat_ilmoitukset_ja_rekisterointi/maankayton_ja_rakentamisen_luvat/Rakennusluvan_hakeminen> [Accessed 27 November 2020].
- Ymparisto.fi, 2017a. Tuulivoimaneuvonta. [online] Available at: <<https://www.ymparisto.fi/fi-fi/>>

[FI/Elinymparisto ja kaavoitus/Elinymparisto/Tuulivoimarakentaminen/Tuulivoima neuvonta](#)> [Accessed 12 November 2020].

Ymparisto.fi, 2017b. Tarvitaanko suunnitteluratkaisu vai poikkeamispäätös? [online] Available at: <https://www.ymparisto.fi/fi-fi/asiointi_luvat_ja_ymparistovaikutusten_arviointi/luvat_ilmoitukset_ja_rekisterointi/maankayton_ja_rakentamisen_luvat/Tarvitaanko_suunnittelutarveratkaisu_vai_poikkeamispaaatos> [Accessed 12 November 2020].

Ymparisto.fi, 2018. Usein kysytyt kysymykset tuulivoimasta. [online] Available at: <[https://www.ymparisto.fi/fi-fi/Elinymparisto_ja_kaavoitus/Elinymparisto/Tuulivoimarakentaminen/Tuulivoima_neuvonta/Usein_kysytyt_kysymykset_tuulivoimasta\(39060\)](https://www.ymparisto.fi/fi-fi/Elinymparisto_ja_kaavoitus/Elinymparisto/Tuulivoimarakentaminen/Tuulivoima_neuvonta/Usein_kysytyt_kysymykset_tuulivoimasta(39060))> [Accessed 13 November 2020].

Ymparisto.fi, 2020. Ympäristölupa. [online] Available at: <https://www.ymparisto.fi/fi-fi/asiointi_luvat_ja_ymparistovaikutusten_arviointi/luvat_ilmoitukset_ja_rekisterointi/Ymparistolupa> [Accessed 16 November 2020].

Interviews

Kauppinen, H., 2020. CurrentFin. Interviewed on 5 November 2020.

District heating operator, 2020. Interviewed on 13 November 2020.

Jylhä, S., 2020. E-mail exchange on 20 October 2020.

Deep geothermal project representative, 2020. St1 Maasta lämpöä unit. Interviewed on 17 November 2020.

Rönkä, O., 2020. Regional Council of Lapland. Interviewed on 5 November 2020.

Veistola, T., 2020. The Finnish Association for Nature Conservation. Interviewed on 12 November 2020.

Wind power consultant, 2020. Interviewed on 13 November 2020.

Legislation

The Constitution of Finland (1999): Suomen perustuslaki (11.6.1999/731).

Act on combining certain environmental permit procedures (Act 764/2019) (2019): Laki eräiden ympäristöllisten lupamenettelyiden yhteensovittamisesta (764/2019).

Act on the Defence Forces (2007): Laki puolustusvoimista (551/2007).

Administrative Judicial Procedure Act (2019): Laki oikeudenkäynnistä hallintoasioissa (5.7.2019/808).

Aviation Act (2014): Ilmailulaki (864/2014).

Environmental Impact Assessment (EIA Act) (2017): Laki ympäristövaikutusten arviointimenettelystä (242/2017).

Environmental Protection Act (2014): Ympäristönsuojelulaki (27.6.2014/527).

Land Use and Building Act (1999): Maankäyttö- ja rakennuslaki (5.2.1999/132).

Local Government Act (2015): Kuntalaki 410/2015.

Nature Conservation (1996): Luonnonsuojelulaki (1096/1996).

Territorial Surveillance Act (2000): Aluevalvontalaki (755/2000).

Wind Power Compensation Area Act (Act 490/2013) (2013): Laki tuulivoiman kompensaatioalueesta (490/2013).