



KESKKONNAAGENTUUR

IRENES Action Plan – Estonia



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1. INTRODUCTION

Current Action Plan is developed within the Interreg Europe project IRENES (Integrating RENewable energy and Ecosystem Services in environmental and energy policies) that will put in place interregional knowledge and experience exchange process to identify gaps and barriers within current ERDF and energy policy instruments in relation to the Renewable Energy Sources (RES) and Ecosystem Services (ES) co-relation, including environmental, social, economic, and governance concerns.

The action plan is the last stage of the project activities. In the first part of the project, we compiled the State-of-the Art (SOTA) analysis on Renewable Energy Sources (RES), deepening with a shared methodology, the regional and national regulatory framework, on one side, and the renewable energy potential, on the other side. This enabled us to start developing the practical maps to be used in the planning process. In addition, we set up the IRENES knowledge accelerator (IKA) to guide interregional and local experience sharing and policy learning through shared learning and participatory activities for stakeholders.

A SWOT analysis was performed to map the positive aspects of the current policy instrument (Operational Programme for Cohesion Policy Funds of Estonia), the weaknesses and threats and to finding opportunities to improve the future policy instruments. IRENES' methodology was based on current concepts of ES. In particular, the overall analysis focused on the understanding and adoption of the multiple aspects of ES and RES by the policy instrument's documents.

The research and mapping outcomes were discussed with relevant stakeholders (i.e. business associations and clusters' representatives, business clusters, regional agencies and the Regional Authority) in each step to ensure we took their needs and perspectives into account.

The study visits, although organised virtually due to the pandemic, were useful to provide examples and input to the discussion, encouraging the local stakeholders and the national implementing authorities to consider new ideas and enable the transfer the good practices between partner regions.

The following action plan provides details on how the lessons learnt from the cooperation and the analytical phase will be exploited in Estonia in order to improve the policy instrument and support synergistic national energy sector development. It specifies the nature of the actions to be implemented, their timeframe, the players involved and projected costs and funding sources.

Profile of Estonia

Estonia is located in Northern Europe and is one of three Baltic States which regained their independence in the beginning of 1990s. It is bordered to the north by the Gulf of Finland, to the west by the Baltic Sea, to the south by Latvia, and to the east by the Russian Federation. The territory of Estonia covers 45,227 km² and the population beginning of 2022 was 1 328 439. Estonian energy production in 2021 was 696 097 MWh, out of which 46,5% was from renewable energy. As seen from Fig 1, The renewable energy production is steadily increasing.

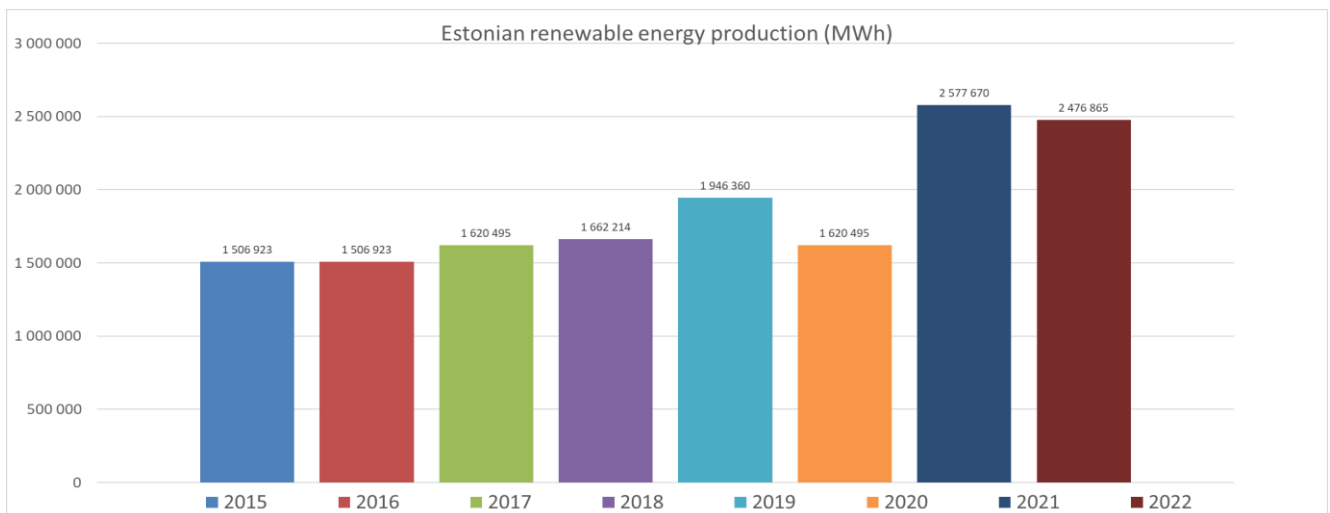


Fig. 1. Increase in renewable energy production in Estonia 2015-2021, the data for 2022 is given as a projection.

Estonia is moving towards achieving climate neutral, competitive, environmentally-friendly and socially responsible economic model by developing the energy communities and markets that consider the consumers, intermediating the best practices and applying up-to-date technology solutions. Based on the general principles of climate policy, the current government is developing Estonian economy into competitive low-carbon economy by the mid-century according to the government's action program Estonia 2035 that is currently under preparation and will be finalized in April 2020. Policy document setting the measures for achieving the climate-neutral economy by 2050 are currently under development.

The analysis of Estonian policy documents indicated that ES concept is being mentioned in most legislative documents, and the correct terminology is being used. However, there are big gaps in approaches across the documents, especially in the overlapping areas. This provides an opportunity for addressing the shortcomings and improving the follow-up legislation in the next operational programme period, especially in the context of implementing the same ES mapping and assessment methodology across the nation.

2. GENERAL INFORMATION AND POLICY CONTEXT

Project: IRENES - Integrating RENewable energy and Ecosystem Services in environmental and energy policies

Partner organisation: Estonian University of Life Sciences and Estonian Environment Agency

Other partner organisations involved (if relevant): _____

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The Action Plan aims to impact:

- Investment for Growth and Jobs programme
- European Territorial Cooperation programme
- Other regional development policy instrument

Name of the policy instrument addressed:

Operational Programme for Cohesion Policy Funding 2021-2027, draft (OP 2021-2027).

The main Policy Instrument analysed in IRENES was Operational Programme for Cohesion Policy Funding 2014-2020. The Operational Programme for Cohesion Policy Funding 2014-2020 will no longer be operational soon due to expiration.

The new Operational Programme for Cohesion Policy Funding 2021-2027 (OP2021-2027) has been drafted and is expected to be launched in summer 2022. The findings of the Policy Instrument analysed during Phase I of IRENES are equally relevant for OP2021-2027. Prioritizing the OP2021-2027 as a strategic development instrument in the Action Plan will increase significantly a chance of reaching change during phase 2 of the Project and secure longer lasting positive effect.

2.1 BACKGROUND

2.1.1 POLICY BACKGROUND

While analyzing “Operational Programme for Cohesion Policy Funding 2014-2020” and other strategic documents regarding environment protection and (renewable) energy development, the following underlying deficiencies were highlighted in SWOT analysis:

- There is no spatial representation of ES in connection to renewable energy. Only indication is to locally-produced renewable energy sources. No maps, nor further details have been provided. This has been identified as a threat to the environmentally balanced development of renewable energies.
- There is no spatial representation of other benefits from nature in areas of producing, connecting, use and consumption of other benefits deriving from nature, i.e., other ES. This has been identified as a weakness that needs to be promptly addressed.
- Lack of spatial representation and lack of guidelines for spatial representation in all documents considered may lead to unbalanced spatial planning.

Also, the Operational Programme for Cohesion Policy Funding 2021-2027¹ addresses the need of development of renewable energy.

In a nutshell, most of the policy documents identified during the initial phases of IRENES address renewable energies and recognize the need for reduction of potential ecological footprints. However, the linkage to ecosystem services is scarce and vague. Moreover, there are no clear guidelines on how planning authorities should spatially link renewable energy developments to impacts on ecosystem services.

Targeting OP2021-2027 and strengthening its implementation with the Action Plan will significantly improve sustainable and multiple use of ecosystems as multifunctional landscape by introducing an instrument for incorporating ecosystem services (ES) into decision making at all levels. That has not been achieved before. It would also be challenging for the OP2021-2027 alone, if not impossible, to bring that change due to level of generalization of the document, that excludes detailed implementing guidelines. While providing long-lasting positive effect, the change in inclusion of ES into decision making could be observed in near future.

2.1.2 DEVELOPMENTS WITHIN IRENES PROJECT

During IRENES project, Estonia has experienced a growing interest in the development of wind energy, foreseen as a major source of renewable energy. This is a result of political decisions of carbon neutrality and zero emission, energy security as well as of recent high energy prices deriving from lack of renewable energy in the market.

At the same time wind energy development, due to its scale, has the most significant and long-lasting impact on the environment compared to other sources of renewable energy.

¹ draft, <https://pilv.rtk.ee/s/9siDEjC8ASeHBs2>

INTERREGIONALITY AND GOOD PRACTICES

IRENES project has provided a unique knowledge hub, which has served as the foundation for the Action Plan in Estonia. The learning and exchange process has materialized around three main axes: Focus Group Discussions, Good Practices and Exchange Visits.

Focus Group Discussions (FGDs): During IRENES Phase I, several technical meetings were held. The aim of these meetings was to (1) develop a methodology for the mapping of ecosystem services trade-offs and synergies and (2) develop a methodology for SWOT and SOTA assessments. During the FGDs, the mapping methodologies presented by each partner were shared, discussed, and enhanced in an iterative manner. In this regard, the University of East Anglia and the University of Venice provided trade-offs and synergies mapping methodologies that were adapted in the Estonian case. The key lesson learnt during the FGDs the need to address, in a spatially explicit manner, territorial potentials for renewable energy development, while highlighting ecosystem services trade-offs and synergies. Moreover, the SWOT methodology co-created among IRENES partners was invaluable for the in-depth assessment of the Estonian OP 2014-2020 and highlighting the opportunities for the new Estonian OP 2021-2027.

Good Practices (GPs): Among the GPs collected in the frame of IRENES, the *Wind Energy and Peatland Rewetting* presented by German partners has been especially relevant for the Estonian Action (Integrating Ecosystem Services into Wind Energy Spatial Planning) and Estonian IKAs. This GP exemplifies the concept of ecosystem services synergies linked to wind energy development through the restoration of a degraded wetland in a wind farm (*fig.2.*). The GP addresses two ongoing processes in Estonia: (1) The development of wind energy and (2) the large share of peat extraction sites in Estonia currently needing restoration. This GP was presented to the Estonian IKAs in the Germany Exchange Visit.



Fig. 2. Klingenberg wind farm was one of the GPs presented within IRENES. The windfarm development included the restoration of drained wetlands in the area

Exchange Visits: Although all exchange visits proved useful for the Estonian IKAs, the German and UK visits were especially insightful. In the German case, the presentation of the abovementioned Good Practice served as an example of ecosystem services synergies connected to wind energy. During the UK site visit, case studies dealing with GIS-based analyses of ecosystem services trade-offs and synergies were presented. This constituted a source of inspiration for the Estonian partners and reinforced the need for the definition of spatial criteria in relation to wind energy and ecosystem services.

With the objective of supporting local municipalities in general spatial planning, including special planning of wind energy development, IRENES Estonian partners have developed several planning-oriented tools. Among them, the two most relevant are:

An ecosystem services cold and hotspots map: These maps constitute a guiding tool in planning contexts, highlighting areas of high landscape multifunctionality and areas of low ecological integrity.

Zonation maps (trade-offs and synergies): This product is a combination of potential wind energy with the abovementioned ecosystem services cold and hotspots. The map encompasses the concept of ecosystem trade-offs and synergies and highlights areas where wind energy developments could potentially lead to synergies and areas at risk of trade-offs.

In order to ensure the use of these products in relevant spatial planning contexts, several actions have already been taken by the IRENES team:

1. All materials produced within IRENES alongside with instructions and recommendations on their use have been made available within an online repository. Map layers can be navigated online or downloaded (fig.3.).
2. Several focus group discussions have been organized together with the IKAs members in order to target the relevant spatial planning challenges in terms of wind energy development.
3. A training workshop with spatial planners was organized.
4. IRENES products have been piloted in three Estonian municipalities undergoing wind energy planning.

However, integrating different aspects of sustainable development, including ecosystem services into general or special planning, is a complex challenge, especially when targeting nation-wide implementation. In order to support local municipalities in fulfilling planning tasks and also to implement the European Green Deal at local level, additional action of delivering complex knowledge regarding environment and ES was offered by Estonian Environment Agency and approved by Ministry of Finance and Ministry of Economic Affairs and Communication.

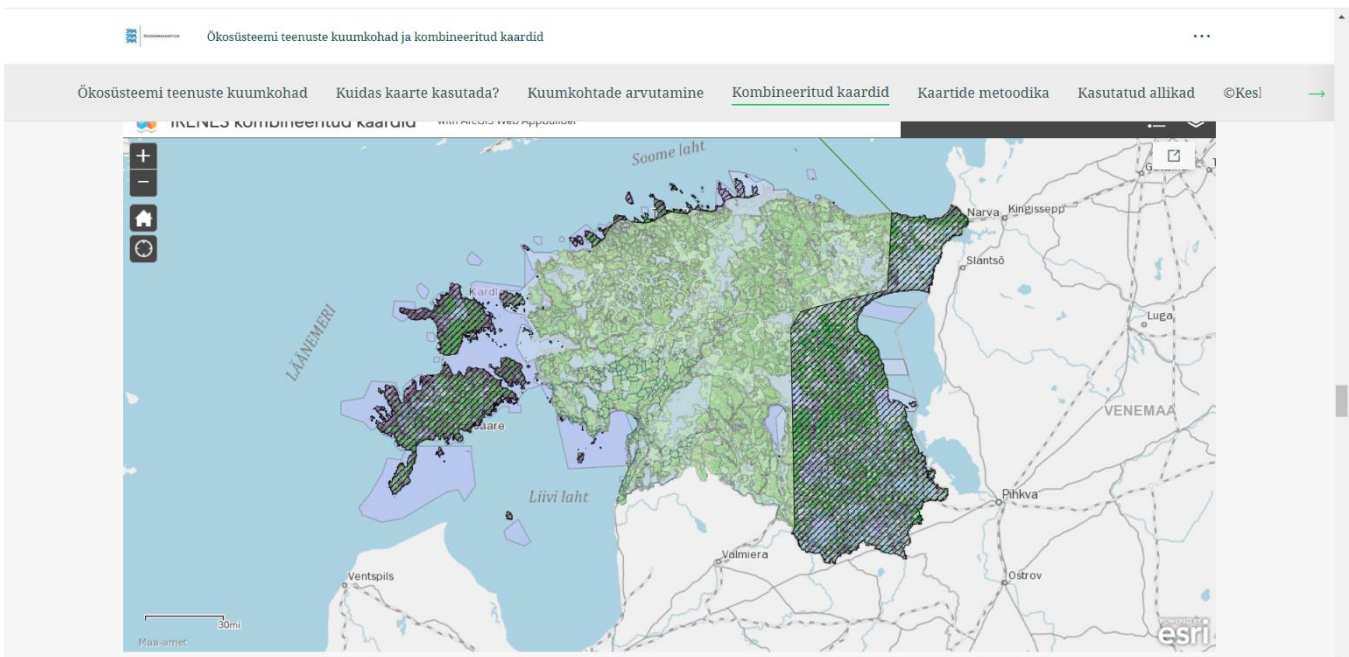
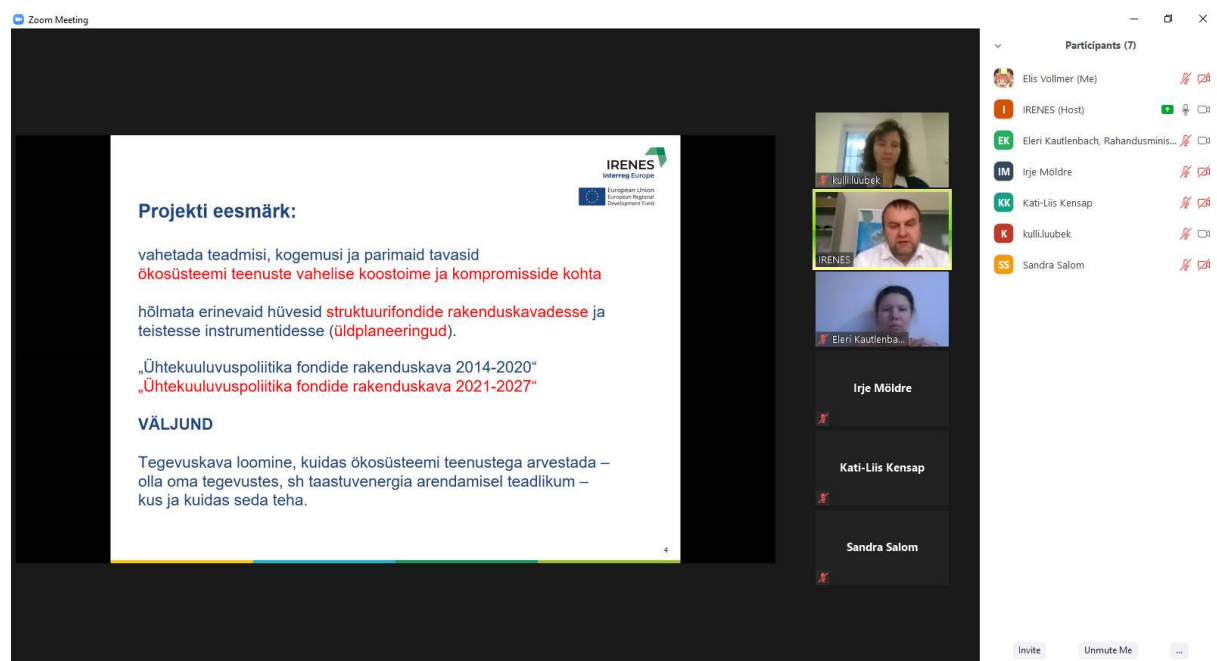


Fig. 3. IRENES map layers are available through an online tool. The main target groups are spatial planners, local and regional governmental bodies. The map shown in the figure helps planners find suitable spots for windfarms, avoiding trade-offs with other ecosystem services.

3. ACTION: SUPPORTING THE INTEGRATION OF ECOSYSTEM SERVICES INTO WIND ENERGY SPATIAL PLANNING

This action stems from two interregional elements of IRENES. Firstly, the literature review held in close cooperation with IUAV and University of Bucharest guided the Estonian partners to adopt a spatially explicit methodology. Secondly, the Good Practice presented by Leibniz University Hannover (*Wind Energy and Peatland Rewetting*) proved highly relevant for Estonian partners and IKAs, as it exemplifies the concept of ecosystem services synergies linked to wind energy development. The concepts related to wind energy, spatial planning and ecosystem services learned through interregional activities were then discussed between the IKAs (Fig. 4), stakeholders, the Estonian Environment Agency, and the Estonian University of Life Sciences.

The focus of the action is on the integration of ecosystem services into spatial planning practices related to wind energy. This will be achieved by **developing a supporting document** that will contain a set of **guiding criteria** about the development of wind farms. This action tackles the deficiencies identified during the SWOT analysis and will ultimately lead to improved decision-making processes and enhanced capacity of spatial planners, local and regional governmental bodies to incorporate ecosystem services in renewable energy developments.



The image shows a Zoom meeting interface. On the left, a presentation slide is displayed with the following content:

Projekti eesmärk:

vahetada teadmisi, kogemusi ja parimaid tavasid ökosüsteemi teenuste vahelise koostoime ja kompromisside kohta

hõlmata erinevaid hüvesid **struktuurifondide rakenduskavadesse** ja teistesse instrumentidesse (**üldplaneeringud**).

„Ühtekuuluvuspoliitika fondide rakenduskava 2014-2020“
„Ühtekuuluvuspoliitika fondide rakenduskava 2021-2027“

VÄLJUND

Tegevuskava loomine, kuidas ökosüsteemi teenustega arvestada – olla oma tegevustes, sh taastuvenergia arendamisel teadlikum – kus ja kuidas seda teha.

4

On the right, a list of participants is shown:

- Elis Vollmer (Me)
- IRENES (Host)
- Eleri Kautlenbach, Rahandusminis...
- Irje Möldre
- Kati-Liis Kensap
- kullijuubek
- Sandra Salom

Below the list are buttons for 'Invite' and 'Unmute Me'.

Fig. 4. The regular cooperation between the Estonian partners and IKAs has been essential to identify the action plan priorities and key working steps.

3.1. RELEVANCE OF THE ACTION

POLICY AIM OF THE ACTION: Policy objective Greener Estonia (PO2) of the OP 2021-2027 foresees wider use of renewable energy. It also stresses that while promoting the production and use of renewable energy, the ecological footprint must be reduced. It suggests wisely, that when planning, healthy environments (ecosystems) should be prioritised. At the same time no guidelines or spatially explicit material, how to implement it, are provided.

The ultimate policy aim of this action is to address the abovementioned flaws by **promoting a change in the management of the policy instrument (improved governance) by introducing new guidelines and criteria for selecting the projects supported by the policy instrument.**

OBJECTIVE: The main objective is to provide specific guidelines for spatial planning related with wind energy developments. These guidelines will be articulated around a **supporting document** that will guide both the development of spatial plans at the local and regional level, and the development of wind farms. More specifically, the supporting document will be compiled based on analyses of Estonian potential wind energy development areas, taking into consideration all restrictions and buffer zones deriving from legislation and infrastructure. Most importantly, the supporting document will provide knowledge of trade-offs to minimize the possible negative effect to nature/ecosystems and ecosystem services derived from wind energy developments.

The map layers produced within IRENES will be incorporated and used in the process of drafting potential wind energy development areas. These IRENES map layers will be included as **a set of criteria for developing wind farms**: IRENES products will be used to define suitability classes and zonation of wind energy development areas. These map layers constitute a new tool in the spatial planning system in Estonia.

Ultimately, the guidelines and criteria for developing windfarms contained in the supporting document will by default be incorporated in the selection criteria for wind energy projects financed by the OP 2021-2027. The guidelines and criteria will be officially released before July 2023.

PURPOSE OF THE IRENES MAP LAYERS: The IRENES map layers directly tackle the deficiencies in the OP 2014-2020 highlighted by the SWOT analysis (lack of spatial representation of ecosystem services and lack of guidelines in the use of ecosystems services for spatial planning). These maps constitute a set of visual guidelines, highlighting areas where wind energy developments will likely trigger a decrease in the supply of ecosystem services (trade-offs), as well as areas where wind energy developments could lead to enhance ecosystem services supply (synergies) (fig. 5). By providing these additional sources of spatial information and guidance, IRENES improves current decision-making processes in wind energy

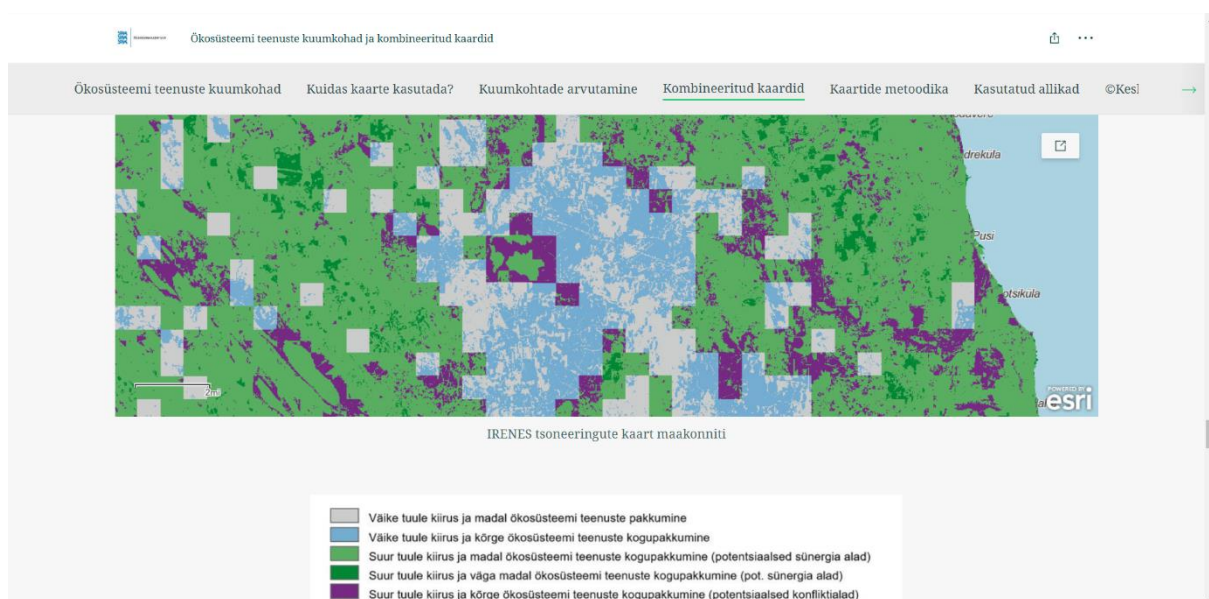


Fig. 5. The IRENES map layers present an ecosystem services-based zonation approach that guides the choice of locations for windfarms.

planning, and enhances the capacity of spatial planners, local and regional governmental bodies to incorporate ecosystem services in renewable energy developments (Type of change 2 – Improving governance).

3.2. OUTCOMES OF THE ACTION:

1. **An ecosystem services cold and hotspots map:** These map highlights areas of high landscape multifunctionality and areas of low ecological integrity. Areas of high and low multiple ecosystem services supply are displayed in the map, therefore emphasizing the environmental component in spatial planning. This was previously identified as a weakness in the OP 2014-2020. This tool is aimed at spatial planners, local and regional governmental bodies.
2. **Zonation maps (trade-offs and synergies):** This product is a combination of potential wind energy calculated in IRENES SOTA with the abovementioned ecosystem services cold and hotspots. The map encompasses the concept of ecosystem trade-offs and synergies and highlights areas where wind energy developments could potentially lead to synergies and areas at risk of trade-offs. This map tackles the weaknesses identified in the SWOT analysis and is aimed at spatial planners, local and regional governmental bodies.
3. **An online platform (fig.2.)** that allows the consultation and navigation of IRENES maps and provides guidance on how to implement them in wind energy spatial planning. To be used by spatial planners, local and regional governmental bodies.
4. **A supporting document** (compiled by the Estonian Environment Agency in collaboration with the Ministries of Environment, Finance and Economic Affairs and Communication), providing a nation-wide assessment on potential areas for wind energy development and a set of **guiding criteria** for the location of wind farms. This report builds upon the three above-mentioned points and constitutes the final product of the Action Plan (see performance indicators below). The guidelines contained in the supporting document will ultimately be incorporated in the selection criteria for wind energy developments to be financed by the OP.

STEPS: To reach the final implementation of the Action Plan, the following actions have been/will be undertaken:

- The Estonian Ministry of Economic Affairs and Communication initiated the process of selecting locations for wind energy development, mandated by the Government of the Republic of Estonia (Dec 2021 – Jan 2022).
- Several technical meetings for scoping and methodology have been taken place within the Ministry of the Environment and its agencies (including the Estonian Environment Agency). In these meetings, the IRENES tools were discussed and incorporated into the process and the draft supporting document (Dec 2021 – Mar 2022)
- Four Milestone meetings have taken place between the Estonian Environment Agency and the Ministry of the Environment, Ministry of Finance and Ministry of Economic Affairs and Communication. The purpose of these meetings has been the development of a common understanding of the scope, methodology, limitations, data/information sources, decision making mechanism and guidelines to take for compilation of draft report on wind energy spatial planning (Jan 2022 – Mar 2022)

- Presentation of the **supporting document** (in cooperation with Min. of Environment, Min. Economic Affairs and Communication and Min. Finance) to the Government of the Republic of Estonia (April 2022).
- Based on the report, the Government will provide political guidance on how to proceed with the development of wind parks (throughout 2022).
- The guiding criteria for the location of wind parks will be officially released before July. Implementation of recommendations (selection criteria for wind parks) into municipalities' General Plans (throughout 2022 and 2023). **Compliance with the criteria set in local and regional spatial plans is a mandatory requirement for projects financed by the OP.**
- Launch of the call for projects financed by the Operational Programme 2021-2027, in compliance with the criteria for wind energy developments (before the end of July 2023)

3.3 PERFORMANCE INDICATORS

- A supporting document containing a set of **guiding criteria** for wind farms development, produced as a result of the analysis process carried during IRENES.
- The zonation layers available to be incorporated into local and regional spatial plans.
- Implementation of Policy objective Greener Estonia (PO2) is supported.

3.4. PLAYERS INVOLVED

The analysis is compiled by Estonian Environment Agency under the Estonian Ministry of the Environment. The scope of the work was approved and supported by Ministry of Finance and Ministry of Economic Affairs and Communication. The analysis in form of different zonation layers will be made publicly available for different purposes, especially for local municipalities for their general/special planning processes.

3.5. TIMEFRAME

Completion of the Analysis: April 2022

Implementation for planning purposes: April 2022 – First half of 2023

3.6. DIRECT COSTS AND FUNDING SOURCES

The direct costs of implementation of the Action Plan are mainly related to staff costs of Estonian Environment Agency.

The direct human resources needed for the compilation of the analysis and the report:

- Analytical work: 250 h
- Project management: 24 h
- Additional staff costs for making the data layers publicly available are expected as follows:
- IT/GIS support: 24 h.

The estimated total direct cost of the Action: EUR 5000. The costs of the Action will be covered by Estonian Environment Agency.