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

Estonia

Written by: Johanna Maarja Tiik, Jurga Tallat-Kelpšaitė, eclareon GmbH

15 December 2020, Berlin

Supported by the

Executive summary

This report covers the following RES-E technologies: onshore wind, biomass, and rooftop and ground-mounted solar power.

Different technologies are impacted to a different extent by various administrative barriers: the most heavily impacted technology covered is onshore wind, whereas other technologies are subject to less barriers. To an extent, that is also caused by the fact that in some cases, administrative procedure is somewhat simplified for smaller scale installations (such as PV).

Regarding site selection, issues mainly arise for onshore wind as all wind projects are subject to an approval from the Estonian Ministry of Defence so that it would not conflict with military radars. Overall, the most significant barriers for all renewable energy technologies occur in administrative authorisation phase where most permitting and spatial planning work is done, as well as during the grid connection phase.

Municipalities, the competent authority in charge of administrative authorisation of renewable energy projects, have varying level of competence; in some cases, the municipalities might lack capacity or know-how about specific issue regarding renewable energy development projects. Furthermore, wide complaint rights and public opposition (not in my backyard effect) can hinder a project or slow it down by years, which is especially in the case of onshore wind where almost all projects are challenged in court. For biomass, there is much less public opposition as people are more familiar with installations using biomass.

Regarding connecting a renewable power installation to the grid, in Estonia there is no grid connection permit process as such. All power installations can be connected to the grid, provided they fulfil the technical requirements and pay for grid connection. The process, however, is criticised by the stakeholders as not transparent in cases as well as costly for renewable energy developers, as they have to bear all grid connection costs.

Table 1 contains a traffic light assessment of the relevant process steps for the installation of onshore wind, biomass and solar power (both rooftop and ground-mounted) in Estonia.

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							
Biomass							
PV rooftop							
PV ground-mounted							

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
1. National RES targets and relevant RES technologies 4
2. Administrative and grid connection procedure 6
2.1. Relevant process steps 6
2.1.1. Site selection 6
2.1.2. Electricity production licence 9
2.1.3. Administrative authorisation 10
2.1.4. Grid connection permit 15
2.1.5. Corporate legal fiscal 17
3. Use of IT systems 18
4. Complaint procedure 19
5. Specific features to ease administrative procedure 20
6. Indicators to measure the performance of the overall process 21
References 23

1. National RES targets and relevant RES technologies

Estonia plans to increase its share of renewable energy technologies in its final energy consumption to 42% by 2030. In the electricity sector, the share of renewables is planned to rise to 40% by 2030 (Estonian NECP, 2019). In comparison, as of 2019, the share of renewable energy in the final energy consumption was 31.9% and the share of renewables in the electricity sector was 22% (Eurostat, nrg_ind_ren). Looking at the predicted shares for each technology and their growth potential for 2030, the biggest increases are foreseen for wind (not distinguished between onshore and offshore in the National Energy and Climate Plan) and solar energy. Biomass will also remain an important source of energy, with roughly a third of renewable electricity coming from this renewable energy source (RES).

The estimated installed solar energy capacity is expected to increase over 4 times, from 100 MW in 2020 to 415 MW in 2030. An exponential growth is also foreseen in the wind energy sector, with the capacity roughly also growing four times from 310 MW in 2020 to 1200 MW in 2030. The contribution of biomass to renewable energy targets in the electricity sector is expected to be maintained roughly at the same level and share to increase only by a very slight margin, from 1150 GWh in 2020 to 1200 GWh in 2030 (Estonian NECP, 2019.)

In order to allow for such growth, especially the administrative and permitting barriers in the way of wind development need to be lessened in order to reach the set target. Currently, no wind turbines have become operational since 2016 due to the veto by the Estonian Ministry of Defence for national security reasons as well as conflicts and legal challenges with the local communities over planning and permitting.

Figure 1 displays the annual deployment of PV and onshore wind between 2010 and 2019. While the deployment of solar power took mainly place in 2019, onshore was more or less installed constantly over the last ten years, however with interruptions in 2013, 2017 and 2018 and not with an upward trend.

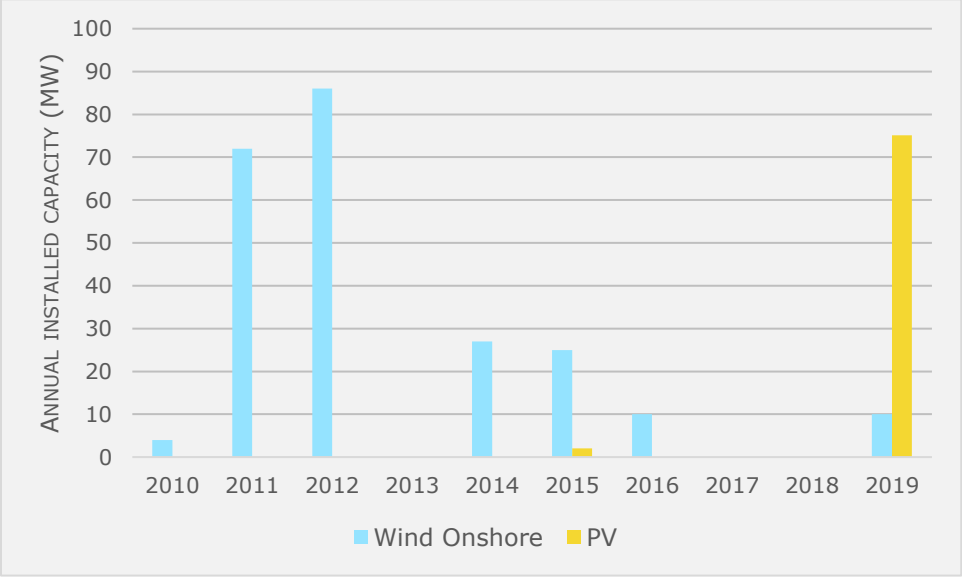

Figure 1: Annual installed capacity of PV and Wind onshore 2010-2019 (source: EurObserv'ER)

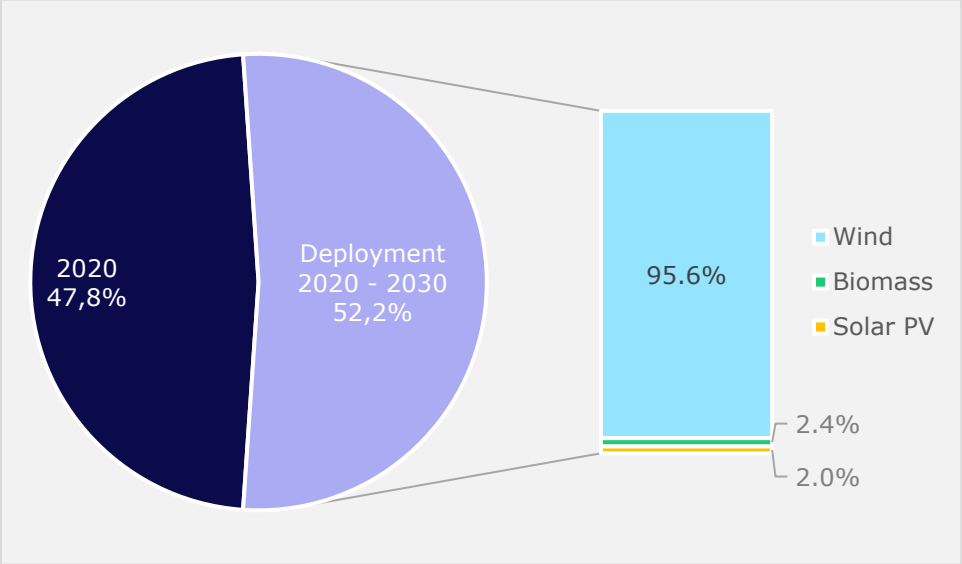

Figure 2: Deployment of RES-E 2020-2030 (source: NECP)

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 for it. This step also includes concluding preliminary calculations in order to find out whether the site is appropriate for the intended installation, and in case of an onshore wind project, also getting an approval from the Estonian Ministry of Defence so that it would not conflict with military radars, thereby threatening national security. While most onshore wind locations are chosen away from human settlement as much as feasible, biomass electricity plants are erected in or very near to major cities. In Estonia, project developers have to bear the grid connection costs on their own, including costs for a complete grid upgrade, if a renewable energy installation is planned in an area where the electricity grid is too weak. Therefore, project developers take into account the vicinity of the grid available for connection when choosing the site – that is one of the most important considerations.

Electricity production licence is only required for bigger renewable power installations and does not concern all developments.

Most permitting and spatial planning work is done in the 'Administrative authorisation' process step, where spatial planning, strategic environmental impact assessment, environmental impact assessments (EIA) and construction and use and occupancy permitting take place. This process step can consist of many procedures (their number depending on the technology and the size of the project) 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 also subject to a number of barriers. In Estonia, there is no grid connection permit process as such. All renewable power installations can be connected to the grid, provided they fulfil the technical requirements and pay for grid connection according to the system in place.

The 'Corporate legal-fiscal' stage of the project is not mandatory, however, under this step the transmission system operator (TSO) Elering issues certificates of origin to producers upon their request to prove that electricity has been produced by a renewable energy installation. Furthermore, renewable energy producers wanting to benefit from the support scheme (premium tariff) coming to an end in 2020 can also apply for the support.

2.1.1. Site selection

Process flow

Site selection is the first step towards a renewable energy project, including choosing, renting or buying the property for the planned renewable energy installation. In Estonia, purchasing the property is more common than renting. The main thing project developers take into account here is 1) whether there are any defence or civil aviation restrictions and 2) how expensive it might be to connect to the grid as in Estonia, project developers have to bear the grid connection costs on their own, including costs for a complete grid upgrade, if an installation is planned in an area where the electricity grid capacity is lacking. Therefore, project developers take into account the vicinity of the grid

available for connection when choosing the site (Annus, 2020; Meesak, 2020; Umbleja, 2020; Talv, 2020). It is important to be in contact with the local municipality from the start in order to map out whether they would be open to the idea of a renewable energy installation to be built on their territory. Without the municipality's approval, it will be impossible to enter into the spatial planning stage.

Biomass installations tend to have an urban location as they are erected in or very close to major cities. The reason behind that is to avoid heat losses in long pipelines, as the majority of the installations are combined heat and power (CHP) plants, therefore CHP plants suppling the district heating are constructed as close to the customers as possible.

The process is seen as not very transparent by the stakeholders. It has been remarked by several stakeholders that as local municipalities are the competent authority for much of the site selection process, the staffing very much depends on the specific municipality. Overall, according to the stakeholders, the know-how of staff is not sufficient (especially in the case of more complex wind energy developments) (Talv, 2020; Meesak, 2020).

Wind energy

The Estonian defence forces assess whether planned wind farms could disturb military radar and radio communication systems. If this is the case, they will withhold their approval or require lower turbines. Regarding the defence restrictions (approval needed from the Estonian Ministry of Defence), the Ministry of Defence has released a map which outlines the municipalities where it is possible to plan wind energy installations (RNP, 2020). In addition to the Ministry of Defence, approval from the Civil Aviation Administration (since 1 January 2021 newly formed Transport Administration encompassing former Civil Aviation Administration), is required for wind turbines (art. 35 Aviation Act). The latter, however, is not a point of contention in the country.

In addition, when choosing a site, wind energy developers also have to take into account the wind conditions in the country. Generally, there is understanding that the best wind conditions are found in North-eastern Estonia and the coastal areas in Western Estonia, however, both of them are still subject to defence restrictions from the Ministry of Defence. In November 2019, the Government of Estonia announced that it will invest in the development of renewable energy in Ida-Viru county by making the necessary investments to improve air surveillance capabilities, in other words financing the purchase of an extra radar for that region. According to the initial plan, the radar will be ready to become operational in 2024, which would ease the height restrictions for wind turbines in North-eastern Estonia (RNP, 2020; Talv, 2020). Financing decision regarding purchasing another extra radar to ease restrictions in central and western part of Estonia is still pending as of December 2020.

Additionally, wind energy developers have to take into account residential and environmental restrictions: for instance, no wind turbines can be erected closer than 1000m to residential houses. Further restrictions in accordance with environment apply as well (Talv, 2020).

Biomass

Overall, use of biomass for energy production is more common for heating than for electricity generation. However, electricity plants using biomass (combined heat and power, CHP) are usually found or planned only in bigger cities, as economically, it does not make sense to plan them into scarcely populated areas. Often, biomass plants are

planned in industrial quarters of the city, paying attention to the fact that trucks carrying biomass need to access it (which also means increased traffic). However, despite the fact that most of the biomass CHP plants are located or planned in bigger cities or close to them, public opposition to them is low (Umbleja, 2020).

Deadlines

There are no set deadlines for this process step. There is little information available about the timeframe when it comes to the approval from the Ministry of Defence. Rather than the process stretching out (which has not been mentioned as an issue), a bigger problem is that the Ministry of Defence can be relatively rigid when it comes to compromises on that topic, emphasising the importance of national security matters, as remarked by the wind energy sector (Talv, 2020).

From the perspective of Ministry of Defence, whereas there are no deadlines for consulting, the Ministry of Defence recommends that wind farm developers apply to the Ministry of Defence for their projects as early as possible in order to obtain expert analysis from the Air Force. Consulting with the Ministry of Defence as early as possible in the development process allows to save money, as well to strategize at an early stage on how the project can be best suited so it does not go against national defence interests (Loorents, 2019).

Detected barriers

Unclear grid capacity especially at more detailed level. One of the barriers identified by the stakeholders in Estonia is related to the fact that the project developers have to bear the grid connection costs on their own. However, there persists a lack of clearness regarding available grid capacities at this process stage, especially when it comes to the more detailed level of the grid, meaning there is also lack of clarity on how much would the grid connection procedure (determined by the site selection) cost (Annus, 2020). One policy recommendation suggested by the stakeholders would be releasing a more detailed map with available grid capacity by Elektrilevi, the Estonia's biggest Distribution System Operator (DSO) covering 93% of Estonia, e.g., going beyond substations at the map. That would particularly aid smaller PV developers (Annus, 2020).

Due to national security reasons, a large share of good wind condition locations cannot be used for wind energy development. That remains one of the biggest barriers to wind energy development in Estonia currently. The Estonian Ministry of Defence assesses whether wind parks could disturb military radar and radio communication systems. In cases where potential for disturbance is identified, they can withhold their approval or require lower turbines. However, since 2016 no wind turbines have become operational in Estonia, in large part due to lack of suitable locations or quarrels with the Ministry of Defence over the suitability of specific locations or projects (RNP, 2020). Even after the decision of the Estonian government in late 2019 to purchase an extra defence radar which is expected to become operational in 2024 for North-eastern Estonia, half of the Ida-Viru county would still remain off-limits for wind energy development. Therefore, one of the common policy recommendations is that additional investments are needed. In addition to North-eastern Estonia, a radar is also needed for Western Estonia (RNP, 2020; Talv, 2020).

Mandatory pre-selection of location for wind energy projects slows development. Another issue related to site selection for wind energy is that according to the Planning Act, wind farms are classified as developments with a significant spatial impact. Due to that, pre-selection of the location (of the construction work) is

mandatory. The pre-selection forms the basis for preparing the detailed solution of the local government's designated spatial plan (art. 98 Planning Act). However, often wind farms are suitable for several locations, thereby having to choose only one location during the pre-selection hinders the process and can in some instances make it longer (Wind Harmony, 2019).

Identified good practice

Investing more into military radars so that more areas would be opened for wind energy development. The Estonian government decided in late 2019 that it will invest in the development of renewable energy in Ida-Viru county, by making the necessary investments to improve air surveillance capabilities, in other words financing the purchase of an extra radar for that region. According to the initial plan, the radar will be ready to become operational in 2024, which would ease the height restrictions for wind turbines in parts of North-eastern Estonia.

2.1.2. Electricity production licence

Process flow

For generation of electricity, an electricity undertaking must hold authorisation obtained from the Estonian Competition Authority. However, that requirement of an electricity production authorisation does not apply in the following instances:

- when electricity is generated by a generating installation which has a net capacity of up to 200 kW
- to non-profit organisations which sells and conveys electricity to its members solely for the purpose of supplying electricity to the apartments, cottages, garages or private dwelling houses which the members own or occupy
- to privately owned producers of electricity, who produce electricity within the boundaries of their building, provided that the sale of electricity is not their principal activity (par. 22 Electricity Market Act).

That means that the procedure is simplified for small-scale and decentralised devices under 200 kW.

Deadlines

For installations that need an authorisation for the generation of electricity, applications for the authorisation are to be decided on by the Estonian Competition Authority within 60 calendar days, except for applications for the authorisation to provide network services through the transmission network, which are to be decided on within 10 months (art. 23 Electricity Market Act).

Detected barriers

No barriers related to this process were identified.

Identified good practice

No good practice related to this process was identified.

2.1.3. Administrative authorisation

Process flow

The length and level of detail of the administrative authorisation process vary according to the technologies and their size. Overall, the process in Estonia follows the general logic: the local municipalities are the competent authority for administrative authorisation as they are in charge of the granting the relevant permits. At this step, local municipalities are quite autonomous from the state. An exception here is the Ministry of Defence, which plays a role in the site selection for wind energy developments, as described in more detail in section 2.1.1 of this report ('Site selection').

The procedure has been characterised as not transparent by the stakeholders during interviews. It should be noted, however, that the procedure is more transparent for biomass than for other technologies. As local municipalities are the competent authority for assessing permit, the staffing very much depends on the specific municipality. Overall, according to the stakeholders, the know-how of the municipal staff is often insufficient (especially in the case of more complex wind energy developments) (Talv, 2020; Meesak, 2020), or they treat renewable energy installations as any other construction, without knowing enough of their specifics (environmental NGO representative, 2020).

More detailed processes for each relevant technology have been outlined below.

Wind energy

In most cases, the process starts with the preparation of a local government designated spatial plan, the process of which takes on average at least four years (Talv, 2020). In case that the municipality's comprehensive plan has already specified location for wind energy development, the preparation of the local government's designated spatial plan can be skipped, which is not very common (art. 95 Planning Act). However, for all wind energy projects, at a minimum a detailed special plan needs to be prepared. During the planning process and preparation of the detailed spatial plan, public consultation is mandatory.

The preparation of a local government's designated spatial plan and the conduct of the strategic environmental assessment is initiated by a resolution of the local council (which is an elected body) (art. 98 Planning Act). As for detailed spatial plans, the preparation of those is initiated by the local municipality (art. 128 Planning Act).

In case a municipality agrees to initiate the process of preparing a local government designed spatial plan, then thorough environmental surveys are carried out (including also noise assessments). It is necessary to carry out an environmental impact assessment as well as the strategic environmental assessment (art 95. Planning Act). In case the preparation of the local government designed spatial plan can be skipped (where the municipality's comprehensive plan already specifies location for the development of wind energy), and it is possible to go straight to the preparation of the detailed spatial plan, strategic environmental assessment is only needed if the plan is presumed to have an impact on Natura 2000 areas (art. 124 Planning Act). The local municipality has to inform the public about the initiated detailed spatial plan. When the planning solution is ready, the municipality proposes to discuss the plan publicly before adopting it. The final solution of the detailed plan is established (confirmed) by the municipal council (art. 106, 107 and 117 Planning Act).

The conditions for environmental assessment are regulated by the Environmental Impact Assessment and Environmental Management System Act.

For the erection and operation of onshore wind turbines or wind farms, applying for a building permit and a use and occupancy permit is needed. Both of these are issued by the municipality as well. Building permit is issued on the basis of the building design documentation, under which the detailed spatial plan is meant (art. 38 Building Code). The municipality also decides on the need to initiate the assessment of environmental impact (art. 42 Building Code).

Regarding the use and occupancy permit, it is issued if it is possible to use and occupy the wind turbine/ farm in compliance with the requirements and in accordance with its purpose of use, meaning if the completed construction work is in accordance with the building permit (art. 50 Building Code).

There is no simplified procedure for small-scale devices.

Solar energy

With regards to solar energy, the administrative authorisation process falls into one of the three varying levels of difficulty, depending on the location of the installation. The capacity of the installation does not make any difference.

1. Rooftop PV projects. In these cases, the PV installation is administratively considered part of the building's technical system. A building permit from the municipality is required, however, normally there are not many issues.
2. PV installation on the same property with a building. In that case, the interpretation is left to the discretion of the competent authority (i.e., municipality) for processing the administrative authorisation. Some classify the PV installation as part of the building's technical system (in that case, the same procedure as in (1) for rooftop PV applies). However, many municipalities classify in that case the PV installation as an electricity generation facility. In that case, a detailed spatial plan is required before the building permit can be issued.
3. PV installation on a separate property than a building. In terms of planning, in that case, the PV installation is considered a full electricity generation facility. That means that a detailed spatial plan is required, often also an EIA as well as public consultations. If all these are successfully done, a developer can apply for building and use and occupancy permits (Meesak, 2020).

For the latter two, in case a detailed spatial plan is needed, then the municipality has to inform the public about the initiated detailed spatial plan. When the planning solution is ready, the municipality proposes to discuss the plan publicly before adopting it. The final solution of the detailed plan is established (confirmed) by the municipal council.

Biomass

Biomass is mainly used for heating in Estonia, electricity generation facilities from biomass are common only in bigger cities. In any case, biomass electricity generation facilities are usually built next to or are connected to already existing heating facilities, which means expanding the already existing projects. It should be noted that new biomass fired electricity plants are not very common in the recent times and most likely in the upcoming years, not many will be built due to reasons outlined in the barriers section below (Umbleja, 2020).

A detailed spatial plan is needed for the construction of a biomass plant for electricity generation, as well as an EIA. Following this, a developer needs to apply for a building permit, followed by the use and occupancy permit as outlined in the Building Code (art. 38, 42, 50 Building Code). The competent authority for all these procedures is the municipality.

Public consultation

The extent of public consultation depends on which kind of planning is needed. According to the Planning Act, if a local government designated spatial plan is needed, then a public display of the initial outline of the preselected location in the context of the local government designated spatial plan and the memorandum of intention to conduct a strategic environmental assessment of the local government designated spatial plan is required for a minimum of 60 days. During that time, everyone has the right to present their comments on the initial outline and the memorandum of intention. Furthermore, within 45 days from the end of the public display, a public discussion of the results of the published initial outline of the preselected location and the memorandum of intention must be held.

Based on the results of the public consultation, the necessary modifications are made to the initial outline of the preselected location in the local government designated spatial plan (art. 105-108 Planning Act).

Regarding public consultation during the detailed spatial plan process, after having accepted the detailed spatial plan, the municipality that initiated the preparation of the plan arranges at least one public display of the detailed spatial plan, during which everyone has the right to present their opinions (art. 135 Planning Act). After that, the municipality in charge of the preparation of the detailed spatial plan arranges a public discussion of the plan. The public discussion has to take place within 45 days from the end of the public display. This step can be skipped if no written opinions were submitted concerning the detailed spatial plan during the time it was on public display or if all written opinions have already been followed upon (art. 136 Planning Act). Based on the results of the public display and public discussion, the necessary modifications are made to the detailed spatial plan (art. 137 Planning Act).

According to the relevant authorities (Ministry of Economic Affairs and Communications) in Estonia, one stop shop will not be introduced in Estonia. Renewable energy developers have indicated that while a one stop shop for renewable energy projects might be convenient in principle, in the planned manner, however, it would have been little effective and possibly have even constituted an additional barrier, as it would have been established on top of the already existing authorisation and grid connection procedures (Meesak, 2020).

Deadlines

With regards to EIAs, which often take a lot of time, art. 2(4) of the EIA Act regulates that the deadlines can be extended, by setting new deadlines for procedural steps, but only in justified cases such as the volume of the documents or the complexity of the proposed activity or strategic planning document. In normal cases, municipality has to review the application for initiating (or refusing to initiate) an EIA in no longer than 90 days since the developer has submitted to them the purpose of the activity (art. 11(2) EIA Act). Following that, the expert group preparing the EIA, jointly with the developer, has 6 months before they have to submit the EIA report to the municipality for approval (art. 22(1) EIA Act).

The building permit has to be issued by the municipality within 30 days from the date of filing the application (art. 42 Building Code). The same time limit – 30 days – applies for issuing the use and occupancy permit (art. 54 Building Code). It should be noted that even though the Building Code sets clear deadlines for processing the permits, in reality all the relevant procedures (incl. the spatial planning process) can take years.

The deadlines for public consultation in the context of the spatial planning process have been outlined above (see 'Process flow' section).

Detected barriers

According to the interviewed stakeholders and the research, this step of the project implementation is subject to the greatest number of barriers – some of them are relevant (common) for all renewable energy technologies, some are technology-specific or affecting one technology much more than the others. First of all, common barriers have been outlined, and after that, technology-specific ones have been specified.

Common barriers

Local municipalities fail to take into account the bigger picture (national view). According to several stakeholders, as municipalities are the competent authority during the administrative authorisation process and quite autonomous from the state, they often tend to see a certain topic, such as renewable energy development, solely from the local level perspective, failing to take into account the broader, national level view (e.g., national renewable energy target). Sometimes renewable energy development is halted by local municipalities as there is the 'not in my municipality' effect (Meesak, 2020; Talv, 2020; RNP, 2020). One policy recommendation suggested by the stakeholders to address this barrier would be bridging the gap between local and the national level planning. There should be a clearer understanding of and a direction given to municipalities from the state, outlining the importance of renewable energy and the nationally taken commitments. That would help to explain why renewable energy development is important and help to avoid local level resistance without a good reason. However, a precondition for that to succeed is the cooperation between the state and municipalities (Meesak, 2020). Another option might be nationally managed courses or workshops for municipalities in order to increase the know-how of the staff responsible for approving renewable energy projects (Environmental NGO representative, 2020).

Wide complaint rights. In the words of the renewable energy sector representative, the complaint rights in Estonia are currently too wide. For instance, the requirements for filing a legal complaint do not take into account the registered residence of the plaintiff. This means that persons living in a completely different part of the country are legally permitted to take legal action against a planned wind farm in a municipality with which they have no official connection (Annus, 2020). In some cases, a group of people not living in the municipalities where wind farms are planned, still turn up to public consultations or even take legal action against planned developments, by which they would actually be not impacted (Talv, 2020). Therefore, some stakeholders recommended changing the Planning Act in a way that only people whose residence is in the vicinity of the project have the right to challenge it legally. Connected to that is the question which kind of legal persons can take legal action against planned development: for instance, it should be defined in more detail which organisations can be classified as environmental organisations to ensure a sufficient level of competence (Annus, 2020).

Not in my backyard (NIMBY) effect/ local level opposition. NIMBY effect is most common with regard to wind energy projects, but it also impacts solar energy

development. Biomass is not very heavily impacted by this barrier. Opposition to planned renewable energy projects by the local communities is relatively common in Estonia. Often, these developments are perceived as disturbing the landscape, ruining the view of people or overall impacting the quality of life in that region. The opposition has reached a point where public consultation, especially for wind energy projects, is extremely strained. It is very hard to have a civilised, informative and reasoned debate (Talv, 2020). This also very strongly relates to the 'not in my municipality' effect: in fear of upsetting some of the local population, the local council (which is elected) might not want to approve the project as they need support from the population for re-election. Regarding policy recommendation to address the issue, the Estonian Wind Energy Association has already proposed to the Ministry of Economy to implement the local level benefit instrument, which would help to ease the NIMBY effect by compensating for inconveniences caused by the location of a wind turbine to people living in the vicinity of wind turbines (Talv, 2020). In addition, the model would determine the revenue accruing to the municipality from the project.

Wind energy specific barriers

Procedures for Nature Conservation Areas do not benefit wind energy development. In Estonia, the Nature Conservation Act is sometimes misappropriated by the opponents of wind power plans. The procedure for applying for a nature conservation area is very intransparent and non-inclusive towards different stakeholders, making it relatively easy then for individual opponents to obstruct or hinder wind energy projects. The only responsible institution for these applications is the Ministry of Environment and, the inclusion of other stakeholders into the process and organizing public discussions and meetings on the matter is not as strictly defined as in the case of an environmental impact assessment study for example. In the case of applications for nature conservation areas, some experts (that play an essential role in the whole process), do not actually have any expertise on the matter. The legislation does not define the criteria of experts. Furthermore, the Nature Conservation Act is used by individuals, who do not want wind power plants in their vicinity, to stop the projects. Under the current Nature Conservation Act, it is quite easy to apply for a conservation area to be established around an individual's house (RNP, 2020). In addition, when an application is made that an area should be made a nature conservation area, all planning procedures are automatically 'frozen' there. However, in the view of stakeholders, to some extent, these two processes could continue in parallel (Annus, 2020).

No official local benefit instrument in place. Currently, there is no official local benefit instrument in place for wind energy projects. Therefore, the local population that might be hesitant or resistant towards wind energy development near their home cannot directly see which kind of benefit wind energy development would bring them. Currently, some wind energy developers try to offer support to the local community, however, this is very difficult, as there are no defined rules and procedure for that (Talv, 2020).

Administrative authorisation procedures take too long. Administrative authorisation procedures, especially for wind energy project take years in order for a development to be realised. There are several developments, which have been going on for almost a decade. By the time all administrative approvals have been obtained, the project might not be economically viable anymore, because technology and the market have evolved in the meantime. What is even worse, a concrete answer to project developers is often delayed for years, instead, an increasing number of environmental assessments are asked from the developer etc. In some cases, even a negative answer would be better than the process being delayed (Talv, 2020).

Poor quality and low requirements for environmental impact assessments (EIAs). Often the quality of an EIA is low or insufficient. For instance, instead of conducting a thorough EIA for a specific wind energy development site, some aspects are taken over from previously conducted EIA for similar locations instead of new site-specific research. However, such transfer does not always work. If the initial EIAs were thorough enough, that would most likely help to avoid conflicts or delays during further steps of the process. The reason behind that is that EIAs are outsourced by the client (normally the project developer, in some instances also the municipality) to external organisation. In that process, the client wants to save money, which can also result in relying on older studies and thus lower quality (environmental NGO representative, 2020). According to the stakeholders interviewed, the EIAs should be strictly site-specific. Instead of relying on previous studies for similar locations to save money, EIAs for renewable energy developments should be performed on a site-specific basis, i.e., an actual site-specific assessment should be carried out (environmental NGO representative, 2020).

Holistic approach on environmental aspects is missing. In the words of an environmental NGO representative, the EIAs and environmental arguments presented during spatial planning of wind projects often miss the holistic view of wind project impacts. Instead, a few studies might be looked at, however, missing to consider the concrete timing and location of the projects and how that impacts the overall natural environment. Sometimes, this might be the case due to the low competence of the competent authority processing the administrative authorisation: wind energy development is sometimes treated as any other development project, without knowing their particularities (environmental NGO representative, 2020).

Identified good practice

No good practice related to this process was identified.

2.1.4. Grid connection permit

Process flow

In Estonia, there is no grid connection permit process as such. All renewable power installations can be connected to the grid, provided they fulfil the technical requirements and pay for grid connection according to the payment system in place, which is based on the length of the connection. The grid connection fee consists of the following elements: cost of construction works and related work, processing fee, and procedural fee. However, if the transmission system operator (TSO) deems the network enhancements for the connection of a renewable energy installation to the grid at a particular location to be necessary, the cost of these needs also to be paid by the project developer (Elering – Tasud).

The application for grid connection has to be submitted to the TSO Elering. According to the relevant Estonian regulation (TSO Elering Grid Connection Cost and Changing Consumption or Production Remuneration Calculation Methodology), all project developers have to bear grid connection costs themselves. After submitting the application for grid connection, the process unfolds in the following steps: 1) acceptance of the application 2) entering grid connection agreement 3) building the connection point 4) supplying electricity 5) synchronising 6) testing and 7) final grid connection contract. The final grid connection contract requires that the testing period has been successfully completed, the production unit has received the certificate of conformity to the grid code

and the production unit models have been verified (Liitumisprotsessi ajatelg, Guide to Connecting to National TSO).

Installations which do not need an electricity production licence (as set out in art. 22 of the Electricity Market Act) – referring to small-scale installations mainly with a net capacity of up to 200 kW, can be connected either to the transmission or distribution grid (art. 19 Network Code).

The TSO has quite a lot of discretion regarding the grid connection, which makes the grid connection procedure less transparent. Even though the requirements and procedure are established by laws, there is sometimes room for interpretation. For instance, the TSO is legally tasked with guaranteeing the security of electricity supply. However, the interpretation of this task is left to its own judgment.

Deadlines

In order to obtain a connection offer, the project developer must pay a procedural fee and submit an application to the TSO. Within 5 working days of the payment of the procedural fee, the TSO has to notify the developer of any deficiencies in the application for grid connection. After such a notification has been sent by the TSO, the project developer has 20 working days for eliminating the shortcomings in the application. The connection offer must be presented to the applicant within 90 calendar days of accepting the grid connection application. The offer is valid for 60 days, and during this period, a grid connection agreement must be concluded (Elering – Taotus ja Leping).

There are varying opinions from stakeholders as to how well deadlines are respected. According to some sources, there are no issues and the TSO Elering processes the offers in the time foreseen. However, according to others, there are delays with little reason given (Meesak, 2020; Umbleja, 2020)

Detected barriers

All grid connection costs have to be borne by the developer. The biggest barrier here affecting all renewable energy technologies in the electricity sector is that according to the current Estonian regulation (TSO Elering Grid Connection Cost and Changing Consumption or Production Remuneration Calculation Methodology), the project developer has to bear all grid connection costs, which makes connecting to the grid very expensive. Furthermore, if the TSO sees that in order to connect an installation to the grid, grid strengthening and enhancements are needed, the costs of such works also have to be paid by the developer (Umbleja, 2020; Talv, 2020; Annus, 2020; Meesak, 2020). This further increases the grid connection costs as well as the overall project implementation cost. A policy recommendation by the stakeholders to alleviate this problem would be to change the Grid Connection Cost Methodology so that not all grid connection costs have to be paid by the project developer. Instead, a social awareness should be raised that renewable energy development is necessary. The costs for the grid connection should be paid by the society as a whole, as in the end they will also benefit from additional renewable energy generation capacity (Umbleja, 2020).

Phantom grid connections. In the coming years, the capacity of the transmission grid for the connection of new installations will be highly limited due to the capacities that are already reserved for the intended connections, but have not yet been used (some being reserved for years), the so-called phantom grid connections. The phantom grid connections limit the availability of connections for other project developers. What is more, they raise the price of grid connection for project developers, as per regulation,

the grid needs enhancements and the costs for the enhancements have to be paid by the project developers. However, it is very hard to deal with the issue as it is very costly and time-consuming for the TSO. The capacity of such phantom grid connection is currently around 2 GW (Annus, 2020; Talv, 2020; Umbleja, 2020). The interviewed stakeholders agree that the problem of the phantom network connection must be solved and that the state, together with the TSO, is responsible for solutions. Possible ways to do that include offering compensation to those project developers who have already paid for the phantom grid connection. Eligible cost for the reimbursement could include the initial costs as well as interest that has accrued over the time (Umbleja, 2020; Annus, 2020).

Somewhat non-transparent process. As the interpretation of the TSO's role in grid connection is to an extent left to its own judgement as described more in detail under the 'Process flow' section above, that can reduce transparency and at times slow the process. The TSO has the obligation to ensure the quality of electricity, however, according to some renewable energy stakeholders sometimes this is taken to the extreme; in turn, excessive risk mitigation hinders access and raises the costs for the developers (Annus, 2020; Umbleja, 2020).

Delays in the process. As indicated above, there are sometimes delays in the grid connection process without providing a good reason for the delay. The TSO is at times overwhelmed with work, which can sometimes put the process behind schedule. An issue that was existent in 2020, and most likely will continue in 2021 as well is that due to the change in the support scheme, there has been a great upsurge of PV installations in the country. This is because projects completed in 2020 will receive the 'old' support for renewable energy (premium tariff), while from 2021 onwards renewable energy support for new installations will be based on reverse auctions with no premium tariff. Therefore, a lot of PV installations were installed in 2019 and 2020. Such increase has resulted in the biggest DSO, Elektrilevi, being heavily overloaded with work, delaying the grid connection process. However, this is perceived to be a one-time issue by the stakeholders interviewed and such delays are no longer expected in the future (Annus, 2020; Meesak, 2020).

Identified good practice

No good practice related to this process was identified.

2.1.5. Corporate legal fiscal

Process flow

The TSO Elering issues certificates of origin to electricity producers (upon their request) if they want to prove that electricity was produced by a renewable energy installation or in an efficient CHP process. However, many smaller renewable energy producers do not request the guarantees of origin to be issued, as this is not a mandatory step in project implementation in Estonia.

Furthermore, renewable energy producers who want to benefit from the support scheme - premium tariff – that will expire at the end of 2020, need to register their renewable energy installations as eligible for support with the TSO and, after receiving confirmation, apply for the financial support. The premium tariff scheme is operated by the TSO Elering (Elering – Taastuvenergia toetus). These process steps can be fully completed electronically (green.elering.ee) and according to stakeholders interviewed, it is a quick and efficient process.

Deadlines

No relevant deadlines for this process step.

Detected barriers

No barriers related to this process were identified.

Identified good practice

No barriers related to this process were identified.

3. Use of IT systems

In Estonia, digital platforms are used for handling documentation in all process steps described above. This applies to all administrative procedures with the state and local governments and is generally perceived as efficient. As different online platforms are used for different steps of the process, there might be some complaints with regard to certain websites (e.g., the website of the Building Register).

An amendment to the Planning Act is underway, which seeks to bring all planning into a single database, managed by the Ministry of Finance. A common digital planning database would certainly simplify the overall procedure (Umbleja, 2020).

The main digital platforms or websites used are as follows:

Administrative authorisation

Each municipality has its own webpage, where is it also possible to electronically submit an application to initiate the detailed spatial planning process. One example of such a webpage is the Saaremaa Council webpage: https://www.saaremaavald.ee/uldinfo.

The national Building Register database[1], which has been fully electronic since 2016, is used to apply for building and use and occupancy permits.

The electronic submission of applications is perceived as effective by the stakeholders overall. There have been several complaints about the user-friendliness of the Building Register. However, the Building Register is undergoing a major upgrade in late 2020 and first half of 2021. As a result, it should become much more user-friendly, and not only in terms of submitting documents, but also accessibility to various maps, plans of buildings, etc (Pärli, 2020).

Grid connection permit

The national TSO Elering has an electronic application portal Egle.ee[2] since June 2016, where all documents necessary for the connection of a renewable energy installation to the electricity transmission grid can be submitted. There were no complaints from stakeholders about this platform during the survey.

The biggest DSO Elektrilevi also has an electronic application submission portal which can be accessed at https://www.elektrilevi.ee/et/avaleht.

[1] https://www.ehr.ee/app/esileht?1
[2] https://egle.ee/#/

Corporate-legal fiscal process

Guarantees of origin are issued electronically by the TSO Elering, if the project developer requests it. All the administration is done through the following database: https://green.elering.ee/.

4. Complaint procedure

In Estonia, the appeal process against administrative decisions related to the renewable energy project implementation follows the Administrative Procedure Act (except grid connection). A person who feels their rights have been violated or their freedoms have been restricted can turn to the administrative courts in the first instance, to the circuit courts in the appellate instance and in the final instance to the Supreme Court. The Supreme Court also decides on petitions to review a case (art. 3 Code of Administrative Court Procedure).

A challenge to an administrative act can be filed within 30 calendar days from the day when a person becomes or should become aware of the contested administrative act, if it is an annulment action or a mandatory action (taking a certain administrative act). A prohibition action, meaning prohibition to take a certain administrative measure can be filed without a time limit (art. 46 Code of Administrative Court Procedure).

The challenge must, among other things, specify the administrative act challenged and the reasoning for not agreeing with the challenged administrative decision (art. 75 and 76 Administrative Procedure Act). In filing the challenge, the plaintiff needs to provide an explanation alongside with proof in which way their rights are violated and why is filing the challenge necessary in order to protect their rights.

A person is not allowed to bring an action in the administrative courts if the person has already, in an administrative court, brought an action which contains the same claim and is made on the same cause and regarding which, the judgement has become final (art. 43 Code of Administrative Court Procedure).

Complaint procedures are not perceived as particularly efficient by stakeholders interviewed. In the case of PV installations, for instance, the project developers hesitate to initiate the complaint procedures, as these are largely seen as a waste of time and money. In most cases it is more cost-effective to simply choose another location (Meesak, 2020).

From the perspective of wind energy developers, it currently remains an issue that the requirements for filing a legal complaint do not take into account the registered residence of the applicant. On the other hand, the stakeholders surveyed communicated that wind energy developers should sometimes better prepare themselves and engage with the local community to avoid legal challenges (Annus, 2020; Talv, 2020).

In Estonia, a problem remains that it can often take years to reach a court decision, especially regarding wind energy development. If someone has legally challenged a wind farm construction, the case is often dealt with in several court instances (up to three are possible) until a final decision is made. Wind developers ironically say that 'spatial planning issues in Estonia are confirmed by the (Supreme) Court'.

Challenges against biomass or solar energy projects are far less common.

Complaint procedures have been only occasionally used with regard to grid connection permit. As the TSO/DSO is not an administrative body, in this case complaint procedure is regulated by the Code of Civil Procedure. The three instances of courts competent to

deal with civil matters are the county courts, circuit courts and the Supreme Court. Depending on the agreement between developer and the TSO/DSO, out of court dispute settlement might be used before going to court.

5. Specific features to ease administrative procedure

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

Table 2: Specific features to ease administrative procedures

Specific feature	Existing	Short description
Simultaneous procedures	yes	The procedures for issuing the building permit and the use and occupancy permit, as well as the authorisation of the grid connection can be carried out in parallel. In some instances, the actual construction works are started even before getting the building permit. However, the latter depends on the leniency of the municipality processing the building permit and is not an official practice (Meesak, 2020). Overall, the stakeholders interviewed perceive the simultaneously running procedures as efficient, however, it does not help to speed up the implementation of wind energy or biomass projects, as it is mainly used for solar energy projects.
National contact points and one-stop-shops	no	
Application of 2+1 and 1+1 rules	no	
Simple notification procedure	yes	According to the Network Code on the Functioning of the Electricity System, the network operator has no right to demand the particulars and documents normally needed for the grid connection (e.g., a plan enabling the construction of an electrical installation to be connected to the network or a building permit) if • modification of the consumption or production conditions of the existing network connection does not require the construction of a new connection point or the installation of a supplementary production module; or • where the capacity of the power-generating module to be connected to the network is up to 15 kW (art. 19).
Pre-planning	yes	Regarding the defence restrictions (approval from the Estonian Ministry of Defence required), the Ministry of Defence has published a map which specifies the areas in municipalities where is it possible to plan wind energy installations (RNP, 2020).
Pre-application consultation	no	
Project acceptance measures	yes	Currently, there is no official mechanism for project acceptance measures in Estonia. Sometimes, wind energy developers try to support the local community financially, however, that is done

		through a complicated procedure and multiple legal persons. However, the Estonian Wind Energy Association has actively been working on the topic and proposed to the Ministry of Economy to implement the local level benefit instrument to compensate for inconveniences caused to local communities living near wind turbines, which would seek to help to ease the NIMBY effect (Talv, 2020). In addition, the model would determine the revenue accruing to the local municipality from the project.
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 Estonia.

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	PV: Normally, 2-3 months. In 2020, however, the biggest DSO Elektrilevi is congested due to a boom of PV installations. This boom was caused by the expiry of the old support scheme (premium tariff) at the end of 2020. As a result, the grid connection takes longer (in extreme cases, up to two-three times the normal time) in 2020 and issue will most likely also continue in 2021, but this is normally not the case. No information available for other technologies.
Process duration	For PV, on average 6 months. However, the process takes longer in bigger cities. For wind, a minimum of 5 years is indicated. However, that does not include legal challenges, the timeline of which is extremely unpredictable.
Project approval rates	PV: if a financially suitable location is found and decided upon, then ca 90% of the initiated projects are also approved. However, scouting for a good location – meaning 'fishing' how much would be a grid connection cost in one location or another, in order to ensure that the project would be economically reasonable – is very common. No information available for other technologies.
Costs of administrative processes	PV: Impossible to come up with an average cost per application. In case the application process would be very costly, e.g., due to expensive grid connection, then developers often abandon a project and find another location. Wind: Impossible to come up with an average cost. The cost of EIAs can range from a few tens of thousands up to several hundreds of thousands of euros.

Share of permits that are legally challenged	Wind: Nearly all recently. PV: Much less than in the case of wind energy. More specific information not available.
Share of legal challenges that are overruled	N.A.
Stakeholder interests	The environmental NGO representative remarked that environmental NGOs or the nature protection sector are often engaged as the formal project implementation process foresees, however, consulting with them earlier might speed up the process at a later stage and help to avoid some of the legal challenges or conflicts (environmental NGO representative, 2020).

References

MKM, 2020. Planning of wind energy development in comprehensive plans: Estonian Ministry of Economic Affairs and Communications official reply to local municipalities, 2020. Available at: <https://planeerimine.ee/static/sites/2/tuuleenergeetika-arendusalade-kavandamine-uldplaneeringutes-lisa-3.pdf> [Accessed 15 December 2020].

Pärli, M., 2020. Uus ehitisregister hakkab kasutajatele avanema advendikalendrina, ERR. Available at: <https://www.err.ee/1158766/uus-ehitisregister-hakkab-kasutajatele-avanema-advendikalendrina> [Accessed 15 December 2020].

Loorents, N., 2019. Kuidas ühitada tuuleparkide arendajate ja sõjalise riigikaitse huve? Keskkonnatehnika. Available at: <https://keskkonnatehnika.ee/kuidas-uhitada-tuuleparkide-arendajate-ja-sojalise-riigikaitse-huve/> [Accessed 15 December 2020].

Elering – Liitumisprotsessi ajatelg. Available at: <https://elering.ee/liitumisprotsessi-ajatelg#tab2> [Accessed 15 December 2020].

Elering – Tasud. Available at: <https://elering.ee/tasud> [Accessed 15 December 2020]

Elering – Taotlus ja leping. Available at: <https://elering.ee/taotlus-ja-leping> [Accessed 15 December 2020].

Elering- Taastuvenergia toetus. Available at: <https://elering.ee/taastuvenergia-toetus> [Accessed 15 December 2020].

Eurostat, nrg_ind_ren. Share of energy from renewable sources. Available at: https://ec.europa.eu/eurostat/databrowser/view/nrg_ind_ren/default/table?lang=en [Accessed 8 January 2021].

Guide to Connecting to the National Transmission System, 2018. Elering. Available at: < https://issuu.com/elering/docs/elering_liitujad_uuendus_a5_eng_v2 > [Accessed 8 January 2021].

NECP, 2019. Ministry of Economic Affairs and Communication. Eesti riiklik energia- ja kliimakava aastani 2030 (Estonian NECP). Available at: <https://www.mkm.ee/sites/default/files/teatis_eesti_riiklik_energia-_ja_kliimakava_aastani_2030.pdf> [Accessed 15 December 2020].

Renewables Networking Platform (RNP), 2020. Obstacles and Best Practices database. Available at: <https://www.renewables-networking.eu/obstacles> [Accessed 15 December 2020].

TSO Elering Grid Connection Cost and Changing Consumption or Production Remuneration Calculation Methodology, Elering. Available at: https://elering.ee/sites/default/files/public/Teenused/Liitumine/Elering_AS_liitumistasu_ja_muutmise_tasu_arvutamise_metoodika_2015.pdf [Accessed 8 January 2021].

Wind Harmony, 2019. Wind Harmony database, available at: https://www.windharmony.eu/database/ [Accessed 15 December 2020].

Legislation

Administrative Procedure Act. RT I 2001, 58, 354. Available at: <https://www.riigiteataja.ee/akt/123022011008?leiaKehtiv> [Accessed 15 December 2020].

Code of Administrative Court Procedure. RT I, 23.02.2011, 3. Available at: <https://www.riigiteataja.ee/akt/113032019054?leiaKehtiv > [Accessed 8 January 2021].

Code of Civil Procedure. RT I 2005, 26, 197. Available at: https://www.riigiteataja.ee/akt/120062020005 [Accessed 8 January 2021].

Planning Act. RT I, 26.02.2015, 3. Available at: <https://www.riigiteataja.ee/akt/119032019104?leiaKehtiv>. [Accessed 15 December 2020].

Environmental Impact Assessment and Environmental Management System Act. RT I 2005, 15, 87. Available at: <https://www.riigiteataja.ee/akt/116112010013?leiaKehtiv>. [Accessed 15 December 2020].

Building Code. RT I, 05.03.2015, 1. Available at: <https://www.riigiteataja.ee/akt/105032015001?leiaKehtiv>. [Accessed 15 December 2020].

Nature Conservation Act. RT I 2004, 38, 258. Available at: <https://www.riigiteataja.ee/akt/116052013016?leiaKehtiv>. [Accessed 15 December 2020].

Network Code on the Functioning of the Electricity System. Regulation enacted under subsection 3 of § 42 of the Electricity Market Act. Available at: <https://www.riigiteataja.ee/akt/121022019002>. [Accessed 15 December 2020].

Electricity Market Act. RT I 2003, 25, 153. Available at: <https://www.riigiteataja.ee/akt/129062018071?leiaKehtiv>. [Accessed 15 December 2020].

Aviation Act. RT I 1999, 26, 376. Available at: <https://www.riigiteataja.ee/akt/108012020007?leiaKehtiv>. [Accessed 15 December 2020].

Interviews

Annus, M., 2020. Estonian Renewable Energy Association. Interviewed on 13 November 2020.

Meesak, A., 2020. Estonian PV Energy Association. Interviewed on 17 November 2020.

Talv, T., 2020. Estonian Wind Energy Association. Interviewed on 18 November 2020.

Environmental NGO representative, 2020. Interviewed on 26 November 2020.

Umbleja, S., 2020. Estonian Power and Heat Association. Interviewed on 27 November 2020.