European Commission

# Clean energy for EU islands: Study on regulatory barriers and recommendation for clean energy transition on the islands

# **Estonia**

Clean energy
for EU islands

# Study on regulatory barriers and recommendations for clean energy transition on the islands - Estonia

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## Readers' Guide

This study on legal and regulatory barriers for the clean energy transition on Estonian islands is the result of a consultative process. Based on an inventory of the current legislation and information gathered via surveys and interviews, the Clean energy for EU islands secretariat has brought together relevant stakeholders to identify barriers to the clean energy transition on Estonian islands, and formulated recommendations to overcome them.
After an introduction and explanation of the methodology, the first chapter of this study provides an overview of the existing policy and legislation for clean energy on Estonian islands.
The second chapter contains the identified legal and regulatory barriers, based on the survey and the interviews (see Annex 1 for a detailed assessment), and the recommendations, based on the Focus Group Meetings and the National Stakeholder Meetings (see Annex 2 for more information).

## Introduction

Small size, remoteness and climatic vulnerability lead to an unfavourable geographic condition and make islands susceptible to external factors. While islands are particularly vulnerable to climate change, they enjoy a naturally high potential of renewable energy sources to harness. Many islands have abundant renewable energy potential, which can be tapped to lead decarbonisation. While access to reliable, clean and competitive sources of energy remains a main concern of island communities in the EU, islands present unique opportunities to become leaders in clean energy transition.

While it is often technically and financially possible to develop renewable energy projects on islands, EU, national, regional and local legal frameworks are not always fit for purpose. This study is the third deliverable of the Task Force 2 – Think Tank on legislation and regulation for islands of the Clean energy for EU islands secretariat. It builds further on the Regulatory inventory of legal and regulatory information on clean energy development for 15 Member States, available online at the website of the Clean energy for EU islands secretariat.

This **country study** identifies existing and emerging legal, regulatory and policy frameworks that foster the development of local decarbonised energy systems on Estonian islands. It aims to provide insight into whether the legislation supports or poses obstacles for islands to develop and implement their plans. It processes gathered inputs from literature review, surveys, interviews and workshops and highlights best and worst practices, inspiring examples, failures and their lessons learned. Additionally, the study provides recommendations for overcoming the identified barriers.

## Methodological approach

Different methods of information collection were used by the Think Tank to complete the information needs for the detailed inventory:

- Desk research completing the information for the selected Member States was be conducted.
- In-depth surveys were created and sent to the consortium's network. Thirty-seven stakeholders were engaged, and the response rate was 30%. (See Annex 1 for more details)
- Information templates were be sent to regulators, national authorities and relevant stakeholders.
- Nine semi-structured open-ended interviews with national and regional legislators, regulators and academic institutions and relevant actors (local DSOs, citizens, authorities, businesses and communities) of local energy initiatives were organised. These helped to clarify the rationale behind and interpretation of existing legal developments. In these interviews, we identified the key actions drivers, opportunities and obstacles for the implementation of the action plans they encountered, including possible ways to address or overcome them. (See Annex 1 for more details)

- Two online Focus-Group discussions were held; one to discuss the identified barriers and one to discuss the formulated recommendations to overcome the barriers (see Annex 2 for more details).
- A National Stakeholder Meeting was held on Saaremaa on 30 September 2022 (See Annex 2 for more details)
- Experiences from local stakeholders, available through one-on-one contacts, articles in local newspapers or as part of communication provided by (local) advocacy groups were integrated. The contacted actors included those that were identified during the project work from Phase I of the Secretariat and project experiences that have arisen from the technical assistance in Task Force 1.

# Policy and Legislation for clean energy on Estonian Islands

## Introduction to the Estonia Energy Market – Relevant Actors

Throughout the study several key stakeholders in the Estonian Energy Market will be referred to. Hereunder a short overview of these actors and their role given.

The Estonian electricity market was fully opened to all consumers in the beginning of 2013, creating the preconditions for the entry of new sellers into the market. The Electricity Market Act ended the sale of electricity at a regulated price as of 1 January 2013, giving all consumers the opportunity to buy electricity from competing suppliers[1]. Estonia is highly interconnected with the Baltic and Nordic countries and is part of the Baltic-Nordic electricity market. Estonia is part of Nord Pool's open electricity market together with Norway, Sweden, Finland, Denmark, Latvia and Lithuania.

The Estonian Competition Authority (Konkurentsiamet)[2] is the regulator for gas and electricity network tariffs and sets prices for district heating.

Different players are active on this market. There are players that produce the energy (Producers) and others that consume energy (Consumers). Between production and consumption there are several stages, such as: the control of production and the establishment of prices (Regulators and Market Operators), the transport of energy (Transmission Operators), the distribution of energy (Distributors) and the sale of energy to the final customer (Marketers or Utilities).

The Ministry of Economic Affairs and Communications (Majandus- ja Kommunikatsiooniministeerium)[3] drafts and implements the state's energy policy. The Energy Department has the main responsibility for energy while the Building and Housing Department is responsible for the energy efficiency of the housing stock, and the Transport Department and the Energy Department are co-responsible for fuel issues[4].

The Ministry of the Environment (Keskkonnaministeerium)[5] organises and co-ordinates environmental policy, including the management of the use, protection, recycling and registration of natural resources.

The Ministry of Finance (Rahandusministeerium)[6] is responsible for state budget, tax policies and regional development.

Elering AS[7] is the state-owned electricity and gas transmission system operator (TSO) and electricity network service provider.

There are 34 electricity distribution system operators. Elektrilevi[8] is the largest Distribution System Operator in Estonia, owning, maintaining and repairing almost 61,000 kilometres of power lines and more than 24,000 substations for almost 510,000 customers across Estonia.

Tartu Regional Energy Agency (TREA)[9] is an energy agency located in Tartu, Estonia, providing services to citizens, SMEs and municipalities. TREA consists of experts on energy efficiency, energy planning, sustainable transport, energy renovation and energy communities. TREA supports the energy transition of the South Estonian region but also in other regions and at the national level.

[1] https://iea.blob.core.windows.net/assets/21965e0d-c9a9-4617-b1ad-5b4539d91ad7/Estonia_2019_Review.pdf
[2] https://www.konkurentsiamet.ee/en
[3] https://www.mkm.ee/en
[4] https://iea.blob.core.windows.net/assets/21965e0d-c9a9-4617-b1ad-5b4539d91ad7/Estonia_2019_Review.pdf
[5] https://envir.ee/en
[6] https://www.fin.ee/en
[7] https://elering.ee/en
[8] https://www.elektrilevi.ee/en/ettevottest/elektriturg?tabgroup_1=electricity_market
[9] https://www.trea.ee/eng/

TÜ Energiaühistu[10] is a broad-based company owned by its members and active nationally. It is setting up renewable energy parks in Estonia in cooperation with local communities.

## Estonian islands and their governance

Estonia has 2,222 islands, of which 22[11] are permanently inhabited. The largest islands are Saaremaa (2,673 km$^2$) and Hiiumaa (989 km$^2$). Most of Estonian islands have an area of below 100 km$^2$. Of the total population of Estonia, 3% lives on the islands. This corresponds to 44,100 people.

Whereas Estonia is a unitary state, some islands are separate municipalities and will as such have the same municipal autonomy as mainland municipalities. In addition, Saaremaa and Hiiumaa are regional authorities (counties).

## General Policy

The **Integrated National Energy and Climate Plan for Estonia** for the period 2021-2030 aims to increase its electricity from renewable energy sources (RES-E) consumption from 19% in 2020 to 40% in 2030. In the heating sector, the target is to increase the share of RES-H from 55% in 2020 to 63% out of total consumption by 2030. The Estonian target for 2030 is to reach a 14% share of renewable in the final share of transport sector consumption. The new NECP is being prepared. In this process the government has specific measures to involve local municipalities and private companies in the process.

The general structure of the political and administrative system is as follows (based on VASAB – Vision & Strategies around the Baltic Sea – Estonia Country Fiche, available here). The state administrative organisation in Estonia consists of the national governmental institutions and the local governmental institutions, which operate on different levels – national, regional or local. Depending on the specification of a particular plan, most of them could be involved in a planning process, as well as the relevant political bodies. National administration consists of the Government of the Republic (supported by the Government Office), ministries and different government agencies. Those operate on the national level, but the ministries and the government agencies might also have regional offices and operate on regional level. Local administrations are governing both urban and rural municipalities. Local administration operates on the local level, but there are also activities performed on the regional and national levels. The municipalities have adopted the following functions previously fulfilled by the County Governments: regional public transport, regional development, and regional health promotion. The municipalities have to exercise those activities jointly through the Regional Associations of the Local Governments, the Regional Entrepreneurship and Development Centres, Public Transport Centres or other forms of cooperation. The Association of Estonian Cities and Rural Municipalities is representing the local governments on national level.

Estonian islands are seen as the frontrunners in the energy transition in Estonia. Islands Saaremaa[12], Hiiumaa[13], Ruhnu[14] and Muhu[15] have adopted climate and energy plans until 2030. Saaremaa previously had a dedicated position for an energy expert, but not anymore. Important topics for islands are tourism, agriculture, forestry and industry. The main concern for the islands is how to prevent depopulation.

[10] https://energiayhistu.ee/
[11] https://www.stat.ee/et/uudised/2017/10/23/pusielanikud-on-22-saarel
[12] https://www.sasak.ee/application/files/7216/1191/5181/SECAP_Saaremaa_saadetud_05.10.pdf
[13] https://hiiumaaarenduskeskus.kovtp.ee/uudised2/-/asset_publisher/XLok6exD3kIK/content/hiiumaa-energia-ja-kliimakava-2030
[14] https://www.sasak.ee/application/files/7016/1191/5181/SECAP_Ruhnu_saadetud_05.10.pdf
[15] https://sasak.ee/est/uuringud-analuusid/secap-energia-ja-kliimakavad

While the Ministry of economic affairs and communication is responsible for the energy sector, the regional development department is under the Ministry of Finance[16]. They are responsible for the islands' policy including not just energy but also other sectors.

National government, specifically the Ministry of economic affairs and communication, is collaborating with the Association of municipalities including island municipalities. This collaboration considers mainly the planning of the land use for renewable energy. This collaboration is realised through monthly meetings with the Association of municipalities. The islands are seen on the national level as municipalities and are not distinguished from other municipalities on the mainland.

Within the framework of collaboration with the municipalities, the Ministry organised a workshop in Spring 2022 to provide a platform for municipalities to exchange experience and know-how on energy transition planning and activities. Currently, 10 local energy and climate plans will be prepared and presented based on the funded project. The national government's guidance for local energy and climate plans will be made available for local governments, even though these plans are not mandatory.

Regarding transport, most of the transfers to and from islands are fossil fuel based. There are ongoing research projects looking at hydrogen or electric driven ferries[17], as well as busses running on low-carbon fuels. The tenders for organising the ferries are administered by the national Ministry of Economic affairs and not by the islands.

## Renewable energy

### Support systems

In Estonia there are no island-specific support systems for renewable energy or energy efficiency, nor are there island-specific permitting procedures.

Clean energy development on Estonian islands is supported in the framework of cross-sectoral programmes. For example, from 18 January to 11 March 2021, the Ministry of Finance of Estonia ran the Small Islands Programme, which aimed to contribute to the availability and quality of essential services for the inhabitants of the small islands that are included in the list of small islands under the Small Islands Act. Hiiumaa, Muhumaa and Saaremaa were not included in the programme area. The programme supported improvement of electricity connections and installation of electric vehicles loading stations to islands. The maximum grant was EUR 130 000 per project. The self-financing or co-financing rate was 15% of the total cost of the project.

Estonia supports PV, wind, biogas/biomass for electricity production and heat pumps and biomass energy for heating and the electrification of public transport (busses) and the use of biofuels. Support schemes:

- For RES-E, Estonia focuses on technology neutral auctions limiting capacity to 50 kW to 1 MW.
- For the heating sector, the support schemes focus for installation of heat pumps for the building sector or for small residences.
- Subsidy for acquisition of electric busses and creation of charging infrastructure is aimed to contribute to the development of electric public transport.
- There are schemes aimed at facilitating deployment of RES-T technologies, such as further use of biofuels (biomethane) and schemes supporting consumers and municipalities at switching from fossil fuels to RES in the transport sector.

[16] https://www.rahandusministeerium.ee/en/regional-development-and-policy
[17] https://www.offshore-energy.biz/estonias-first-hybrid-ferry-toll-starts-service/

### RES projects authorisation process

The permit and authorisation procedure can vary in length according to the specific technology, as well as the size of the project - as often authorisation is simplified for installations under a certain capacity. Permitting and authorisation is the most complicated for wind onshore; for rooftop PV, the least authorisations are needed. Overall, the local municipalities are the competent authority for administrative authorisation as they are in charge of granting the relevant permits. An exception here is the Ministry of Defence, which plays a role in the site selection for wind energy developments.

### Electricity and heating grids

In the electricity and heating networks, the RES plants are not given priority (non-discriminatory criteria). Local authorities determine the heat producers' development requirements and grid expansion obligations. There are 34 electricity distribution system operators. The country has a smart meter penetration rate of 98.9%.

## Supported energy efficiency measures

There are voluntary energy efficiency measures for buildings, industry and public buildings but there are also mandatory measures, for example energy savings obligations. For improving energy efficiency, financial support is offered both for apartment buildings as well as private residences. For the buildings owned by the public sector and central government, yearly renovation target is set.

## Supporting policies

The Estonian RES policies largely rely on the exemplary role of public entities and on voluntary schemes, either by the business sector or municipalities. There are not legally binding, compulsory instruments for e.g., mandatory training for the installers of RES.  Various vocation certification programmes related to RES exist. The body responsible for organising the allocation of qualifications and naming the bodies responsible for setting the standards is the Estonian Qualifications Authority.

## Self-consumption and community energy

The current legal system in Estonia enables the creation of renewable energy communities (under the general Commercial Code of the country) and the production of renewable energy for own consumption. However, specific regulations related to energy sharing, energy communities or prosumers have not been adopted yet.

## Spatial planning

The responsibilities for spatial planning span over multiple government levels. In general, the planning responsibilities in Estonia are divided between national and municipal levels. The authorities that carry out planning responsibilities are the Ministry of Finance (department for spatial planning), other relevant government agencies and local authorities.

Estonian spatial planning system consists of the plans that are the national responsibility and the plans that are the responsibility of the municipalities. The spatial plans prepared by the national authorities are national spatial plan (and the respective thematic plan), national designated spatial plans, and county-wide spatial plans (and the respective thematic plans). The spatial plans prepared by the local authorities are comprehensive spatial plans (and the respective thematic plans), local government designated spatial plans, and detailed spatial plans.


Figure 1 - A general structure of planning system in Estonia – Source

The National Spatial plan Estonia 2030+[18] tackles the issues of spatial planning, infrastructure and energy production. In there it is specifically mentioned that:

> '*Estonia's western coastal waters are suited for the construction of offshore wind farms. Based on the result of investigations conducted for the identification of suitable areas and given the specific character of every individual region, offshore wind farms may be planned via county plans, providing the wind farms with sufficient distance from small islands, preserving heritage and nature-conservation assets, and migration corridors and habitats for species. The construction of offshore wind farms needs to consider national-defence interests. Thematic plans need to be based on an integrated approach to balance the interests of various sectors in the utilisation of offshore and coastal areas.*'
>
> '*Specifically, due to the natural conditions and national-defence requirements, Estonia's northern coastal waters, Lakes Peipsi and Võrtsjärv are not suited for the construction of wind farms.*'

[18] https://eesti2030.files.wordpress.com/2014/02/estonia-2030.pdf

## Identified barriers and recommendations to overcome them

The Clean energy for EU island Secretariat's Think Tank has identified legal and regulatory barriers, based on the detailed assessment of the current regulatory framework and consultation with relevant Estonian stakeholders through survey and interviews (see Annex 1 for a detailed assessment). For each of the regulatory barriers, the Secretariat identified multiple recommendations. Those barriers and recommendations were presented and discussed within the Focus Group Meetings and the National Stakeholder Meeting (see Annex 2 for more information).

Regulatory barriers are presented in order of their priority for energy transition on the Estonian islands. Some of the barriers that were identified via the surveys and interviews are barriers that exist both on the islands and on the mainland. In the recommendations below, the focus lies on the concrete issues encountered by islands with these regulatory barriers.

The table below presents the list of barriers (marked in dark blue) ordered based on their priority, and the proposed recommendations (marked in white).

Barrier 1**. Grid constraints and absence of frameworks for solutions to cope with it**

Recommendations:

1.1 Improve grid development planning

1.2 Support the development of storage, demand response and smart grids on the islands

1.3 Channel funding from the EU towards infrastructure on the islands

1.4 Use regulatory sandboxes to test innovative solutions on the islands

Barrier 2. **Islands are not consulted in a systematic manner and lack of national vision/strategy on clean energy development for the islands**

Recommendations:

2.1 Set up an island energy agency

2.2 Develop an island specific policy (Regional Action Plan)

Barrier 3. **Lack of support from the national government in planning and implementation of clean energy projects and action plans**

Recommendations:

3.1 Provide guidance and support the development and implementation of Clean Energy Transition Agendas

3.2 Ensure mandatory and regular follow-up on island energy action plans

3.3 Adapt the support systems with particular attention for islands

Barrier 4. **Local opposition and lack of energy community frameworks to foster RES projects**

Recommendations:

4.1 Develop facilitating services for energy community projects and a framework for implication of the island inhabitants

4.1 Increase stakeholder awareness on advantages of clean energy projects

Barrier 5. **Spatial planning constraints for the islands: Energy generation in conflict with nature conservation and military activities**

Recommendations:

5.1 Seek compromises with Ministry of Defence to open zones for RE development and adaptation of wind turbine height constraints

5.2 Provide spatial planning guidelines for implementation of clean energy projects

5.2 Designate go-to areas and develop simplified permitting procedures

**REPowerEU - Proposal for amendment of RED II (and EPBD & EED)[19] and Recommendation on speeding up permit-granting procedures for renewable energy projects**

On 18 May 2022 the European Commission has presented the REPowerEU Plan, its response to the hardships and global energy market disruption caused by Russia's invasion of Ukraine. There is a double urgency to transform Europe's energy system: ending the EU's dependence on Russian fossil fuels, which cost European taxpayers nearly €100 billion per year, and tackling the climate crisis. There are three main axis:

- Saving energy;
- Diversifying supplies and supporting our international partners;
- Accelerating the rollout of renewables.

Regarding the latter, a massive scaling-up and speeding-up of renewable energy in power generation, industry, buildings and transport will accelerate our independence, give a boost to the green transition and reduce prices over time. The Commission proposes to increase the headline 2030 target for renewables from 40% to 45% under the Fit for 55 package. Setting this overall increased ambition will create the framework for other initiatives, including among others:

- A dedicated EU Solar Strategy to double solar photovoltaic capacity by 2025 and install 600GW by 2030.
- A Solar Rooftop Initiative with a phased-in legal obligation to install solar panels on new public and commercial buildings and new residential buildings.
- A Commission Recommendation to tackle slow and complex permitting for major renewable projects, and a targeted amendment to the Renewable Energy Directive to recognise renewable energy as an overriding public interest. Dedicated 'go-to' areas for renewables should be put in place by Member States with shortened and simplified permitting processes in areas with lower environmental risks. To help quickly identify such 'go-to' areas, the Commission is making available datasets on environmentally sensitive areas as part of its digital mapping tool for geographic data related to energy, industry and infrastructure.

These two last tools are particularly relevant for islands as renewable energy development is often hampered by spatial planning constraints and complicated permitting procedures. Where relevant references to these tools are made in text boxes. On the same day, the European Commission (DG ENER) published the report "Technical support for RES policy development and implementation – Simplification of permission and administrative procedures for RES installations (RES Simplify)". The aim of the report is to provide insights on the most important obstacles impeding the diffusion of renewable energy technologies in the permitting and grid connection procedures. It also discusses best practice examples deployed by the EU Member States and general best practice recommendations which can be promoted with regard to permitting new and repowered renewable energy installations and connecting them to the grid. Where relevant recommendations are presented and examples are given.

[19] Proposal for Directive amending Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources, Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency

## 1. Grid constraints and absence of frameworks for solutions to cope with it

The grid operator is obliged by law to develop the grid within his area of service in such a way as to maintain grid services for all electricity producers and to be able to connect additional electricity plants to the grid (§ 66 par. 1 Electricity Market Act[20])[21]. The TSO plans its investments based on general public interest in ensuring the technical operation of the electricity system, the security of supply and the requirements of a functioning electricity market. In practice this means that the grids are upgraded based on a 'most-economically-rational' approach, based on the potential consumption (on the island). While the grids are well developed to cover the local consumption, they are not strong enough to incorporate larger amounts of renewable energy. This insufficient grid capacity on the Estonian islands forms a major obstacle for development of renewable energy, both on and around the islands. On the islands, integrating large amounts of solar energy, and around the islands, integrating offshore wind, proves to be difficult.

More precisely, the grid on the mainland is build-up of 330 kV overhead lines, while the grid on the biggest island Saaremaa is build-up of lines up to 110 kV and there are no transmission lines on and among the other islands. This is especially problematic given the significant offshore wind energy potential around the Estonian islands. The fact of not laying priority on islands for upgrading the grid is thus not justified, given the expected potential growth of renewable energy production on the coasts of the islands.

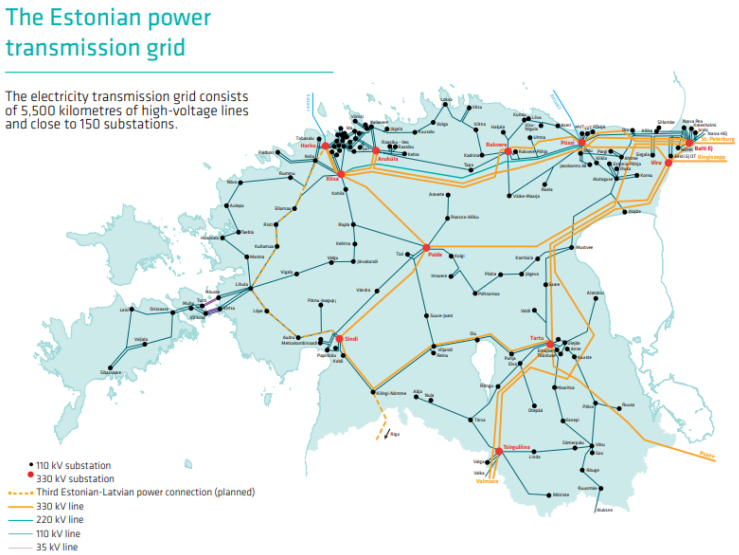


Figure 2 The Estonian power transmission grid - Source: Elering

The issue is not a lack of willingness to upgrade these grids but rather the lack of budget. The planning of the expansion of the TSO happens based on the demand on the islands and not on the planned generation facilities.

Aside from building up new TSO lines and connections there are other options that can be utilised. While security of supply is a big issue on the islands, there is no support or supportive framework for innovative solutions - such as storage, smart grids and demand response - to cope with the obsolete grid capacity. This absence of frameworks for storage has been identified by island stakeholders, but it has also already

[20] https://www.riigiteataja.ee/akt/ELTS

[21] § 66. of the Electricity Market Act: Network development obligation: (1) The network operator shall develop the network in its service area in such a way as to ensure the possibility of providing network services in accordance with the legal provisions and the terms of the licence to customers, energy communities, producers, line owners and other network operators connected to the network on a continuous basis, taking into account their reasonable needs, and to connect to the network the appropriate electricity installation of a market participant in its service area. When developing the network, the network operator shall respect the need for security of supply, efficiency and market integration, taking into account the results of studies in these areas.
§ 71. of the Electricity Market Act Network charges (..) (5) Network charges shall be designed in such a way as to ensure continuity: (..) 2) investments to meet the operational and development obligations;

been brought forward by other Estonian stakeholders, for example in the Ida-Virumaa Green Plan[22]. The experts pointed out that granting permits under normal conditions takes a very long time (5 to 10 years), which inhibits the development and implementation of energy storage projects under normal conditions.

As a general rule, a plant operator or developer may demand that the grid operator upgrades the grid if the upgrade is necessary to connect a plant, but the plant operator bears the costs of connecting a plant to the grid (§ 71 par. 1 no. 3 Electricity Market Act and §24 and §25 of the grid code[23]).

Lastly, in some cases grid capacity has been reserved by (fossil fuel) generation plants, which are not or will most likely not become in operation. They deprive new (renewable) energy projects to be developed since all the foreseeable grid capacity is reserved.

**Recommendation 1.1: Improve grid development planning**

Given the relatively lower consumption on the islands compared to the mainland, it might seem logical from an economic perspective to focus grid development on the mainland. However, such an approach is creating a barrier for RES deployment overall. The grids on the islands should be upgraded to be able to integrate larger amounts of renewable energy, following a future oriented approach. This is especially relevant in light of the national target to deploy large amounts of offshore wind in the Estonian seas[24], including the locations close to the islands. The government committed to 1GW of offshore wind and there is 7GW in the pipeline. The challenge is to connect both the offshore wind farms and the islands and the neighbouring countries through an improved grid. Saaremaa for example could become a 'renewable electricity power hub' if a West-East cable is built. It is therefore recommended to revise the existing grid planning procedures.

The need for grid upgrades has already been recognised in the National Spatial plan Estonia 2030+[25], tackling the issues of spatial planning, infrastructure and energy production: '*In the development of energy networks, the EU expects the construction of new external links for the electricity and gas markets to function. A shift toward wind energy may entail the need to adapt electricity networks also locally*.' Strengthening interconnectors is one of the objectives mentioned in that National plan: '*Options for supplying Estonia with energy need to be expanded by creating external connections with energy networks in the Baltic Sea region.*' And lastly: '*A potential trend is seen in the replacement of the existing 220 kV with a 330 kV line. To ensure the security of supply on islands and to exploit local renewable energy sources, a high-voltage ring line connecting the islands of western Estonia with the mainland will need to be constructed, in order to enable offshore wind farms to be better connected to the network.*'

The TSO and DSO should align their grid planning in this sense. To be able to do this a revision of the Electricity Market Act, the Grid Code, the national development plan for the energy industry and the government approved development plan for the electricity industry, by the regulator (Estonian Competition Authority (Konkurentsiamet)) and Ministry of Economy and Communication is necessary, since the grid development based on forecasted generation is not foreseen (§ 66 and §71 Electricity Market Act). It could be legally foreseen in these articles that the network development plans should be, among other things, based on future forecasted growth of renewable energy. This obligation can then be checked by the regulator when these plans are presented.

[22] https://stratlab.ee/en/ida-virumaa-green-plan/
a project led by project was led by DD StratLab (DDS), the Social Innovation Laboratory (SiLab) and the Institute of Baltic Studies (IBS) commissioned by the Estonian Fund for Nature (ELF), the Estonian Green Movement (ERL) and the Centre for Environmental Justice (KÕK) in close cooperation with the Ministry of Finance. It aimed at collectively carrying out a co-creation process which would result in specific proposals on the topic of Just Transition of Ida-Virumaa in the field of renewable energy.
[23] https://www.riigiteataja.ee/akt/121022019002?leiaKehtiv
[24] https://www.fin.ee/en/state-local-governments-spacial-planning/spatial-planning/maritime-spatial-planning
[25] https://eesti2030.files.wordpress.com/2014/02/estonia-2030.pdf

Planning of the grid upgrades should not only focus on local energy consumption but should be forward-looking in light of the connection of future renewable generation plants (e.g. offshore wind parks). The Marine Spatial Planning,[26] recently adopted, can serve as guidance for grid upgrade planning as it makes clear where the offshore wind parks will be developed. Grid upgrades on Saaremaa could be classified as 'overriding public interest' (see REPowerEU box below), to benefit from fast-track grid upgrades.

Grid planning and upgrading should be underpinned, by the TSO and DSO, with detailed assessments on how to integrate planned RES into the electricity system of Estonia and its islands. This could for example look into:

- Necessity of grid upgrades on the main islands from 110 kV lines to 330 kV overhead lines or whether it would be more economically beneficial to invest in storage facilities, demand side flexibility and other alternatives.
- In light of the offshore developments in the Baltic Sea, the construction of interconnectors with other countries, over and around the islands (for example Saaremaa) to be able to transport the large amounts of offshore wind energy from and to other countries when needed, or whether it would be more economically beneficial to invest in storage facilities, demand side flexibility and other alternatives. This would not only benefit the energy system as a whole but also bring local advantages.

A balance must be struck between investments on the two main islands Saaremaa and Hiiumaa, and the smaller islands.

**Update – Elering mandated to build 330 kilovolt transmission line on Saaremaa**

During the National Stakeholder Meeting on Saaremaa 30 September 2022 (see Annex 2 for more details), organised to discuss and underpin this study, our key recommendation was to upgrade the electricity grid on the island of Saaremaa with the dual objective of transportation future offshore wind energy to the mainland and ensuring grid capacity for the development of renewable energy projects on the island itself.

2 months later, the Ministry of Economic Affairs and Communications has indeed issued guidelines to the transmission system operator Elering for planning a 330 kilovolt transmission line to Saaremaa. More info can be found here.

Finally, it is recommendable to relaunch the initiative for common grid investment planning set up a few years ago between the grid operators. Techno-economic analysis were carried out to find optimal ways to improve the transmission and distribution grids, which could be further assessed.

**REPowerEU – RE, grids and storage regarded as 'overriding public interest'**

Article 1(10) of the proposed amendment to RED II inserts a new Article 16d to ensure that plants for the production of energy from renewable sources, their connection to the grid, the related grid itself or storage assets are presumed to be of overriding public interest for specific purposes.

Renewable energy sources are crucial to fight climate change, reduce energy prices, decrease the Union's dependence on fossil fuels and ensure the Union's security of supply. For the purposes of the relevant Union environmental legislation, in the necessary case-by-case assessments to ascertain whether a plant for the production of energy from renewable sources, its connection to the grid, the related grid itself or storage assets is of overriding public interest in a particular case, Member States should presume these plants and their related infrastructure as being of overriding public interest and serving public health and safety, except where there is clear evidence that these projects have major adverse effects on the environment which cannot be mitigated or compensated. Considering such plants as being of overriding public interest and serving public health and safety would allow such projects to benefit from a simplified assessment.

Member States should implement long-term grid planning and investment consistent with the planned expansion of renewable energy production capacities, taking into account future demand and the objective of climate neutrality.

Member States should establish simplified procedures for repowering existing renewable energy plants, including streamlined procedures for environmental assessments, and adopt a simple-notification procedure for their grid connections where no significant negative environmental or social impact is expected.

Member States should ensure that system operators (i) apply a transparent and digital procedure for grid connection applications; (ii) provide information on grid capacities; and (iii) optimise the use of grid capacity by allowing its use by power plants combining multiple complementary technologies

[26] https://www.fin.ee/en/state-local-governments-spacial-planning/spatial-planning/maritime-spatial-planning

Actors involved:
- **Elering AS (TSO)**
- **Elektrilevi OÜ (DSO)**
- **Konkurentsiamet - Estonian Competition Authority - Energy Regulatory Dept (ECA)**
- **Ministry of economic affairs and communication (MKM)**
- Ministry of Finance (department responsible for regional development)
- Ministry of the Environment
- Island municipalities of Association of Municipalities

**Recommendation 1.2: Support the development of storage, demand-response and smart-grids on the islands**

To cope with the insufficient grid capacity, energy storage is of critical importance. This insufficient grid capacity is recognised by the main actors and the DSO is looking to alternative solutions such as storage on the island of Hiiumaa[27]. In Estonia, storage is currently allowed to connect under the same principles as generation assets, as is in many European countries (see text box 'Regulatory best practice - Frameworks for storage' below). At transmission level the technical requirements for connection[28] of generation and consumption are applied with some specific modalities, while a European grid code for storage (currently under development by among others ENTSO-E) is being developed.
However, since a specific policy framework for storage is currently missing, it is recommended that the Estonian government accelerates its legal and regulatory developments in this direction. This need has been identified by island stakeholders, but it has also already been brought forward by other Estonian stakeholders. According to The Ida-Virumaa Green Plan[29] energy storage pilot projects could be brought to Estonia to increase energy storage capacity, and funding could be provided for the construction of plants with ready technologies on a needs basis. The authorisation process should be accelerated and simplified. Simplifying the permitting process will contribute to the start-up of energy storage-centric pilot projects and stimulate the flow of initiatives. Reducing bureaucratic hurdles will help to stimulate interest in testing and developing energy storage technologies.

While this is needed for the whole country, an (island specific) support system for storage would help overcome the barrier of insufficient grid capacity on the islands and provide an alternative solution. National policies can have a strong positive influence on making electricity storage more or less attractive.

It is worth mentioning here that this issue is highlighted in the National Climate Policy 2050[30]. One of the long-term goals of the energy and industry sector is to promote the development of smart grids to harmonise the surpluses and deficits of capacity and energy that arise at different times for producers and consumers, by creating an appropriate regulatory environment. This objective is aimed at ensuring the reliability of the system and avoiding the excessive volatility that arises in the transition to renewables. Thus, planning legislation needs to be thoroughly discussed in order to meet this objective effectively.

The MKM is currently carrying out a study on storage and possible support mechanisms and support measures are already under early stages of discussion. The recommendations and examples can feed in into this policy making.

While most countries do not have specific policies promoting energy storage, development is ongoing as demonstrated in the Regulatory Best Practice box below.

[27] https://arileht.delfi.ee/artikkel/120028934/paikeseelektri-tootjatele-lahendus-leitud-elektrilevi-uus-idee-toodangu-vorku-mahutamiseks
[28] https://www.elering.ee/en/connection-conditions
[29] https://stratlab.ee/en/ida-virumaa-green-plan/
[30] https://envir.ee/media/885/download

**Regulatory best practice**

**Frameworks for storage**

Few countries currently provide a comprehensive regulatory framework for energy storage, with the majority of jurisdictions currently allowing storage to be defined as "generation" for the purposes of licensing and other regulatory requirements. However, some countries like the UK and Belgium have provided a more elaborate framework, mainly for revenue streams to help different storage technologies to develop, for example capacity markets, ancillary services and other grid services.

Belgium has changed its Electricity Law to have a specific definition of storage[31]: 'Energy Storage' means, in the electricity system, the postponement of the final use of electricity until a time later than that at which the electricity was generated, or the conversion of electrical energy into a form of energy that can be stored, the storage of such energy, and the subsequent conversion of such energy into electrical energy or another energy. While 'electricity' storage' means energy storage where electricity is taken from the grid via the same installation in order to be fully injected back into the grid later on, taking into account efficiency losses. Noteworthy is that the Electricity Law does not assimilate electricity storage to electricity generation, and consequently a generation licence is not required.

A Capacity Remuneration Mechanism (CRM) was recently introduced in Belgium by the country's Transmission System Operator. Beginning of October 2021, the first CRM auction was organized to select capacity offers for delivery- period 2025-2026: a (priced) demand curve was set by Royal Decree, and prequalified capacity holders were able to submit bids to the market (for existing or new capacity). Some Battery Energy Storage Systems participated in the auction. Also, ancillary services to maintain frequency and voltage at appropriate levels exist in Belgium and Battery Energy Storage Systems can participate in them.

In the United Kingdom, there are at least six markets that batteries can operate in, covering wholesale, balancing, ancillary services, time-of-use, stabilisation and infrastructure. National Grid issues contracts for short-term generating capacity to cover sudden failures at power stations and other significant network issues. These typically cover events lasting a few seconds or minutes in duration. As a result of these characteristics, the differing services are typically available to different classes of generators (or demand reduction technologies), each having different technical and regulatory requirements. Some of these include: Short Term Operating Reserve (STOR), Demand Management (DM), Fast Reserve and Frequency Response. Energy storage is particularly suitable for both Fast Reserve and Frequency Response since both of these services require the rapid (second by second) provision of reliable power which energy storage technologies are ideally placed to deliver.

The UK Government provides for funding to install new renewable energy storage technologies in the country under the Longer Duration Energy Storage Demonstration (LODES) competition[32]. As part of this initiative, the government has awarded £6.7m ($9m) to 24 projects across the country under the LODES competition, which is worth £68m ($91m) of capital funding in total.

Until recently, few countries had a specific support systems for storage. Some countries, like the exemplary list below, provide support for (residential/small-scale) storage either as 'stand-alone' or combined with PV.

- Since 2019 Flanders (Belgium) grants rebates (premium) for the purchase of domestic batteries to encourage solar power self-consumption[33]. The Flemish government has extended the premium until 2024 and released additional budgets. The rates are as follows: 0-4kWh: 225€/kWh, 4-6kWh: 187.5€/kWh, 6-9kWh: 150€/kWh, Above 9kWh: no additional premium. Maximum premium per battery: 1725€, max 40% of invoice incl. VAT.
- In Germany, the KfW funding for renewable energies (Program 270) has been very successful. It is a low-interest promotional loan for (among others) the construction, expansion and acquisition of systems for the use of renewable energies, such as battery storage and photovoltaic systems. With the KfW 270 development loan, you finance up to 100 percent of the investment costs for an electricity storage system or the acquisition costs of a photovoltaic system in general.
- In Malta, a subsidy is given for an installation of new PV system with an inverter and battery storage facilities[34]. It covers 80% of eligible costs of the battery storage up to a maximum of €3,600 per system and €600/kWh.
- In the Azores region of Portugal, a specific subsidy for projects on production and storage of electricity from renewable resources covers 25% of the eligible costs, up to a maximum of €4,000 per establishment[35].
- In Ireland, the Solar PV scheme provides subsidies for the purchase and installation of roof-mounted PV (up to 2kWp and with battery storage up to 4 kWp). The 2kWp of PV systems are subsidised (€900 per kWp). If the roof-mounted PV is combined with battery storage then an additional grant for further 2kWp is offered (€300 per kWp). Consequently, the maximum level of support reaches €2,400 (ch. 2 Solar PV Scheme).
- Austria has launched a rebate program for solar-plus-storage installations offering homeowners 250€/kW of solar rooftop generation capacity and €200/kWh of storage.

[31] Article 2.62 and 2.6 of the Electricity Act
[32] https://www.gov.uk/government/collections/longer-duration-energy-storage-demonstration-lodes-competition
[33] Decision of the Flemish Government of 28 June 2019
[34] Promotion of Renewable Energy Sources in the Domestic Sector – Grant Scheme 2021/RES; https://www.rews.org.mt/#/en/sdgr/463-2021-renewable-energy-sources-scheme
[35] PROENERGIA. DLR 14/2019/A & Ordinance 73/2019

- In Italy rebates exist for two different kind of projects – installations of PV systems linked to storage systems, and the deployment of standalone storage systems linked to existing solar arrays. For this second category projects of rebates will cover 100% of project costs.

Shifting consumption in function of over or undercapacity and (lack of) availability of renewable energy could help to cope with the obsolete grid capacity, while awaiting grid upgrades. This would allow to continue renewables deployment and their grid integration. While the Estonian government and the TSO have been intensely exploring the options to extend the use and application area of Demand Response during the last couple of years – several background studies[36] have been commissioned, explicit Demand Response participation is currently very limited to non-existent and there is currently no aggregator model framework in place yet in the Estonian market[37]. Building further on the existing 'Demand response Working Group', formed by the Estonian Competition Authority, Elering AS (Estonian TSO) and the Ministry of Economic Affairs and Communications, it is recommended to create legal frameworks for explicit demand response and aggregation, specifically taking into account the island particularities. In developing new rules for the participation of demand response in the market, Estonia should consider global best practices to fast-track its deployment[38].

Actors involved:
- **Ministry of economic affairs and communication (MKM)**
- Ministry of Finance(department responsible for regional development)
- Konkurentsiamet – Estonian Competition Authority – Energy Regulatory Dept (ECA)
- **Elering AS (TSO)**
- **Elektrilevi OÜ (DSO)**
- **Island municipalities of Association of Municipalities**

**Recommendation 1.3: Channel funding from the EU towards infrastructure on the islands**

As there is limited budget for transmission grid upgrades and distribution grid upgrades are at the cost of the entity making the connection request (thus forming a barrier for the project developers), Estonia should pay particular attention to the island regions when developing plans allocating EU funding. While RRF funding is already directed to west Estonia and the island of Saaremaa, other islands should be targeted as well.

Earmarking budget from EU funds to island-specific clean energy development has already been done by Greece, Italy and Spain for example. This should take a holistic approach and investments should be directed to grid upgrades but also generation, storage and demand.

The Trans-European Networks for Energy (TEN-E) is a policy that is focused on linking the energy infrastructure of EU countries[39]. As part of the policy, nine priority corridors and three priority thematic areas have been identified. Relevant for Estonia is the Baltic Energy Market Interconnection Plan in electricity (BEMIP Electricity): Interconnections between Member States in the Baltic region and the strengthening of internal grid infrastructure, aim to end the energy isolation of the Baltic States and to foster market integration. This includes working towards the integration of renewable energy in the region. Every 2 years, the European Commission draw up a new list of projects of common interest (PCIs). [40] Since PCIs have the right to apply for funding from the Connecting Europe Facility (CEF)[41] the Estonian government

[36] https://elering.ee/tarbimise-juhtimise-aruanne-3/
[37] https://smarten.eu/wp-content/uploads/2017/04/SEDC-Explicit-Demand-Response-in-Europe-Mapping-the-Markets-2017.pdf
[38] https://smarten.eu/wp-content/uploads/2017/04/SEDC-Explicit-Demand-Response-in-Europe-Mapping-the-Markets-2017.pdf
[39] https://energy.ec.europa.eu/topics/infrastructure/trans-european-networks-energy_en
[40] More information on the benefits of PCI can be found here.
[41] https://ec.europa.eu/inea/en/connecting-europe-facility

should apply for PCI status for its grid developments to connect neighbouring countries, via the islands of Saaremaa and Hiiumaa. CEF has a budget of 25 billion with 5.8 billion for energy for the period 2021-2027.

The Just Transition Fund prioritises the least developed regions, outermost territories and islands of the EU. The Greek government provides financial support to six Greek islands through the Just Transition Fund in order to tackle issues expected following planned withdrawals of local petrol-fuelled power stations[42]. Estonia could envisage in its implementation of the Just Transition to channel funding towards clean energy projects on islands because of their remoteness, vulnerability, as well as the higher costs for the energy transition on the islands.

Spain has a dedicated budget for clean energy development on islands under the Recovery and Resilience Facility. The Spanish NECP already provided for the need for progress in the energy transition in the islands. Within this axis of ecological transition, the Spanish Recovery and Resilience plan, in its Component 7 “Deployment and integration of renewable energies", includes in line with the provisions of the NECP, a vision of island specificity in the energy transition and the promotion of renewable energies in the islands, the improvement of the functioning of their energy systems through storage and the implementation of "Smart Islands" projects, as well as citizen participation through renewable energy communities. There is even a chapter called ‘Sustainable energy on the islands through the promotion of an Agenda for Energy Transition in the Islands, support for projects for the penetration and integration of renewable energies in island and non-mainland systems". The allocated budget amounts to 700 million Euro with one third of the funds going to the Balearic Islands and two thirds to the Canary Islands, given their larger population and the fact that they do not have systems connected to the mainland.

While the Estonian Recovery and Resilience plan is already approved by the Commission it could be envisaged, in its implementation, in concertation with the Commission, to dedicate budget from the 45 million foreseen for the ‘strengthening the electricity grid and piloting energy storage to increase renewable energy production capacity’[43], specifically to projects on the islands.

The Ministry of Economics has directed RRF funds in order to strengthen the grid in the west of Estonia as well as on the island of Saaremaa. The TSO and DSO are the ones that decide how and where the funds are allocated[44].

Actors involved:

- **Ministry of economic affairs and communication (MKM)**
- **Ministry of Finance (department responsible for regional development)**
- **Transmission System Operator**
- Distribution System Operators
- Ministry of the Environment

[42] https://energypress.eu/jtf-support-for-6-islands-closing-high-cost-polluting-local-power-units/

[43] https://www.google.com/search?q=estonia+recovery+and+resilience+plan+renewable+energy&rlz=1C1GCEU_nlBE860BE860&oq=estonia+recovery+and+resilience+plan+renewab&aqs=chrome.1.69i57j33i10i160l3.13032j0j4&sourceid=chrome&ie=UTF-8

[44] RRF programme investments are currently Under construction and all investments will be completed by June 2026.
Under planning there are 2 big projects that influence grid transmission capacity and those projects also have significant impact on the capability to install RES:
EstLink3 HVDC interconnector between North Estonia and Southern Finland with estimated capacity of 700 MW. Together with EstLink 3 it is planned several internal 330 kV network reinforcements that have positive effect on internal transmission capacities.
Estonia-Latvia 4th interconnector is additional either HVAC or HVDC connection between western Estonia and wester Latvia with capacity approximately 1000 MW. The exact alternative is not decided yet. One of the alternatives ist o construct 330 kV transmission line until western-Saaremaa and to continue from there by a sea cable until Ventspils area in Latvia. The 330 kV substation on western-Saaremaa could also enable to connect potential off-shore wind power capacities that could be constructed on the Western-Saaremaa coastal seabed Offshore wind planning area.

**Recommendation 1.4: Use regulatory sandboxes to test innovative solutions on the islands**

In line with what has been done in other EU Member States, Estonian islands could be put forward as innovative laboratories, without making inequal market situations, however. Considering the islands have their own specificity when it comes to energy system and market, the implementation of new technologies, innovative operation, tariffing and business models, the islands can be used as a testing site for energy transition.

According to the MKM, there are already innovation areas in the maritime spatial area around the island of Saaremaa, which can be used as innovation hubs for some off-shore R&D.

The islands could work with the regulator, DSOs, technology providers and research institutes to test implementation of storage technology in combination with RES plants, e-mobility and demand side management to provide flexibility on the existing grids. Such pilot projects would help provide testing grounds for what is possible with the island system constraints and to identify gaps in the existing practices and regulation to accelerate energy transition on the islands. Funds could be allocated for research and innovation e.g. via tax benefits, with special focus on energy storage systems that could help provide security of supply in cases of higher integration of RES. The coordination of such testing and research activities, development of regulation, strategic plans and available funds can be a responsibility of the Estonian islands Energy Agency (see recommendation 2.1).

We recommend using the regulatory sandbox[45] approach to allow specific islands to experiment with, for example different designs of electricity tariffs (hourly tariff, time of use tariff, etc.). Regulatory sandbox are ways for authorities, tasked with implementation and enforcing of specific legislation, to test innovative approaches and technologies in real-life situations through time limited implementation of except to the existing legislation. This way incentives for clean energy transition on the islands can be tested without a permanent change in legislation. It also gives room to evaluate the success of the experiment.

Choice of the islands and grids within which different regulatory sandboxes should be implemented can be decided in collaboration with the Estonian islands agency (see recommendation 2.1) which will assure local inputs. Regulatory sandboxes have been implemented in Italy[46], Austria, Germany and the Netherlands for temporary tests of specific energy tariffs[47].

In order to increase the RES share on the islands and to help their integration into the existing networks, an enabling framework - regulation, grid codes and support schemes -, supporting the implementation of storage devices needs to be adopted. Based on the results from innovative projects and regulatory sandboxes in Estonia, but also experiences from other EU member states, the enabling framework needs to be defined between the Energy Regulatory Dept, the Ministries involved and DSOs operating on the islands. Storage systems can also help provide security of supply for the non-interconnected islands and decrease the dependence on the oversized thermal plants and use of fossil fuels.

**REPowerEU**

**Innovation and sandboxing**

Article 1(3) of the proposed amendments to RED II inserts a new paragraph 2a in Article 15 requiring the Member States to promote the testing of new renewable energy technologies while applying appropriate safeguards:

> '*Member States shall promote the testing of new renewable energy technologies* ***in pilot projects in a real-world environment****, for a limited period of time, in accordance with the applicable EU legislation and accompanied by appropriate safeguards to ensure the secure operation of the electricity system and avoid disproportionate impacts on the functioning of the internal market, under the supervision of a competent authority.*'

Consideration 18 of the Recommendation highlights that barriers resulting from permit procedures might also affect the future deployment of innovative decarbonisation technologies needed for climate neutrality. Setting up regulatory sandboxes, that is to

[45] https://www.consilium.europa.eu/en/press/press-releases/2020/11/16/regulatory-sandboxes-and-experimentation-clauses-as-tools-for-better-regulation-council-adopts-conclusions/

[46] https://www.iea-isgan.org/wp-content/uploads/2021/10/Regulatory-Sandbox-2.0_For-Publication.pdf

[47] https://fsr.eui.eu/regulatory-sandboxes-in-the-energy-sector-the-what-the-who-and-the-how/

say the testing, in a real-life environment, of innovative technologies, products, services or approaches, which are not fully compliant with the existing legal and regulatory framework, could support innovation and facilitate the subsequent adaptation of the regulatory environment to accommodate them.
Member States are encouraged to put in place **regulatory sandboxes** to grant targeted exemptions from the national, regional or local legislative or regulatory framework for innovative technologies, products, services or approaches, to facilitate permit granting in support of the deployment and system integration of renewable energy, storage, and other decarbonisation technologies, in line with Union legislation.

While it is up to the MKM to develop frameworks, whether or not applicable for the whole of Estonia in light of the non-discrimination principle, the municipalities, in light of their competences in energy have a role to play in engaging with the TSO and DSO to test and develop storage, demand-response and smart grids on the islands.

Actors involved:

- **Ministry of economic affairs and communication (MKM)**
- Ministry of Finance (department responsible for regional development)
- **Konkurentsiamet - Estonian Competition Authority - Energy Regulatory Dept (ECA)**
- **Elering AS (TSO)**
- **Elektrilevi OÜ (DSO)**
- **Island municipalities of Association of Municipalities**

## 2. Islands are not consulted in a systematic manner and lack of national vision/strategy on clean energy development for the islands

Both the energy sector strategies and the long-term energy planning are highly centralised. The National Energy and Climate Plan for Estonia does not provide a clear strategy for the energy transition on the islands. The Ministry of Economic Affairs and Communications is responsible for the energy sector and the regional development department is under Ministry of Finance[48]. They are responsible for the islands' policy including not just energy but also other sectors. In addition, there is no centralised initiative to bring all needed stakeholders for the clean energy transitions to the table and coordinate on the long-term approach for the islands.

Island stakeholders are not consulted in a systematic manner to ensure that the island issues and priorities are addressed. The current National Energy and Climate Plan (NECP), drafted by the Ministry of Economic Affairs and Communications and the Ministry of the Environment, is very abstract and island stakeholders were not involved in the design process. The islands are relatively small, and they make up a small portion of the population, therefore their political power is limited. The visibility of the island issues on the national level is not so great. Priorities from the local level are mainly communicated to the Ministry responsible for energy through association of local governments, which includes mainland municipalities as well.

All this while islands are very active in energy transition as they are one of the first municipalities that adopted their energy and climate plans. For instance, the strong focus on offshore wind in the NECP has not considered the opinion of islands' stakeholders, who generally oppose to large windfarms (see further below barrier 4 on local opposition and lack of frameworks for local stakeholders to participate).

Besides the 'small islands programme'[49], support to projects that help increase the availability and quality of essential services, the regional policy – which is under the competence of the Ministry of Finance[50] - towards islands is rather underdeveloped compared to other regional policies. There are special plans for several regions (e.g. Eastern part – old mining region) on the mainland but not for the islands. Stakeholders asked the government for the same type of incentive programs for the islands, but this has not led to concrete proposals.

At the beginning of 2022, the Ministry of finance has adopted an action plan for regional development, called 'regional development action plan' (RETK)[51], which includes the regionally targeted activities of the line ministries.

**Recommendation 2.1: Set up an island energy agency**

The energy sector strategies and the long-term energy planning are highly centralised. To foster the involvement of island stakeholders in national strategic & long-term energy planning and funding distribution, we recommend assessing the creation of a regional energy agency, which can be named 'Island Energy Agency' or 'Western Estonian Energy Agency'. This could be based on the example of the Tartu Regional Energy Agency (TREA)[52] which has been established in 2009 by the Tartu City Government and the Tartu Science Park to implement efficient energy management methodologies and practices in the Tartu region. The agency is focused on sustainable energy development and deals with the main issues of modern energy management: energy efficiency, efficient mobility and renewable energy resources. This 'Agency could focus on capacity building and technical assistance to (island) municipalities. In line with the

[48] https://www.rahandusministeerium.ee/en/regional-development-and-policy
[49] https://www.rtk.ee/meede-vaikesaarte-programm
[50] https://www.rahandusministeerium.ee/en/regional-development-and-policy & https://www.espon.eu/sites/default/files/attachments/Regional%20strategies%20for%20sustainable%20and%20inclusive%20territorial%20development%20-%20Estonia.pdf
[51] https://fin.ee/riik-ja-omavalitsused-planeeringud/regionaalareng-ja-poliitika/regionaalpoliitika-kujundamine#Alusdokumendid
[52] https://fedarene.org/member/tartu-regional-energy-agency/

experience from TREA, this could be formed in collaboration with a university (for example Kuressaare College | Tallinn University of Technology) and a municipality.

By working with and for islands, they could become examples for the rest of Estonia on how the energy transition can be implemented and lessons learned could be transferred to municipalities on the mainland. The Agency could be organised in coordination with other national bodies responsible for spatial planning, environment, culture and history and tourism. In addition, it should involve representatives of the relevant regional governments, representatives of academia, civil sector, private sector (including energy companies) who are experts and highly involved in the clean energy transition on Estonian islands.

This would help bring in different views – also beyond energy - from different island stakeholder up to the national level. There is a clear need for a link between the islands and the national level in a cross-departmental way. The Agency is a dedicated team that would take charge of all aspects related to the clean energy transition on the islands and coordinate at the national level to ensure all tasks are aligned. The Agency can also be used to provide guidelines to the regional and local authorities while taking into account overall sustainable development of the islands.

The Agency would be responsible for defining the short-, mid- and long-term strategy on how national goals identified in NECP can be further developed and implemented through actions on the local level and in coordination with the local island priorities and with other sector priorities.

In addition to strategic planning and coordination with the various sectors on the national level and with the stakeholders from the different levels, the Agency could be responsible for:

- Monitoring and evaluating the implementation of clean energy projects with regards to foreseen targets;
- Identifying bottlenecks and gaps in implementation and coordinating with responsible bodies to overcome them;
- Providing support through funding, training, technical assistance or advice to local or regional governments, energy communities and local stakeholder in planning and implementation of clean energy projects;
- Provide guidelines documents to national and local government for implementation of new procedures;
- Provide a platform for exchange of experiences among various islands and island stakeholder.

The formation of such an islands energy agency should be guided and framed by the Ministry of Economic Affairs and communication, for example, in the process of updating ENMAK (Energy sector development plan). However, the concrete set-up of the islands' energy agency would have to be done by the island municipalities. It should be a municipality-centred initiative, in line with the experience from the Tartu Energy Agency. This was initiated by Tartu local municipality. This also follows from the division of competences. The legislation delegating local competences delegates a large part of energy actions to the local government. The national government (MKM) can (only) support by providing subsidies and support in the creation of such an agency.
The main questions to tackle to launch such an initiative are (i) who are to be the founding members, (ii) what would be the funding (EU, Ministry of Finance, Municipalities,…) and (iii) what are the concrete tasks that could lead to a viable business model for this agency. Inspiring examples of successful regional energy agencies can be found on the website of FEDARENE[53].

[53] https://fedarene.org/

Actors involved:
- **Island Municipalities from the Association of municipalities**
- **Ministry of economic affairs and communication**
- Ministry of Finance (department responsible for regional development)
- Ministry of the Environment

**Recommendation 2.2: Develop an island specific policy (Regional Action Plan)**

Against the backdrop of the highlighted barrier(s) above, it would be recommendable to develop an island specific policy. This could be done building further on the experience from specific Regional Action Plans, such as the East-Virumaa Action Plan 2015-2020[54] and the South-East Estonia Action Plan 2015-2020[55]. However, as just recently a new action plan for regional development has been published, it is recognised that it will be difficult to develop additional regional action plans. The implementation plan for the action plan reflects the program of strengthening the electric grid as an activity of the Ministry of economic affairs and communication to increase the production capacity of renewable energy and to adapt to climate change, the implementation of which is directed to Western Estonia with a more limited grid power.

At the proposal of the Ministry of economic affairs and communication, the implementation plan of the RETK could be supplemented with other activities in the field of energy aimed at the islands as they are developed. In the case that it would be decided to develop a regional action plan for clean energy, it should be decided by the Ministry of economic affairs and communication, presumably also in the process of updating ENMAK (Energy sector development plan).This plan could also be in a holistic approach, covering for example housing, health, energy, industry, utilities, water and waste management, climate change, education, digital connectivity, employment, infrastructure and transport or specifically focused on clean energy. Building further on the previous recommendation, this could be a specific objective of the Estonian islands energy agency, which would bring together all the relevant stakeholders.

In the process of drafting sectoral strategies in Estonia, consideration of regional impacts, including assessing impact on rural and coastal areas, is mandatory. The Ministry of Economic Affairs and Communication should take the lead role in the field of energy policy and should strongly support the consideration of regional aspects, including impact on islands.

This strategic document should serve as a guide, a vision shared by the whole sector and based on a balance of stakeholder interests.

The starting point is to find a balance of interests in which regional interests and the positive impact on the climate can be taken into account as well as local support interests or local environmental impact. The document should take into account the balance between local effects and regional and global benefits of renewable energy development. This would allow for a shared vision of renewable energy development and avoid the debates that occur at the local level (see further below barrier 4 on local opposition and lack of frameworks for local stakeholders to participate).

It is essential to carry out a prospective territorial reflection of a reasoned and sustainable renewable energy development on the Estonian islands. The perspectives should be framed at the regional level but operationalised and planned by the island municipalities in an increased dialogue between regions and the population. Although indispensable and constraining, the existence of this framework must allow the necessary flexibility to meet non-objectifiable data, such as the questions related to the landscape and territorial specificities.

Some examples of such island-specific policies are presented in the Regulatory Best Practice box below.

[54] https://www.fin.ee/media/2031/download
[55] https://www.fin.ee/media/1379/download

**Regulatory best practice**

**Island specific policies**

**Ireland**

Strategic Planning is done in a cross-sectoral way and particular attention is given to islands in Ireland in the Policy Document 'Our Rural Future': rural development policy for 2021-2025[56]. In Chapter 10 'Supporting the Sustainability of our Islands and Coastal Communities' 12 Policy Measures are mentioned for the Islands and Coastal communities, the main one being the 10 Year policy for Islands Development to 2030. It promises an extensive consultation process with island communities and will address issues such as housing, health, energy, utilities, waste management, climate change, education, digital connectivity, employment, infrastructure and transport. Specifically for islands, the Irish Government is developing a new national policy for the development of the islands around Ireland, called the 'new National Policy for the Future Development and Sustainability of Communities on the Offshore Islands of Ireland'[57]. This new 10-year Policy for Islands Development to 2030[58] will focus on developing new opportunities for islanders and building sustainable futures for island communities. "*The Programme for Government commits to the production of a long-term plan outlining how Ireland will take advantage of the significant potential of offshore energy on the Atlantic Coast and achieve 5GW capacity in offshore wind by 2030 off Ireland's Eastern and Southern coasts. This plan will position Ireland to become a major contributor to a pan-European renewable energy generation and transmission system.*" The focus with the Irish islands when it comes to energy transition is on using the islands as testing sites for the innovative technologies and behavioural change.

**Italy**

In Italy, the Decree of Ministry of Economic Development of 14 February 2017 defined objectives and incentive methods for renewable energy in the small Italian islands non-interconnected with the electricity grid of the continent. Specifically, it established the minimum development objectives for the production of electricity and thermal energy from renewable sources, and the methods for supporting the investments needed for their realisation. According to several stakeholders, this Decree has been proven very useful for all Italian Islands. On Salina Island for example, a project of 200kW PV has been developed for the association of hoteliers of Salina. Via the Decree this project receives Feed-in Tariffs, which is now, with high energy prices, particularly relevant. Also for Pantelleria the Decree was effective: the municipality has presented 5 projects on energy efficiency in municipal buildings that have been all financed via the Decree.

Actors involved:

- **Ministry of economic affairs and communication**
- **Island municipalities of Association of Municipalities**
- Ministry of Finance (department responsible for regional development)
- Ministry of the Environment
- Konkurentsiamet - Estonian Competition Authority - Energy Regulatory Dept (ECA)
- Elering AS (TSO)
- Elektrilevi OÜ (DSO)

[56] https://www.gov.ie/en/publication/4c236-our-rural-future-vision-and-policy-context/
[57] https://www.gov.ie/en/publication/02a4d-island-policy-consultation-paper/
[58] https://www.gov.ie/pdf/?file=https://assets.gov.ie/132413/433aebac-f12a-4640-8cac-9faf52e5ea1f.pdf#page=91

### 3. Lack of support from the national government in planning and implementation of clean energy projects and action plans

The general structure of the political and administrative system has been outlined in the first Chapter on Policy and Legislation under the section General Policy.

Estonian islands have been proactive in planning and implementation of clean energy plans through various initiatives. There are currently good example practices on Estonian islands, such as Saaremaa[59], Hiiumaa[60], Ruhnu and Muhu. However, there is currently no institution supporting the implementation of these plans or encouraging exchange of experiences and lessons learned between the islands to assure successful projects are replicated on the islands with similar issues. Also, these local climate and energy plans prepared by municipalities are not always very specific, and it is not clear which specific actions should be implemented based on it. In many cases municipalities do not have the know-how to judge the plans developed by the consultants or to understand how to further apply the recommendations from these plans.

**Recommendation 3.1: Provide guidance and support the development and implementation of Clean Energy Transition Agendas**

Islands require guidance or roadmaps from the national government on how they could accelerate energy transition. The more island-specific support the national government would provide, the faster islands would be able to develop renewable energy projects. Local capacity building is important. Local expertise and exchange of best practices is needed. Energy strategy/policy for the islands should look at this. Education and training on islands are important.

The Ministry of Economics and Communication already provides some form of guidance via workshops, such as for example a workshop on how to improve awareness about energy and on how to improve the analytical capabilities in order to develop energy plans and take decisions on renewables[61], organised by kik, which is an environmental investment centre in Estonia. There is also information available on the webpage of Energiatalgud[62]. Additional workshops and trainings on how to get from vision to action, thus from plan to concrete projects are recommended.

The Ministry of Economics and Communication and the Ministry of the Environment could assess whether it would be beneficial to mandate through legislation the adoption of local or regional energy and climate plans that would be aligned with the NECP. These plans can provide clear visions for clean energy development at a local level, specifically on islands. Such an island specific strategic document could find compromises between environment conservation, agriculture and preservation of historical sites. Involvement of key stakeholders in the preparation of an island-specific strategic document is critical.

In cases where local governments lack capacity to develop their own energy and climate plans, the plan could be developed for a group of municipalities, islands or on a regional level. The Island Energy Agency (recommendation 2.1) could provide assistance in how to implement projects or could provide island-specific funding.

Whether or not the development of these plans would be mandatory, the Estonian islands energy agency could provide in any case guidelines for the development and implementation of local energy and climate plans, in collaboration with its academic and research members. Even more, the island energy agency could recommend and, in coordination with national and regional bodies, implement support schemes to provide capacity building and/or technical assistance for realisation of such plans. These can take the form of, for instance, workshops for municipalities, guidelines for energy transition and examples of roadmaps from similar municipalities or regions. Where there is not enough capacity on the islands, the island energy

[59] https://www.islepact.eu/userfiles/ISEAPs/Report/saaremaa/ISEAP_SAAREMAA_31.10.2012.pdf
[60] https://www.islepact.eu/userfiles/ISEAPs/Report/hiiumaa/ISEAP%20Hiiumaa%20EN.pdf
[61] https://taltech.ee/kursus/33025
[62] https://energiatalgud.ee/node/8923?category=1710

agency can provide support through technical assistance to engage external support for short-term projects.

Lastly, it is needed to allocate adequate resources to the islands to develop such plans. Islands need local transition teams to develop and drive Clean Energy Transition Agendas[63]. A local transition team is the smaller team of organisations and associations that represent larger segments of the island's population. The transition team is the core team that drives the clean energy transition process and has an important facilitation and coordination role. They are the main participants in the transition dialogues and look for inputs from the broader community. Since the transition team assumes the responsibility over the island's clean energy transition, it is important that the organisations are committed with both resources and availability. They are also the ones that provide feedback and information to the regional representatives in the island energy agency.

**REPowerEU – RES Simplify**

The RES Simplify report contains some useful recommendations and examples on guidance
Guidelines for authorities and stakeholders act as a helping hand when it comes to the realisation of renewable projects. They inform and describe the RES-E permitting process and thus increase expertise and knowledge amongst all parties involved. Stakeholders can follow a clear cook-book recipe and have direct access to the standard ingredients (templates for all application documents etc.) they have to use during project permitting.

**Spain**: Some Autonomous Communities, such as Andalucía and Extremadura, published a guiding document explaining step by step how to install a renewable energy system for self-consumption.

**Italy**: Good practice by the competent authority to provide project developers with guidance on the application process at the beginning of the authorisation procedures, as for example the 'MUTA portal' of the Lombardy region.

**UK**: The Scottish Government has published "Good Practice Principles for Community Benefits from Onshore Renewable Energy Developments" which provides guidance on good practice principles for communities, businesses, local authorities and others (Scottish Government 2019).

Actors involved:

- **Ministry of economic affairs and communication**
- **Ministry of the Environment**
- Ministry of Finance (department responsible for regional development)
- Island municipalities of Association of Municipalities

**Recommendation 3.2: Ensure mandatory and regular follow-up on island energy action plans**

To ensure the island energy actions plans (regardless of the fact that their drafting is mandatory) are implemented by concrete actions, our recommendation is to introduce a mandatory follow-up and monitoring/reporting (with concrete actions, KPIs,.. within certain time limit) of the implementation. This would also help the national ministries since it could feed in into the monitoring of the implementation of the NECP.

A monitoring framework typically adopts indicators, with baselines and targets, to measure progress against certain goals and objectives. Indicators help to outline goals in specific terms, monitor progress, and provide feedback to stakeholders. Many examples of such frameworks for zero-energy districts[64], sustainable city monitoring and evaluation systems[65] exist[66]. This can be annual or bi-annual and focus on local and regional authorities with the guidelines provided by the intergovernmental department focussing on islands.

In addition, the Ministry of economic affairs and communication – who is already providing support to the municipalities for the development and implementation of local energy and climate plans – could provide guidelines and training on monitoring implementation. It could recommend, and in coordination with national and regional bodies, implement

[63] https://clean-energy-islands.ec.europa.eu/assistance/clean-energy-transition-agenda

64 From nearly-zero energy buildings to net-zero energy districts, JRC, 2019 (https://publications.jrc.ec.europa.eu/repository/handle/JRC115188)

65 Vandevyvere, Han. (2013). Evaluating the sustainable performance of an urban district: Measured score or reflexive governance?. International Journal of Sustainable Development and Planning. 8. 36-58. 10.2495/SDP-V8-N1-36-58. Available on ResearchGate; Asian Green City Index (https://eiuperspectives.economist.com/economic-development/asian-green-city-index)

[66] SCIS KPI framework (2018), CITYkeys, Syn.ikia - Sustainable Plus Energy Neighbourhoods (2020), REPLICATE Renaissance of Places with Innovative Citizenship and Technologies, MATCHUP Maximizing the Upscaling and replication potential of high-level urban transformation strategies, SMARTEnCITY Towards Smart Zero CO2 Cities across Europe, MySMARTLIFE Smart Transition of EU cities towards a new concept of Smart Life and Economy, SHARINGCITIES Building Smart Cities Together, TRIANGULUM The Three Point Project / Demonstrate. Disseminate. Replicate, GROWSMARTER Transforming Cities for a Smart, Sustainable Europe, +CityxChange Positive City ExChange, STARDUST Enlightening European Cities

support schemes to provide capacity building and/or technical assistance. These can take the form of, for instance, workshops for municipalities and communities, guidelines for energy transition and examples of roadmaps from similar municipalities or regions. Where there is not enough capacity on the islands, the Ministry of Finance can provide support through technical assistance to engage external support for short-term projects.
Follow-up could also be digitised so that it is easier to collect info from the municipalities/islands.

So concretely, the follow-up and monitoring should be done by the municipalities while guidance on how to do this needs to come from the Ministry of economic affairs and communication. It is also up to the municipalities to indicate to the Ministry what specific support they require.

Actors involved:
- **Island municipalities of Association of Municipalities**
- **Ministry of economic affairs and communication (MKM)**
- Ministry of Finance (department responsible for regional development)
- Ministry of the Environment

**Recommendation 3.3: Adapt the support systems with particular attention for islands**
While it might not be envisageable to create island-specific support systems, it is recommended to provide additional support within the existing frameworks for renewable energy. In Estonia, the government supports the construction and operation of RES-E projects by two main measures: technology-neutral renewable energy tenders and premium tariff. The production of heat from renewable energies is subsidised through support schemes, mainly geared towards renovating buildings. Support schemes are provided for aerothermal, geothermal, hydrothermal, solar thermal and biomass and biogas technologies. For improving energy efficiency, financial support is offered both for apartment buildings as well as private residences. It is recommended to assess the existing support schemes to see how they can cover the needs of the energy transition on the islands. It might be needed to develop support packages targeted to the islands. This could be done with support from the Island Energy Agency (recommendation 2.1)

Some examples of such island specific policies are presented in the Regulatory Best Practice box below.

**Regulatory best practice**

In **Ireland**, the grants for energy efficiency projects foresee in a 'grant uplift' of 50% for islands. Island inhabitants could thus ask for 50% more funding for energy efficiency renovations. The special funding applied to two schemes – phase three of the greener homes scheme, which allows homeowners to install energy efficient technologies such as geothermal heat pumps, solar panels and biomass boilers and stoves, at a subsidised cost; and the home energy saving scheme. This extra allocation is still active on the Better Energy Homes Scheme and the grant is uplifted by 50% when there is an application from an eligible offshore island.

In **Croatia**, investment subsidies are available for small scale projects based on Public Calls from Croatian Fund for Environment Protection and Energy Efficiency. Within those calls, Islands can receive a larger subsidy than other areas. In general, islands can receive a subsidy of 80% or 60%, based on their economic development. For example, in the Public Call for energy renovation of family houses (EnU-2/21), published by Fund for Environmental Protection and Energy Efficiency on 15.09.2021[67],the 'first group of islands and areas of special state concern are subsidized with up to 80% of eligible costs, the second group of islands and hilly and mountainous areas with up to 60% of eligible costs and other areas of the Republic of Croatia with up to 40%, according to call conditions'. Measures co-financed are: (i) complete energy renovation, (ii) increase of thermal protection, (ii) installation of RES systems.

Actors involved:
- **Ministry of economic affairs and communication (MKM)**
- TSO
- Renewable energy sector federation(s)
- Island stakeholders

[67] https://www.fzoeu.hr/hr/natjecaj/7539?nid=165&fbclid=IwAR0J5QC6bayYPVfgWROlfsV4X1fpZ4sMbvTpyEH5kaBajOmbd-S-XZa3Kuc

## 4. Local opposition and lack of energy community frameworks to foster RES-projects

While Estonia has big ambitions for offshore wind energy, several studies have shown that there is strong opposition from the island inhabitants against more wind turbines. Recently the government has introduced a so-called "tolerance fee", according to which a percentage of the revenue generated by offshore wind farms, would be given to the coastal communities to compensate for the nuisances. This 'tolerance fee' is already a step in the right direction, however measures should go beyond mere compensation and aim to involve the impacted stakeholders in a positive way.

It was brought forward in interviews and stakeholder meetings that some island inhabitants don't see economical or other interest of the offshore wind projects for them if their access to renewable energy is not improved at the same time. Possible ways to enable benefit sharing could be strengthening the local grid (see recommendation 1.1 above) or enabling island energy communities around renewable energy assets. The current legal system in Estonia enables the creation of renewable energy communities (under the general Commercial Code of the country) and the production of renewable energy for own consumption. However, specific regulations related to energy sharing, energy communities or prosumers have not been adopted yet[68].

Among (island) citizens there is little interest and knowledge on energy sharing and energy communities. There is insufficient experience of community operations and management and local governments have little to no capacity to help citizens organisations, local companies and households to understand the advantages of other sources than wind energy PV, heat pumps, demand response, energy efficiency investments.

**Recommendation 4.1: Develop facilitating services for energy community projects and a framework for implication of the island inhabitants**

Energy communities are beneficial from the point of view of involvement of local communities and achieving just transition. Moreover, involvement of energy communities in the energy transition aims to help increase knowledge of energy topics, implementation of energy efficiency measures and uptake of renewable energy.

**REPowerEU - facilitating citizen and community participation**

To facilitate citizen and community participation, Member States should stimulate the participation of citizens, including from low and middle-income households, and energy communities in renewable energy projects, as well as take measures to encourage passing the benefits of the energy transition on to local communities thus enhancing public acceptance and engagement. Member States should implement simplified permit-granting procedures for renewable energy communities, including for the connection of community-owned plants to the grid and reduce to a minimum production licensing procedures and requirements, including for renewables self-consumers.

The EU Solar Strategy highlights that better information is key to enhance clarity and predictability on the benefits of self-consumption for potential investors, citizens and SMEs. Investment costs, financial support, increase of property value, network tariffs, generation and consumption profiles and return on investment are all relevant factors impacting investments. One-stop-shops in Member States should share such information and give citizens advice on both energy efficiency measures and solar energy projects in an integrated manner, from the technical requirements to administrative steps and support measures. Community energy projects still face significant barriers, including difficulties in securing financing, navigating licensing and permitting procedures or developing sustainable business models. In addition, as they are often initiated by a group of volunteers, they suffer from limited time and lack of access to technical expertise. Member States should establish appropriate incentives and adapt administrative requirements to the characteristics of energy communities. An integrated 3-step "learn-plan-do" programme could help energy communities build technical expertise and secure access to financing. The assessment and removal of existing barriers would level the playing field with more professionalised and established market participants.

The NIMBY focus mainly lies on (offshore) wind and it should be made clear to island inhabitants that there are options for diversification in energy sources and carriers and also in terms of the scale; both large scale and (local) small scale. Small scale in the sense of the island being able to supply for its own needs. This requires increased knowledge-sharing and capacity building of citizens, local actors, municipalities. While there is some political willingness to deal with the topic of renewable energy, we recommend to install a

[68] https://energycommunitieshub.com/country/estonia/

local contact point charged with (renewable) energy topics at municipal level, and specifically advising island inhabitants on the frameworks for energy communities and energy sharing.
This need has been identified by island stakeholders, but it has also already been brought forward by other Estonian stakeholders. According to the Ida-Virumaa Green Plan[69], to foster renewable energy and Energy Communities, support via financial and non-financial measures should be offered to encourage the creation of citizens' energy cooperatives

**REPowerEU – RES Simplify**
The RES Simplify report contains some useful recommendations and examples for early engagement in local information, dissemination, and discussion.
Citizens and other stakeholders' acceptance of projects play a vital role in renewable expansion. The acceptability of projects can be increased with the right participatory approach. On a general level, such activities should inform the public on the relevance of renewable energy in fighting climate change and related threats. With respect to specific projects, participation has to begin with the launch of a project and allow stakeholders to influence its concept rather than just confronting them with final plans and decisions.

**France**: Even if there is no obligation to consider the opinions of local communities upstream of an onshore wind project, a wind energy company has set up an ethical charter. This charter stipulates for a greater consideration of the local community in order to encourage a transparent and broad communication so that the population can better understand the general framework of the development of a given project. Thanks to this informal impulse, parliamentary discussions should take place to provide for a legal basis to a public consultation in the pre-planning stage.

**Ireland**: Despite the fact that community engagement is not mandatory for onshore wind projects, the Wind Energy Ireland (WEA), former Irish Wind Energy Association (IWEA), recommends its member to engage in local information and dissemination activities at a very early stage of project development. Project developers organise venues and inform local residents door-to-door on the prospective realisation of an onshore wind energy project. In this way, issues can be resolved at a very early stage and the possibility of an appeal later in the planning permission process can be avoided. It should also be noted that this approach is slowly followed in the deployment of offshore wind projects. Although the legislative framework is not yet in place, project developers have initiated information campaigns for local marine communities. Main aim is to inform the local residents on the offshore wind project and answer questions on the possible effects on marine flora and fauna.

**Netherlands**: Site selection for offshore wind energy in the Netherlands takes place through an extensive participative process. This participative process is a process which takes years in total to finish and takes into account the opinions of all stakeholders. The industry organisation HollandSolar, together with the relevant stakeholders, has drawn up, a Code of Conduct for ground-mounted PV installations. The PV sector is bound by the agreements contained in this Code.

**Portugal**: In Portugal it is possible for every stakeholder to participate via a website: PARTICIPA. This portal acts as a digital forum in which NGOs, civil society, associations and virtually anyone can participate and issue opinions about projects placed for public consultation in the country.

**REPowerEU – Sufficient and adequate staffing**
The recommendation on permitting stipulates that Member States should ensure sufficient and adequate staffing, with relevant skills and qualifications, for their permit-granting bodies and environmental assessment authorities. Member States should use the Union and national funding opportunities available for upskilling and reskilling, in particular at regional and local level, and consider setting up an Alliance for sectoral cooperation on skills to bridge the skills gap of staff working on permit-granting procedures and on environmental assessments.

The 'tolerance fee', is already a step in the right direction, but we recommend shifting the logic from rather 'compensating for the nuisances' to a real and concrete financial participation to the offshore wind projects. This could be done by creating a solid legal framework, policy and guidance on the topic. This direct citizen participation could consist of enabling (partial) ownership of the renewable energy project, whether or not via cooperatives, implying a capacity for direct control over the decisions taken… in addition to profit sharing. Even more it could be envisaged to allow for the use of the energy produced through electricity supply cooperatives, governed by the same production cooperatives and thus controlled by the citizens. Beyond that the benefit sharing should be extended to the whole island, through for example lower grid tariffs.

[69] https://stratlab.ee/en/ida-virumaa-green-plan/

This need has been identified by island stakeholders, but it has also already been brought forward by other Estonian stakeholders. According to the Ida-Virumaa Green Plan[70] to foster renewable energy, a local benefits model could be introduced. This model is a framework, approved by the State, which determines the extent and manner of compensation for the inconvenience caused by the location of a wind turbine, for example to a person living under or near it. The model also determines the revenue accruing to the local authority. This is not a specific measure for Ida-Viru County, but for the country as a whole. The experts consider that one option is to offer a financial reward to people (and local authorities) if a wind farm is located near them. This would provide financial compensation to people who live near wind farms and whose interests are affected by the existence or establishment of wind farms. The proximity measurement would then be implemented on a radius basis.

**REPowerEU – RES Simplify**

The RES Simplify report contains some useful recommendations and examples for financial participation of affected municipalities

Support and acceptance by the local population and administration can be enhanced by ensuring that they benefit economically from new RES plants. This can be achieved by allowing municipalities to financially benefit from projects, e.g. in the form of a payment per kWh from the RES producer. Income should be bound to specific public policy measures that benefits citizens as well, like social services (e.g. kindergarten, health services) or infrastructure (e.g. streets or public transportation).

**Denmark**: Four schemes are currently in place to enhance project acceptance: The so-called "RE-bonus scheme", which obligates the developer to pay neighbours an annual bonus corresponding to a specified part of the capacity of the plant; the "loss of value scheme", which requires the developer to compensate any loss of value to residential property equal to or higher than 1% of the property value; the "option-to-sell scheme", which allows some neighbours within a distance of six times the height of a wind turbine or 200 m from a ground-mounted solar PV plant to sell their property to the project developer; and finally the "green fund scheme", which obligates the developer to pay EUR 11,827 (DKK 88,000) per MW onshore wind equivalents to the relevant municipality, which can use the funds to support e.g. local green initiatives.

**Germany**: In order to increase the public acceptance for wind parks, an amendment to the Renewable Energy Act (EEG, 2020) was taken in 2020, allowing plant operators to pay municipalities up to EUR 25,000 annually for each wind turbine in their community. With a further revision of the EEG 2021, the option to agree payments with the affected municipality has been extended also for large PV.

**Netherlands**: The Regional Energy Strategies prescribe a participation grade of 50% with the locals for renewable energy projects. The project developer, together with the environment and the competent authority, draws up a participation plan for each wind project. For ground-mounted PV, similar participation plans are drawn up.

**Ireland**: The draft Wind Energy Development Guidelines foresee certain project acceptance measures. These provisions have been included in the Irish Renewable Electricity Support Scheme. Firstly, project developers are obliged to engage in consultations with the local community, before applying for planning permission. Secondly, a community report should be prepared and should set out how the project development will affect the local community and how local community participation will be assured throughout the whole lifetime of the project. Thirdly, a "Community Benefit Fund" is established. The Fund will be supported from renewable electricity produced by installations under the national support scheme (auctions) (EUR 2/MWh). Fourthly, Community Ownership is promoted. This is achieved by creating a separate group of projects (the so-called "community-led" projects) that participate in the auctions on the national support scheme. It should be noted that these are fairly new and ambitious measures and it remains to be seen if they are effective.

Some best practices are given in the best practice box below.

**Regulatory best practice**

**Scotland** – Local Energy Scotland developed a 'Community and Renewable Energy Scheme (CARES) Toolkit', a step-by-step guide for the process of developing a renewable energy project. A specific module of this toolkit deals with 'Shared Ownership[71]', explaining some of the legal structures that exist such as, Owner operator, Commercial developer led, Joint ventures, Shared revenue, Split ownership, etc.

**Spain, Balearic Islands** - The Balearic Climate change and Energy Transition Law[72], approved in February 2019, requires the public administrations of the Balearic Islands to support participation of citizens, civil society organisations and local renewable energy communities in the deployment and management of renewable energy systems. More precisely, Article 49 of the Law defines that the local participation of at least 20% should be encouraged or obliged for RES projects with less than 5.0 MWp or more than 5 MWp, respectively. The Balearic government is currently thinking of taking this a step further. In the distribution of NextGen funds there would be compulsory requirements to involve vulnerable homes, either by requiring a certain percentage of

[70] https://stratlab.ee/en/ida-virumaa-green-plan/

[71] https://localenergy.scot/wp-content/uploads/2021/08/cares-toolkit-shared-ownership-dec2020.pdf

[72] http://www.caib.es/sites/canviclimatic2/es/llei_de_ccite/

the project to be devoted to self-consumption projects in vulnerable homes, or by requiring a certain percentage of the energy to be sold to at cost-price to vulnerable homes.

Actors involved:
- **Ministry of economic affairs and communication (MKM)**
- Ministry of Finance (department responsible for regional development)
- Ministry of the Environment
- Konkurentsiamet - Estonian Competition Authority - Energy Regulatory Dept (ECA)

**Recommendation 4.2: Increase stakeholder awareness on advantages of clean energy projects**

Much of NIMBY-ism starts at the first information meetings, where citizens do not get answers to their questions and then get frustrated. To overcome this problem of misinformation or lack of information we recommend developing a central platform for information on (wind) energy in general and collect information on the individual projects, the subject of these information meetings. Also, it is recommended that an independent body is involved to guarantee participation and to act as a mediator in conflict situations, in order to guarantee effective public participation processes, whether at the planning stage or during permit procedures. This body would ensure that the exchanges are balanced and that the observations made during the information meetings and public enquiries are taken into account. However, for each clean energy project, it is recommended to ensure dialogue between the various stakeholders at each stage of the project via existing local structures, focus should thus also lie on training municipal staff in providing information on renewable energy projects to citizens.

We also recommend to counter misinformation with information campaigns (e.g. documentaries) aimed at the general public. One of the focal points of such information campaign, beyond the positive impact for the climate, could be that renewable energy solutions offer an important potential for job creation. It has been estimated that 1GW of offshore capacity can generate around 100 jobs to operate and maintain them. At the same time, training and education programs on the islands should be incentivised.

**REPowerEU - public acceptance of renewable energy projects**

Consideration 18 of the Recommendation highlights that the lack of public acceptance of renewable energy projects is another significant barrier to their implementation in many Member States. To address this, the needs and perspectives of citizens and societal stakeholders should be taken into account at all stages of renewable projects development – from policy development to spatial planning and project development – and good practices for ensuring just distribution of the various impacts of installations among the local population should be encouraged.

As mentioned under the barrier 'Islands are not consulted in a systematic manner and lack of national vision/strategy on clean energy development for the islands', there is no clear view on what the targets, the objective and more general, the strategy is. Therefore, we recommend communicating clearly about the objectives for the islands, following the development an island specific policy (Regional Action Plan) as recommended under recommendation 2. This can be done by means of a strategic document, including the demonstration of the sustainable development value of clean energy (via the analysis of the life cycle from manufacture to implementation) rather than just the financial benefits. In this sense, if a concerted document exists, the island municipalities, in direct contact with the population, will be able to give their support and be a bridge between the national and local level.

Another option is to create a one-stop shop at national level – which is looked at in the project UP-Stairs[73] - to address some of the specific challenges. The focus should lie on training and education. The national government could help setup a platform, trainings or conferences with island stakeholders to foster the discussion, give light to the best practices or even provide funding for mentorship program. This can be coordinated and monitored by the Estonian islands agency (see recommendation 2.1).

[73] https://www.h2020-upstairs.eu/

**REPowerEU – One-stop shop**
The recommendation on permitting stipulates that Member States should design a one-stop shop for granting permits for renewable energy projects required in Directive (EU) 2018/2001 in such a way as to limit the number of authorities involved to what is necessary and maximise efficiency, taking into account public resources and the benefits of concentrating technological, environmental and legal expertise.

**REPowerEU – RES Simplify**
The RES Simplify report contains some useful recommendations and examples for one-stop shops.
Applicants can contact a One-Stop Shop (OSS) to obtain all permissions for their project. That OSS can either provide permissions or act as a contact point to facilitate the entire process, as defined in art. 16 (1) RED II. Depending on technology and size, the OSS can be either technology-specific and/or have limited regional competences. In any case, it should be clear for a project developer to know which OSS it must approach. OSS should be introduced as an option for applicants, allowing them alternatively to directly contact individual authorities. This way applicants can benefit from their own experience and personal contacts.

**Denmark**: The Danish Energy Agency (DEA) serving as an OSS for offshore procedures is very efficient, according to relevant stakeholders. All the permitting decisions are coordinated by DEA with other authorities, which are responsible for different offshore interests. The resulting licenses are thus "comprehensive" in the sense that they are granted on behalf of several authorities and include conditions stipulated by all these. The mentioned licences do not completely preclude the need to obtain permits from other authorities as seen above. The system however eases the process for the developer greatly and also provides more certainty that the project can be established, as all relevant authorities have cleared the project on the stated conditions.

Actors involved:

- **Ministry of economic affairs and communication (MKM)**
- Ministry of Finance (department responsible for regional development)
- Ministry of the Environment

## 5. Spatial planning constraints for the islands: Energy generation is in conflict with nature conservation and military activities

The general structure of the political and administrative system in Estonia has been outlined in the first Chapter on Policy and Legislation under the section Spatial Planning.

Land-use conflicts form a major barrier, specifically on islands. Energy generation not seldom is in conflict with nature conservation and military activities. This while, access to land suitable for renewable energy are key to the development of projects. More concrete there are three specific barriers:

- Many of the Protected Areas in Estonia cover islands (see map below). Several nature-conservation areas, nature reserves and two of the six national parks (Matsalu and Vilsandi) are situated there.
- In Western Estonia and particularly on the islands there is a large bird population. Stringent requirements hinder the development of renewable energies. The western part of Estonia, especially closer to the islands and coastline, is a vital resting place for migrating birds and home for plenty of local species.
- The height restrictions set for national defence reasons are a particular obstacle for wind development (particularly in and around the islands)..[74]

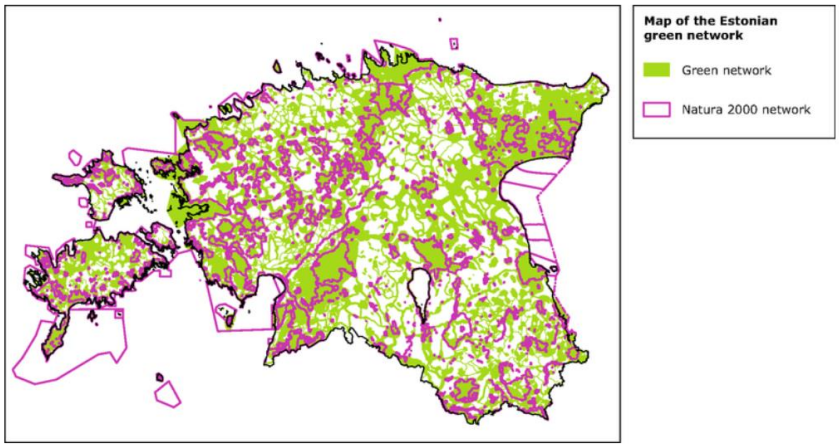


Figure 3 - Map of the Estonian green network - Source

Fostering holistic spatial planning, allowing multiple uses of land, and RES-integrated environmental assessments are essential for future deployment of renewable energy projects on the islands.

**Recommendation 5.1: Seek compromises with Ministry of Defence to open zones for RE development and adaptation of wind turbine height constraints**

Many aeronautical constraints prohibit or limit the height of wind turbines. Technical solutions[75] exist, however, to ensure that night lighting (beaconing) only comes into operation when there is an actual presence of aircraft in the vicinity. Experience from the United Kingdom - with the Offshore Wind Sector Deal in March 2019[76] and the cooperation between the wind sector and the military that followed[77] - has shown that it is possible to adapt military training areas in order to find an adequate balance between energy, climate and air protection issues. In addition, the wind energy sector has developed a technical solution for dynamic beaconing of wind turbines in military training areas in order to reduce the night-time visual impact on local residents.

Negotiations between the competent ministries should thus take place regarding (i) opening military training zones (in and around islands) to renewable energy development and (ii) adapting the height

[74] https://energiatalgud.ee/Tuuleenergia_ressurss

[75] https://tuuleenergia.ee/radar-system-upgrade-to-enable-establishment-of-wind-farms-to-cost-eur-74-5-mln/?lang=en

[76] https://www.gov.uk/government/publications/offshore-wind-sector-deal

[77] The Air Defence and Offshore Wind Windfarm Mitigation Task Force was formed as a collaboration between MOD, Department for Business, Energy and Industrial Strategy (BEIS), the Offshore Wind Industry Council (OWIC) and The Crown Estate (TCE) in August 2019. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1021252/Air_defence_and_offshore_wind.pdf

restrictions for wind turbines in military zones (conditioned to technical mitigation measures for interference with radars). This need has been identified by island stakeholders, but it has also already been brought forward by other Estonian stakeholders. According to the Ida-Virumaa Green Plan[78] to foster wind energy, the focus should lie on removing constraints by working with the Ministry of Defence to find opportunities for new wind farms, using the local benefits model to increase support for residents and finding a solution to phantom mergers. Improved cooperation will help to speed up the approval of planning and shorten the time needed for this objective.

Actors involved:
- **Ministry of economic affairs and communication (MKM)**
- **Ministry of Defence**
- **Ministry of Finance** (department for spatial planning)
- Ministry of the Environment
- Konkurentsiamet - Estonian Competition Authority - Energy Regulatory Dept (ECA)

**Recommendation 5.2: Provide spatial planning guidelines for implementation of clean energy projects**

As mentioned above the clean energy transition on the islands is already ongoing and should be supported instead of obstructed by spatial planning constraints – without however circumventing nature conservation requirements. Given this complexity and multitude restrictions, alongside the other barriers already mentioned such as NIMBY and lack of capacity of civil servants at municipal level, there is a need for the guidelines from the national level, namely the department of Spatial Planning under the Ministry of Finance, on how the clean energy projects should be planned and implemented in regard to the **land use priorities**. The Estonian islands energy agency (see recommendation 2.1) could also contribute to this. Such guidelines have to take into account the characteristics of islands and seek compromises between nature conservation, military activities, preservation of historical sites, tourism and sustainable and clean energy. It should embody a long-term vision on how different land use on islands are coordinated to assure sustainable economic development. The use of the guidelines would help assure that the approval process is not additionally complicated or delayed during the process of adoption of local plans.

While the guidelines should be prepared on the national level by the Ministry of Finance (department for spatial planning) in coordination with the Estonian islands energy agency (see recommendation 2.1), the preparation process should involve representatives of the other relevant government agencies and local authorities who will be implementing the guidelines and experts and academia involved in realisation of clean energy projects on the islands. Even though the guidelines represent a temporary document, used until the local spatial plans are developed, if prepared well they can also be used as one of the guiding documents for integration of energy transition topics in the preparation of Comprehensive Plans and Detailed Special Plans.

Actors involved:
- Ministry of economic affairs and communication (MKM)
- Ministry of Defence
- **Ministry of Finance (department for spatial planning)**
- Ministry of the Environment
- Konkurentsiamet - Estonian Competition Authority - Energy Regulatory Dept (ECA)

[78] https://stratlab.ee/en/ida-virumaa-green-plan/

**Recommendation 5.3: Designate go-to areas and develop simplified permitting procedures**

Integration of spatial planning and sectoral strategies is fundamental in identifying and accessing suitable land for renewable energy projects but is not a common practice. In light of the land-use conflicts mentioned above, we recommend developing an integrated approach via the creation of a detailed Master Plan (per island) that investigates and approves the areas or sites for clean energy development island by island. This Master Plan should define go-to areas specifically for one or more renewable energy sources. Consequently, projects in these zones should be subjected to fast-track and simplified permitting procedures and lightened environmental impact assessments.

**REPowerEU – Renewable go-to areas**

Article 1(1) adds a new definition to Article 2 of Directive (EU) 2018/2001, to define 'renewables go-to area'. Which means *a specific location, whether on land or sea, which has been designated by a Member State as particularly suitable for the installation of plants for the production of energy from renewable sources, other than biomass combustion plants*. Article 1(4) inserts a new Article 15b on the obligation for Member States to identify the land and sea areas necessary for the installation of plants for the production of energy from renewable sources in order to meet their national contributions towards the 2030 renewable energy target. Article 1(5) inserts a new Article 15c on the obligation for Member States to adopt a plan or plans designating 'renewables go-to areas', which are particularly suitable areas for the installation of production of energy from renewable sources.

A faster roll-out of renewable energy projects could be supported by strategic planning carried out by Member States. Member States should identify the land and sea areas necessary for the installation of plants for the production of energy from renewable sources in order to meet their national contributions towards the revised 2030 renewable energy target set out in Article 3(1) of Directive (EU) 2018/2001. The identification of the required land and sea areas should take into consideration the availability of the renewable energy resources and the potential offered by the different land and sea areas for renewable energy production of the different technologies, the projected energy demand overall and in the different regions of the Member State, and the availability of relevant grid infrastructure, storage and other flexibility tools bearing in mind the capacity needed to cater for the increasing amount of renewable energy.

Member States should designate as renewables go-to areas those areas that are particularly suitable to develop renewable energy projects, differentiating between technologies, and where the deployment of the specific type of renewable energy sources is not expected to have a significant environmental impact. In the designation of renewables go-to areas, Member States should avoid protected areas to the extent possible and consider restoration plans. Member States may designate renewable go-to areas specific for one or more types of renewable energy plants and should indicate the type or types of renewable energy that are suitable to be produced in each renewable go-to area.

A possible simplification can be to explore options for a single permit, for instance for any clean energy project on the islands or for a specific size and type of the project which is considered priority in strategic documents. For instance, in Greece the national government has introduced a simplified procedure for ground mounted PV plants with installed capacity lower than 1 MW where some steps in the authorisation process are removed (certification of the RES producer), while other are simplified to the single permit (administrative authorisation and gird connection).

**REPowerEU – accelerated procedures.**

As explained above, the proposed amendment to the renewable energy directive foresees in the identification of go-to zones.

In the designated renewables go-to areas, renewable energy projects that comply with the rules and measures identified in the plan or plans prepared by Member States, should benefit from a presumption of not having significant effects on the environment. Therefore, there should be an exemption from the need to carry out a specific environmental impact assessment at project level in the sense of Directive 2011/92/EU of the European Parliament and of the Council[79].

The designation of renewables go-to areas should allow renewable energy plants, their grid connection as well as co-located energy storage facilities located in these areas to benefit from predictability and streamlined administrative procedures. In particular, projects located in renewable go-to areas should benefit from accelerated administrative procedures, including a tacit agreement in case of a lack of response by the competent authority on an administrative step by the established deadline, unless the specific project is subject to an environmental impact assessment. These projects should also benefit from clearly delimited deadlines and legal certainty as regards the expected outcome of the procedure. Following the application for projects in a renewables go-to area, Member States should carry out a fast screening of such applications with the aim to identify if any of such projects is highly likely to give rise to significant unforeseen adverse effects in view of the environmental sensitivity of the geographic area where they are

[79] Directive 2011/92/EU of the European parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment

located that were not identified during the environmental assessment of the plan or plans designating renewables go-to areas carried out in accordance with Directive 2001/42/EC. All projects located in renewables go-to areas should be deemed approved at the end of such screening process.

Article 1(6) of the proposed amendment replaces Articles 16 of Directive (EU) 2018/2001, extending the scope of the permit-granting process, clarifying the start of the permit-granting process and asking for the most expeditious administrative and judicial procedures available for appeals in the context of an application for a renewable energy project. Article 1(7) inserts a new Article16a, which regulates the permit-granting process in renewables go-to areas. Member States shall ensure that the permit-granting process referred to in Article 16(1) shall not exceed one year for projects in renewables go-to areas. The permit-granting process for the repowering of plants and for new installations with an electrical capacity of less than 150 kW, co-located energy storage facilities as well as their grid connection, located in renewables go-to areas shall not exceed six months. Article 1(8) inserts a new Article 16b, which regulates the permit-granting process outside renewables go-to areas. Member States shall ensure that the permit-granting process referred to in Article 16(1) shall not exceed two years, for projects outside renewables go-to areas. Article 1(9) inserts a new Article 16c, which regulates the permit-granting process for the installation of solar energy equipment in artificial structures.

Member States should establish timeframes and lay down specific procedural rules with a view to ensuring the efficiency of the legal proceedings related to access to justice for renewable energy projects.

Member States should create a single unified application process for the entire administrative permit application and granting process. Simultaneous applications should be prioritised over sequential applications if different authorisations are required, including for related grid projects.

Member States should introduce fully digital permit-granting procedures and e-communication to substitute the use of paper. Relevant information should be made available to project developers centrally as part of an online manual of procedures, including templates for applications, environmental studies and data, as well as information on options for public participation and administrative charges.

**REPowerEU – RES Simplify**

The RES Simplify report contains some useful recommendations and examples for eased procedures for RES self-supply and small-scale RES.

Easing and simplifying procedures for projects is a simple approach to speed up permitting. It helps planners and authorities alike and increases the speed at which projects are realised. By simply reducing the number of necessary permits for projects, developers need to prepare less documents. Authorities on the other hand receive less applications and can therefore use their resources to permit large and important projects. Eased procedures for RES self-supply and small-scale RES streamline the necessary checks and balances between project planners and authorities. This can be implemented due to the limited impact these installations are to have on the environment and energy systems.

**Austria**: In Upper Austria there is an exemption from the electricity generation licence for small hydropower plants with a capacity of up to 400 kW. This is seen as a simplification of the procedure.

**Portugal**: A new legislation aims at simplifying the licensing rules and regulatory procedures applied to production units for self-consumption (unidade de produção para autoconsumo – UPAC). For certain facilities (depending on the installed capacity), a mere notification to the Directorate-General of Energy and Geology is required in order to start operating the unit (for others not even that is required), which is a positive reinforcement for small and medium-sized photovoltaic producers as well as owners of small/mini wind turbines. Small power plants with a capacity of up to 1 MW can apply for a fast application via a web page to gain the grid connection permit.

**Portugal**: For certain small-medium sized power plants, it is only necessary to notify the (Portuguese) Directorate-General of Energy and Geology (DGEG) of their intention to connect the unit to the grid – and, for specific cases, not even a notification is required. Such instrument provides agility to photovoltaic projects that fit in the criteria, reducing costs and optimising time efficiency of projects.

**Spain**: The Autonomous Community of Andalucía does not request a building permit for self-consumption units with power up to 10 kW.

Actors involved:

- Ministry of economic affairs and communication (MKM)
- **Ministry of Finance (department of spatial planning)**
- **Ministry of the Environment**
- Island Municipalities

## Conclusions

Based on an inventory of the current legislation and information gathered via surveys and interviews, the Clean energy for EU islands secretariat has brought together all relevant stakeholders in Focus Groups and a National Stakeholder Meeting to identify barriers to the clean energy transition on Spanish islands, and formulated recommendations to overcome them. This mission has gained in importance since the publication of the #REPowerEU package.

Despite important recent measures to facilitate the energy transition, several major challenges for the clean energy transition on the Spanish islands remain. These barriers relate to (i) grid constraints and absence of frameworks for solutions to cope with it, (ii) islands not being consulted in a systematic manner and lack of national vision/strategy on clean energy development for the islands, (iii) lack of support from the national government in planning and implementation of clean energy projects and action plans, (iv) local opposition and lack of energy community frameworks to foster RES-projects, (v) spatial planning constraints for the islands: Energy generation is in conflict with nature conservation and military activities.

The good news is that they can be overcome by constructive collaboration between the relevant actors. Regular dialogues and interaction between the island stakeholders and the stakeholders at national level should be further fostered. This could be done by creating an Island Energy Agency as recommended in recommendation 2.1. This will allow for the involvement of island stakeholders in national strategic & long-term energy planning and funding distribution, and it would improve the concreteness and effectiveness of instruments and actions at national level.

Areas where constructive collaboration could result in major breakthroughs are grid planning, supportive frameworks for storage and demand response, benefit sharing via energy communities and permitting.

For offshore wind and interconnections, in particular a consensus is needed aiming at three goals at the same time: (i) realising the offshore wind potential of Estonia (1 GW commitment by government and 7 GW of plans), (ii) realising benefits for the islands in terms of clean energy provision through a reinforced grid and offshore service industry at selected ports, (iii) implementing a transmission grid which connects the offshore wind parks, Latvia, Finland and the islands. The connection of offshore wind and the islands is a non-marginal event for the TSO and is unlikely to be taken up in its current mandate and tariff structure. A policy decision at a higher level is needed (recommendation 1.1).

Lastly, the process of identifying barriers, discussing them between stakeholders and assess possible solutions in a collaborative way has shown its merit. We recommend stakeholders continue these discussions. The Estonian islands will benefit from them.

# Annex 1 – Detailed analysis of the survey results and results of the interviews

The survey for legal and regulatory barriers for clean energy on Estonian islands has been sent to 46 contacts, representing 26 stakeholders from national and local governments, over academia to energy associations and NGOs. In addition, the survey was publicly accessible and could have been forwarded to more contacts or organisations which we cannot account for. The survey has been completed by 11 respondents. However the response rate cannot be evaluated as the survey was publicly available as well. Responders of the survey are representatives of 6 stakeholder groups. The responders are relatively distributed among the different stakeholders with national government bodies representing 27%, island municipalities 18%, energy community or cooperatives 18%, energy supplier 18%. The rest of the stakeholder groups (NGO, other) are represented with 9% of respondents or 1 representative.

Nine semi-structured open-ended interviews were held. Interviews were held with Invest West-Estonia, Saaremaa Municipality, Majandus- ja Kommunikatsiooniministeerium (MKM) - Ministry of Economic Affairs and Communications (two interviews), Elering OÜ – TSO (two interviews), Energiayhistu - energy supplier, a 1,4 GW offshore wind farm developer, and the Ministry of Finance.

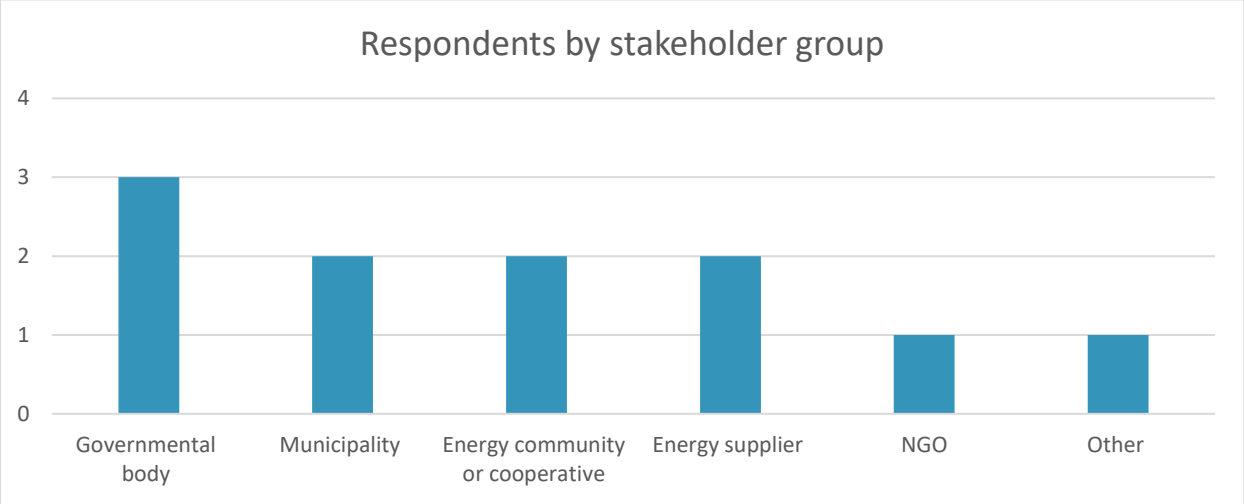


Figure 1 - Overview of the respondents by stakeholder group

The barriers which were identified as the most important by respondents of the survey were the following:

- Renewable energy projects seen as conflicting to environmental protection of the islands/area around islands,
- Lack of financial/funding mechanisms for collective/community involvement in clean energy projects,
- Insufficient capacity due to grid infrastructure constrains.

These and other barriers are elaborated upon in more detail in the sections below.

## General

Survey results:

The survey has asked the respondents to give their opinion on the following three statements regarding **strategic energy planning for clean energy** on Estonian islands using a Likert scale. The results are presented in numerical form showing the average from all responses. The numerical representation is from 1-5, with 1 representing strong disagreement to 5 representing strong agreement.

| Statements | Rating |
|---|---|
| Island(s) energy plans would help align local and national regulation, spatial plans, restrictions for clean energy | 4.2 |
| National obligation for islands to develop energy action plans would lead to accelerated realisation of clean energy projects on islands | 4.1 |
| Islands should be better integrated in the National Energy and Climate Plans | 4.0 |

If we take into account only statements that are considered important, with an aggregated rating of 4.0 and above, the respondents agree with all three statements.

"Islands should be better integrated in the National Energy and Climate Plans" is the statement which respondents from all stakeholder groups considered as fairly important.

"National obligation for islands to develop energy action plans would lead to accelerated realisation of clean energy projects on islands" is the statement which has (strong) agreement by respondents from energy community or cooperative and non-governmental organisation.

When it comes to the highest rated statement that "Island(s) energy plans would help align local and national regulation, spatial plans, restrictions for clean energy" the respondents from the energy community or cooperative strongly agree with it. Other stakeholders group consider this statement fairly important.

Interview results:

From the interviews with Estonian stakeholders, the following general barriers for clean energy development on Estonian islands have been retained:

- Some interviewees mentioned that the current National Energy and Climate Plan (NECP) 2030 is very abstract and island stakeholders were not involved in the design process. For instance, the strong focus on offshore wind has not considered the opinion of islands' stakeholders, who generally oppose to large windfarms. However, some local governments as well as island local business association did provide their official opinion the proposed NECP. It is however repeated that the plan does little to take the visual impact into account.
- Islands definitely welcome any guidance or roadmap from the national government on how they could accelerate energy transition. Island municipalities are very much involved in the discussion with cooperative and planning of clean energy activities.
- The regional policy towards islands is rather underdeveloped. There are special plans for several regions (e.g. Eastern part – old mining region) on the mainland but not for the islands. Stakeholders asked the government for the same type of incentive programs for the islands, but this has not led to concrete proposals.
- A marine spatial plan is recently adopted. I will be an important improvement for the clean energy development on islands since it brings clarity as to the zones for offshore wind. Several projects are lined up to start once the plan is published and implementation process defined.
- The islands (Saaremaa, Hiiumaa and Ruhnu) have developed their energy climate plans. However, it has been mentioned that islands should not be obliged to do so but rather do it on voluntary basis and be incentivised for that.
- Estonian government does not put a focus on energy specific strategies, but rather has a strong belief in the market and its ability to adapt itself. The Ministry responsible for energy provides the market with the frameworks and guidance on how to develop itself.
- The national government is not much aware of what is happening specifically on the islands. Islands seem to be active in energy transition as they are one of the first municipalities that

adopted their energy and climate plans. As the Ministry responsible for energy is in constant collaboration with the association of municipalities, the island municipalities are considered to be included.

- The local climate and energy plans prepared by municipalities are usually drafted by consultants. However, these plans are not always very specific and it is not clear which specific actions should be implemented based on it. In many cases municipalities do not have the know-how to judge the plans developed by the consultants or to understand how to further apply the recommendations from these plans.
- Islands are currently in the process of deciding if they will accept future offshore wind development and under which conditions. They would like to get some benefit from such projects by receiving electricity from these plants or improving their grid.

## Renewable energy

### General

Survey results:
The survey has asked the respondents to rate the following five **general barriers to renewable energy projects** on Estonian islands based on their importance using Likert scale. The results are presented in numerical form showing the average from all responses. The numerical representation is from 1-5, with 1 representing not at all important to 5 representing very important.

| Barrier | Rating |
|---|---|
| Lack of long-term planning at regional/island level (e.g. lack of clear renewable energy targets) | 3,3 |
| Lack of support schemes tailored to islands characteristics (regulatory and financial) | 3,3 |
| Lack of electricity price differentiation between mainland and islands hampering | 1,6 |
| Lack of awareness and capacity of the stakeholders for developing clean energy projects | 3,6 |
| Lack of clarity regarding financial, social or environmental benefits to islanders | 3,8 |

If we take into account only barriers that are considered important, with an aggregated rating of 4.0 and above, none of the barriers were put forward by respondents. The following barrier is considered by respondents as relatively important and rated the highest among others:

- Lack of clarity regarding financial, social or environmental benefits to islanders.

“Lack of clarity regarding financial, social and environmental benefits to islanders” is rated as “very important” by NGO and as “fairly important” by municipality and energy community or cooperative.
Of all the barriers in this survey this barrier has highest correlation to “Lack of awareness and capacity of the stakeholders for developing clean energy projects”. This means that respondents that highly rated one barrier also highly rated the other barrier.

While Estonia has big ambitions regarding offshore wind energy, several studies have shown that there is strong opposition from the island inhabitants against more wind turbines[80]:

While, in general, 72% of the population support the expansion of offshore wind farms and 62% support the expansion of onshore wind farms, people who are more opposed than average to the expansion of wind farms are those who are close to where wind farms are planned:

[80] Survey on wind farms (‘*Tuuleparkide meelsusuuring*’) (2021)

The attitude of Hiiumaa residents towards the expansion of wind farms is also significantly more negative than average: 78% of Hiiumaa residents are against the expansion of onshore wind farms and 51% against offshore wind farms. 29% of Saaremaa residents are against the extension of offshore wind farms
The highest rating for visual intrusiveness is among residents near where wind farms are planned. Residents of Hiiumaa - 87% of residents there consider onshore wind farms to be visually intrusive - and those near which wind farms are planned are the most likely to consider wind farms to be more dangerous than average.
Wind farms tend to be seen as a higher-cost energy source. Offshore wind farms are associated with a slightly higher price than onshore wind farms. For example, 52% of Hiiumaa residents describe offshore wind farms as "expensive" (in comparison, 15% of residents in North Estonia think so).

Interview results:
From the interviews with Estonian stakeholders, the following **general barriers for renewable energy** development on Estonian islands have been retained:

- Lack of knowledge of local stakeholders about renewable energy.
- The more island specific support the national government would provide, the faster islands would be able to develop renewable energy projects. Islands have their particularities, such as market constraints and limited space. However, renewable energy can help improve the living conditions and social cohesion on the islands.
- Regarding transport, tenders for organising the ferries are administered by the National Ministry of Economic and not the islands. In addition, electric vehicles are deployed slowly, mainly since there are little charging points.

### RES projects authorisation process (permitting and spatial planning)

Survey results:
The survey has asked the respondents to rate the following six barriers to renewable energy development regarding **permitting and spatial planning** on Estonian islands based on their importance using Likert scale. The results are presented in numerical form showing the average from all responses. The numerical representation is from 1-5, with 1 representing not at all important to 5 representing very important.

| Barrier | Rating |
|---|---|
| Complex administrative procedure | 3,8 |
| Long ( >2 years) permitting procedure | 3,6 |
| Lack of permitting exemption for small-scale systems (PV, battery, EV chargers) | 2,1 |
| Spatial planning legislation related to protected areas restrictions and RES installations not adjusted to the local island's characteristics | 2,9 |
| Renewable energy projects seen as conflicting to environmental protection of the islands/area around islands | 4,0 |
| Lack of long-term vision on how different land use on islands are coordinated to assure sustainable economic development | 3,9 |

If we take into account only barriers that are considered important, with an aggregated rating of 4.0 and above, only one barrier was put forward by respondents:

- Renewable energy projects seen as conflicting to environmental protection of the islands/area around islands.

"Renewable energy projects seen as conflicting to environmental protection of the islands/area around islands" is rated "very important" by respondents representing energy supplier and NGO and "fairly important" by municipality.
Of all the barriers in this survey this barrier has highest correlation to "Spatial planning legislation related to protected areas restrictions and RES installations not adjusted to the local island's characteristics". This means that respondents that highly rated one barrier also highly rated the other barrier.

All of the permitting and spatial planning barriers but one ("Lack of permitting exemption for small-scale systems (PV, battery, EV chargers)") are rated by energy supplier as "very important".

Interview results:
From the interviews with Estonian stakeholders, the following **barriers** for renewable energy development, **regarding permitting and spatial planning**, on Estonian islands have been retained:

- The main barrier considered by the interviewees, is that the Ministry of Defence opposes to the development of wind farms, since it disturbs their radars. Due to this disagreement, there have been no new wind farms (neither on the mainland nor offshore) built.
- The decision-making process is very slow due to understaffing of the governmental authorities grating the permits, licences, authorisations.
- The marine spatial plan has indicated where the best locations for offshore wind are, with 1GW planned to be under development. However, there is strong opposition from the island inhabitants.
- Recently the government has introduced a so-called "tolerance fee", according to which a percentage of the revenue generated by offshore wind farms, would be given to the coastal communities to compensate for the nuisances. However, this is not seen as a constructive solution by some, who believe that more efficient would be to use the offshore energy produced at lower costs on islands (through, for example, lower grid tariffs).

### Grid

Survey results:
The survey has asked the respondents to rate the following 4 **grid connection barriers** to renewable energy development on Estonian islands based on their importance using Likert scale. The results are presented in numerical form showing the average from all responses. The numerical representation is from 1-5, with 1 representing not at all important to 5 representing very important.

| Barrier | Rating |
|---|---|
| Limited priority access for renewable energy | 3,6 |
| Insufficient capacity due to grid infrastructure constrains | 4,5 |
| Limited sustainable back-up options to assure security of supply | 3,7 |
| Lack of systematic approach to grid development needs for integration of RES | 3,7 |

If we take into account only barriers that are considered important, with an aggregated rating of 4.0 and above, only one barrier was put forward by respondents:

- Insufficient capacity due to grid infrastructure constrains.

"Insufficient capacity due to grid infrastructure constrains" is rated as "very important" or "fairly important" by all stakeholder groups but governmental body.

"Lack of systematic approach to grid development needs for integration of RES" is rated as "very important" by energy community and cooperative and energy supplier and as "fairly important" by municipality and NGO. Off all the barriers in this survey this barrier has the highest correlation with "Lack of clarity regarding financial, social or environmental benefits to islanders" and "Lack of awareness and capacity of the stakeholders for developing clean energy projects". This means that respondents that highly rated this barrier also highly rated the two other barriers.

Interview results:
From the interviews with Estonian stakeholders, the following **barriers** for renewable energy development, **regarding the grid**, on Estonian islands have been retained:

- Insufficient capacity of the grid. Historically, the grid has been better developed in the North-eastern part of Estonia. DSO is a bottleneck for the implementation of RES projects on islands as the grid does not have a sufficient capacity to cover local renewable energy projects.
- It is not economically feasible for the DSO to invest in grid development since there are much less consumers than on the mainland.
- The grid on the mainland is build-up of 330 kV overhead lines, while the grid on the biggest island Saaremaa is build-up of lines up to 110 kV. This grid is not capable of connecting over 1GW offshore wind farms. They need to be upgraded to 330 kV. Islands have asked the government and the TSO to put in the investment plans the upgrading of the grid on the two main islands as it has already done on the mainland. It was acknowledged that the low consumption on the islands does not justify the grid upgrades. However, in light of the national target to deploy of offshore wind in the Estonian seas, including the locations close to the islands, the grids should be upgraded to be able to integrate these large amounts of energy.
- Lack of government support to develop smart grids on the non-interconnected islands.
- Security of supply on the islands is an issue. Battery storage should be considered, but there are currently no projects addressing this issue.

## Energy Efficiency

Survey results:
The survey has asked the respondents to rate the following five **energy efficiency barriers** to renewable energy development on Estonian islands based on their importance using Likert scale. The results are presented in numerical form showing the average from all responses. The numerical representation is from 1-5, with 1 representing not at all important to 5 representing very important.

| Barrier | Rating |
|---|---|
| Energy efficiency in generation/transport/use is not considered the first priority in strategic documents/regulation | 3,1 |
| Lack of energy efficiency targets | 3,0 |
| Lack of availability of easy to use support schemes (including funding) | 3,4 |
| Lack of clear regulations for energy service companies | 2,1 |

If we consider only barriers that are considered important, with an aggregated rating of 4.0 and above, none of the barriers were put forward by respondents. The following barrier is considered by respondents as relatively important and rated the highest among others:

- Lack of availability of easy-to-use support schemes (including funding).

"Lack of availability of easy-to-use support schemes (including funding)" is rated "very important" by energy community or cooperative and "fairly important" by municipality, NGO and other.
Off all the barriers in this survey this barrier has the highest correlation with "Lack of support schemes tailored to islands characteristics (regulatory and financial)" and "Lack of awareness and capacity of the stakeholders for developing clean energy projects". This means that respondents that highly rated this barrier also highly rated the two other barriers.

All of the energy efficiency barriers are rated by energy community or cooperative as "very important" and "fairly important".

Interview results:
From the interviews with Estonian stakeholders, the following **barriers for energy efficiency** on Estonian islands have been retained:

- Energy efficiency measures are implemented through Structural Funds. The new plan for these funds has not yet been adopted. Currently, there are 18 measures in energy efficiency and 8 in RES and everyone is eligible to apply. There are no specific measures for islands as the islands have the similar housing and situations like other municipalities. The support is aimed mainly at the municipalities and housing associations. However, the islands are not as prone to apply for funding as the cities. In addition, there are better supporting measures (exceptions) for peripheral areas for the people who have lower income, where islands are not considered.
- Lack of local knowledge about energy efficiency measures and funding are the main barriers.

## Self-consumption and community energy

Survey results:
The survey has asked the respondents to rate the following seven **community energy projects and energy sharing barriers** to renewable energy development on Estonian islands based on their importance using Likert scale. The results are presented in numerical form showing the average from all responses. The numerical representation is from 1-5, with 1 representing not at all important to 5 representing very important.

| Barrier | Rating |
|---|---|
| Lack of a legal and/or regulatory framework for energy communities / community energy actions | 3,5 |
| Lack of a legal framework for prosumers | 2,7 |
| Lack of political support for community/citizen involvement | 2,7 |
| Community energy initiatives have to meet the same requirements as traditional energy companies (burdensome, complex permitting procedures, high financial requirements) | 3,0 |
| Lack of institutionalised platforms for information exchange, awareness raising and capacity building on local or regional level (advisory services, inform) | 3,1 |

| | |
|---|---|
| Lack of financial/funding mechanisms for collective/community involvement in clean energy projects | 4,0 |
| Inadequate existing regulatory frameworks | 3,4 |

If we take into account only barriers that are considered important, with an aggregated rating of 4.0 and above, only one barrier was put forward by respondents:

- Lack of financial/funding mechanisms for collective/community involvement in clean energy projects.

"Lack of financial/funding mechanisms for collective/community involvement in clean energy projects" is rated "fairly important" to "very important" by respondents from all stakeholder groups, except one. The respondents from governmental body stakeholder group consider this barrier as "important" only, rating it at 3 points on the Likert scale.
When assessing correlation between all barriers presented in the survey this barrier has the highest correlation with "Lack of institutionalised platforms for information exchange, awareness raising and capacity building on local or regional level". This means that respondents that highly rated this barrier also highly rated the other barrier.

Interview results:
From the interviews with Estonian stakeholders, the following **barriers for self-consumption and community energy** on Estonian islands have been retained:

- Insufficient experience of community operations and management.
- Local governments do not have the capacity to help municipalities, citizens organisations, local companies and households to understand the advantages of PV, heat pumps, demand response, energy efficiency investments.
- Without specific support, there are not many islanders who have the financial capacity to join an energy community. In addition, due to its economic setting, Estonian districts or rural areas do not have financial capacity to invest in energy generation or taking over their district heating system, for example.
- Lack of citizens' interest to join the energy communities.
- Lack of citizens' energy-related knowledge.
- Currently it is prohibited for municipalities to join cooperatives. This might however change with the development of the framework for renewable energy communities.
- Energy communities in Estonia are not a novel concept, as the energy communities for heating existed already in the Soviet era. In cities this is easier to do, but in rural areas it is much more difficult.

### Other barriers

Socio-economic barriers or issues discussed in the interviews:

- Islanders are active supporters of energy transition, however they are against offshore wind projects.
- From the national point of view, the main source of $CO_2$ emissions in Estonia are not islands, but the mainland. As islands are primarily interested in maintaining the workplaces in tourism, agriculture, forestry and industry, they do not want to impose strict environmental rules on companies which could then relocate.
- Citizens do not have financial capacity to invest in energy transition, support schemes are needed.

## Measures to overcome the identified barriers

Survey results:
The survey has asked the respondents to rate the following eleven **measures for overcoming barriers** for clean energy projects on the Estonian islands based on their importance using Likert scale. The results are presented in numerical form showing the average from all responses. The numerical representation is from 1-5, with 1 representing not at all important to 5 representing very important.

| Measure | Rating |
|---|---|
| An island-specific strategic document that will find compromises between environment conservation, agriculture, preservation of historical sites | 4,1 |
| Involvement of key stakeholders in preparation of island-specific strategic document | 4,5 |
| Subsidies for fossil fuels are redirected to support clean energy projects through the avoided GHG emissions method | 3,5 |
| Increasing stakeholder awareness on economies of clean energy projects | 4,1 |
| Capacity building or advisory services on clean energy projects for islands | 4,0 |
| Regional/local one-stop shop for clean energy project on islands | 4,0 |
| Single permit for clean energy projects on the islands | 2,8 |
| Develop enabling framework (clear regulation and financial mechanisms) for operation of energy services companies | 3,1 |
| Create enabling framework (regulation, financing, permitting procedures, social support) for energy communities, cooperatives and other community | 3,9 |

If we take into account only measures that are considered important, with an aggregated rating of 4.0 and above, five measures were put forward by respondents. They include from least to most important:

- Capacity building or advisory services on clean energy projects for islands,
- Regional/local one-stop shop for clean energy project on islands,
- Increasing stakeholder awareness on economies of clean energy projects,
- An island-specific strategic document that will find compromises between environment conservation, agriculture, preservation of historical sites,
- Involvement of key stakeholders in preparation of island-specific strategic document.

“Capacity building or advisory services on clean energy projects for islands” is rated “very important” by NGO and “fairly important” by respondents from two stakeholder groups: energy community or cooperative and municipality.

“Regional/local one-stop shop for clean energy project on islands” is rated “fairly important” or “very important” by respondents from all stakeholder groups, except two. The respondents from governmental body and other stakeholder groups consider this measure as “important” only, rating it at 3,7 and 3,0 points on the Likert scale, respectively.

“Increasing stakeholder awareness on economies of clean energy projects” is rated “very important” by NGO and “fairly important” by respondents from energy supplier, municipality and energy community or cooperative stakeholder groups.

“An island specific strategic document that will find compromises between environment conservation, agriculture, preservation of historical sites” is rated “fairly important” or “very important” by respondents from all stakeholder groups, except two. The respondents from governmental body and other stakeholder groups consider this measure as “important” only, rating it at 3,3 and 3,0 points on the Likert scale, respectively.

“Involvement of key stakeholders in preparation of island specific strategic document” is rated “fairly important” or “very important” by respondents from all stakeholder groups, except one. The respondents from governmental body consider this measure as “important” only, rating it at 3,7 points on the Likert scale.

Interview results:
From the interviews with Estonian stakeholders, the following **measures to overcome some of the above-mentioned barriers** for clean energy development on Estonian islands have been retained:

- Several interviewees mentioned that there is room for solar parcs on Estonian islands. The easiest way to implement the PV system would be to install them on the roofs and organise auctions.
- A financial support system for grid development could provide for the grid development without increasing the costs for the island inhabitants.
- TSO/DSO and government could work on developing a grid capable of integrating renewable energy.
- Estonian government could provide a state guarantee for energy communities, as it has already done for housing associations. Thanks to this approach, Estonian banks can provide loans to refurbish apartments.
- Renewable energy solutions offer an important potential for job creation. It has been estimated that 1GW of offshore capacity can generate around 100 jobs to operate and maintain. Thus, training and education programs should be incentivised.
- Estonia should focus on building capacity of local governments, as they are responsible for delivering the permits.

# Annex 2 – Estonia stakeholder meetings

## Estonia Focus Group

Estonia Focus Group invited members:

- Ministry of Economic Affairs and Communication
- Ministry of Defence
- Ministry of Finance
- Elering (TSO)
- Elering OÜ (TSO)
- Elektrilevi (DSO)
- Invest West-Estonia
- Tartu Regional Energy Agency
- Saaremaa Municipality
- Saaremaa Development Center
- Muhu Municipality
- Estonian Renewable Energy Association
- Energiayhistu
- University Saaremaa

## First Estonia Focus Group (EEFG1) meeting

| | |
|---|---|
| **Title** | CE4EUI - Estonia Focus Group - Study on regulatory barriers and recommendations for clean energy development on islands. |
| **When** | Thursday 14 April 2022, 09:00-11:00 CET. |
| **Where** | Online |

### List of attendees

Invest West-Estonia
Majandus- ja Kommunikatsiooniministeerium (MKM) Ministry of Economic Affairs and Communications
Elering OÜ (TSO)
Energiayhistu - energy supplier/community
Estonian Renewable Energy Association
1,4 GW offshore wind farm developer
Elering (TSO)
Tartu Regional Energy Agency

The Estonian Focus Group Meeting 1 (EEFG1) focused on the barriers highlighted in the Report: Detailed Regulatory Analysis Estonia.
Andries De Brouwer presented the whole process from the current Report to the Study on regulatory barriers and recommendations for clean energy developments on the islands.
Andries De Brouwer presented the main findings outlines in the report. Which barriers are found to be the most important.
The discussion was opened by presenting the main barriers resulting from the surveys and interviews:

- Renewable energy projects seen as conflicting to environmental protection of the islands/area around islands,
- Lack of financial/funding mechanisms for collective/community involvement in clean energy projects,
- Insufficient capacity due to grid infrastructure constrains.

The stakeholders agreed with the listing of these barriers as the main ones. The discussion focussed on two main issues, namely grid related issues and NIMBY-ism.

## Second Estonia Focus Group (EEFG2) meeting

| | |
|---|---|
| **Title** | CE4EUI - Estonia Focus Group - Study on regulatory barriers and recommendations for clean energy development on islands. |
| **When** | Wednesday 6 July 2022, 09:00-11:00 CET. |
| **Where** | Online |

### List of attendees

Clean energy for EU islands secretariat
University Saarema
Invest West-Estonia
Majandus- ja Kommunikatsiooniministeerium (MKM)
Ministry of Economic Affairs and Communications
Elering OÜ (TSO)
Energiayhistu - energy supplier/community
Estonian Renewable Energy Association
1,4 GW offshore wind farm developer
Tartu Regional Energy Agency
Elektrilevi
Ministry of Defence
Ministry of Finance

The Estonian Focus Group Meeting 2 (EEFG1) focused on the recommendations highlighted in the Report: Detailed Regulatory Analysis Estonia.
Andries De Brouwer presented the whole process from the current Report to the Study on regulatory barriers and recommendations for clean energy developments on the islands.
Andries De Brouwer presented the main findings outlined in the report.

| | |
|---|---|
| **1. Insufficient grid capacity and absence of frameworks for storage, smart grids and other innovative solutions to cope with it.** | |
| | Adapt grid development methodology to a future-oriented approach, based on expected growth of RE generation |
| | Support the development of storage, demand response and smart grids on the islands |
| | Channel funding from the EU towards grid development |
| **2. Islands are not consulted in a systematic manner and lack of national vision/strategy on clean energy development for the islands** | |
| | Set up a taskforce dedicated to islands under the umbrella of the cooperation between ministry and Association of Municipalities |
| | Develop an island-specific policy (Regional Action Plan) |
| **3. Lack of support from the regional and national government in planning and implementation of clean energy projects** | |
| | Guidance and support in the development and implementation of island energy action plans |
| | Mandatory and regular follow-up on island energy action plans |
| | Adaptation of support systems with particular attention for islands |
| **4. Spatial planning constraints for the islands: Energy generation is in conflict with nature conservation and military activities** | |
| | Seek compromises with Ministry of Defence to open zones for RE development and adaptation of wind turbine height constraints |

| Designation of go-to areas and simplified permitting procedures |
| --- |

## National Stakeholder Meeting

| | |
|---|---|
| **Title** | CE4EUI – Estonia National Stakeholder Meeting- Study on regulatory barriers and recommendations for clean energy development on islands. |
| **When** | 30 September 2022 |

The NSM was held on Saaremaa in the Kuressaare College. There were representatives from the national level such as the Ministry of Economic Affairs, the Ministry of Finance, the Ministry of the Environment, Elering (TSO), Elektrilevi (DSO), the Estonian Wind Power Association, the Association of Estonian cities and municipalities, the Estonian Fishermen's Association, Tartu Regional Energy Agency as well as stakeholders from the islands such as local energy community managers, local renewable energy project developers and the mayors from Saaremaa and Hiiumaa.

During the National Stakeholder Meeting on legal and regulatory barriers and solutions to clean energy transition on Spanish Islands, a diverse group of stakeholders engaged in building consensus on some key actions to take.

There was a keynote speech from Kadri Simson – European Commissioner for Energy. Discussions started on grid hosting capacity and frameworks for storage, smart-grids and other innovative solutions. Followed by a session on national vision/strategy & government support for clean energy development for the islands and a session on energy community frameworks and spatial planning to foster RES-projects.

After the meeting the participants went to visit Baltic Workboats to see how they integrated Renewable Energy (Wind and Solar) into their manufacturing process on the island.