

Energize Co2mmunity WORKING PAPER No. 2.3

Summary of overcoming barriers to CE-projects

How to overcome identified barriers? Partners' experience in implementing the Energize Co2mmunity project

Energize Co2mmunity Real-life implementation of renewable community energy projects

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List of abbreviations

RE	Renewable Energy
CE	Community Energy
REC	Renewable Energy Community
EU	European Union
MS	Member States
EMD	Electricity Market Directive
RED	Renewable Energy Directive
RENCOP	Renewable Energy Cooperative Partnerships. A project-specific name for cooperation within the renewable energy sphere
LV	Latvia
EE	Estonia

Introduction

It is a well-known fact that there are several obstacles to the development of community energy (CE) and the creation of energy communities that project promoters inevitably face, seek solutions and, where possible, remove the obstacles. Several barriers were already described and addressed during the Energize Co2mmunity predecessor, the Co2mmunity project (2017 – 2020), while some barriers can only be hardly overcome due to country-specific (e.g. legislation) or technology-related reasons.

In order to address more country-specific barriers, Co2mmunity partners identified some influential barriers and worked to address them during the implementation of the extension phase.

The following Energy Co2mmunity working paper describes the nature of the five most important obstacles and the opportunities to address them. The focus is on how the project partners tried to overcome the obstacles during the implementation of the pilot projects, what opportunities they used and what the outcome was at the end of the project. As there are still wider problems in creating energy communities in countries where CE is a relatively new field, obstacles were highlighted in two countries in particular - Latvia and Estonia.

In conclusion, addressing these important barriers will have a major effect on the potential of emerging of CE projects and to the overall renewable energy (RE) sources landscape in the partner countries.

The implementation of the Co2mmunity and Energize Co2mmunity projects has taken place at a time when climate and energy policies have come to the fore in both the EU and the Member States (MS). The workload of relevant ministries and authorities has increased significantly due to the development of new strategic directions and relevant action plans at both EU and MS level. Although the CE approach and RENCOP model introduced during the Co2mmunity and EnergizeCo2mmunity projects have received positive feedback from the relevant ministries, the clarification of various details and changes in legislation have not progressed at the expected pace during the preparation of the Energize Co2mmunity project.

The COVID 19 pandemic has also had a significant impact, not allowing for close and effective communication with the various parties involved in promoting the CE approach and the Renewable Energy Cooperative Partnerships (RENCOP) models. Therefore, the issue of energy communities has not received the expected (forecasted) attention in the agencies.

1. Regulatory challenges: Lack of regulation for renewable CE projects (LV)

a) Description of the barrier

Inadequate national regulation has been an obstacle to building energy communities and making them known to the general public. CE initiatives operate on the basis of a set of rules set out in the Law of Energy, which does not take into account the specificities of CE projects. This situation has significantly hindered the introduction of the idea of energy communities and does not promote the development of the field of CE in Latvia.

In addition, there are gaps in Latvian legislation that directly restrict the functioning of energy communities as an equal participant in the electricity market. For example, the current net metering system is not compatible with the energy community idea. Currently, only individual households or commercial companies who install solar or other RE producing systems, can feed energy in the grid and receive financial compensation thereafter. The incomplete current regulatory system does not provide for feeding energy in the grid for citizen unions (cooperatives or societies) and so they cannot become fully fledged participants in the energy market.

b) Actions taken to overcome the obstacle

With regard to the adoption of the EU RED and EMD revised directives into national legislation the Ministry of Economy of Latvia started with amendments to the Latvian Law on Energy. Energize Co2mmunity partner Riga Planning Region has worked with close cooperation with the ministry contributing knowledge and experience with CE projects gained from Co2mmunity project and from cooperation with local partners.

A series of public consultations with interested parties and stakeholders took place in the beginning of 2021. After that, on April 1, 2021, the Ministry of Economics of Latvia officially submitted the draft regulation and the formal interinstitutional coordination process has begun. The “Amendment to the Law on Energy” has been announced at the meeting of the Secretaries of State under the Cabinet of

Ministers of Latvia. The draft regulation is currently being reviewed by the national departments or agencies involved, as well as public stakeholders, for instance, energy associations, Union of municipalities, Chamber of Commerce. As soon as the Cabinet of Ministers summarizes the proposals and approves the final draft, the Amendment will be officially submitted to the Parliament of Latvia.

c) Success factors and potential hindrances



The most important success factor was the framework document that was approved by the Cabinet of Ministers in 2020 - The National Energy and Climate Plan (NECP2030) of Latvia, that contains several policies and measures referring to energy communities:

- Direction of action “Economically feasible promotion of energy self-generation and self-consumption”;
- Policy area “Involving society in energy generation” with a focus on energy efficiency and RE targets.
- Support measures including new legislation, feasibility studies and project funding.



The largest potential hindrance is the fact that CE projects are new in Latvia. Experience from other countries around the Baltic Sea countries shows that it takes several years from the moment when the concept of energy production for self-consumption is included in the development policy documents and the moment when actual production of RE begins.

d) Expected results and situation at the end of Energize Co2mmunity project

As a result, the concept of RE communities is introduced and described as one of the clauses of the amendment. New amendment also stipulates that the Ministry of Economics in cooperation with the Ministry of Environmental Protection and Regional Development elaborate a separate document that details guidelines for organization and management of renewable energy communities (REC). The responsible ministries will also have to suggest support mechanisms, including financial incentives, that should be applied to promote the spread of RECs.

It is expected that the Parliament of Latvia will approve the “Amendments to the Law on Energy” in the autumn session but no later than by the end of 2021.

The new amendment also stipulates that the Ministry of Economics in cooperation with the Ministry of Environmental Protection and Regional Development elaborate a separate document that details guidelines for organization and management of RECs. The responsible ministries will also have to suggest support mechanisms, including financial incentives, that should be applied to promote the spread of RECs. It is expected that during this process also additional specific restricting gaps in Latvian law will be eliminated and the Latvian legislative framework will become more appropriate and supportive for energy communities

2. Lack of awareness, interest and motivation of citizens (EE)

a) Description of the barrier

In Estonia, CE is taking its first steps, and a few energy communities are currently being created or are under development. Although cooperation approach is already well established in a number of areas (such as agriculture or forestry), it is not yet popular in the field of energy. In the second half of the 20th century, as well as in the early 2000s, the energy economy operated at the state level under the control of large energy companies, and private citizens did not have the opportunity to participate actively. The electricity market, which opened in 2013, also opened the door to smaller energy producers and by now the market diversification is already clearly noticeable, lot of private micro-producers have emerged.

But the knowledge that it is possible and in many ways more socially beneficial to produce energy jointly as a community has not reach citizens very easely. It is a long process and requires the systematic sharing of CE information with people and communities.

TREA has been raising citizens' awareness of CE since 2017 when the Co2mmunity project started. Back then, the subject was only familiar to a few people in the energy field. Compared to that time, the increase in interest has been noticeable and the number of enthusiasts and developers in the field has increased, but the interest and motivation among ordinary citizens is still relatively low.

As CE is a new phenomenon in Estonia and there are no operating examples yet, there has been a lack of clear information based on working models and reliable calculations. The existence of successfully operating energy community examples would give an strong impulse to peoples motivation

b) Actions taken to overcome the obstacle

In order to tackle this barrier Tartu Regional Energy Agency in close cooperation with City of Tartu has focused on 2 directions:

- Continuous information flow addressed to citizens and other potential stakeholders
- Developing the first model energy community in close cooperation with the Tartu city government. The aim is to create a functioning energy community in an urban environment, the model of which could be adopted by other cities.

Tartu Regional Energy Agency experts have presented the CE topic on all kind of relevant events and meetings. Presentations has been made at larger and smaller conferences, seminars and meetings. In parallel with informing citizens, the aim has also been to share information with other parties (local government, ministry, experts), who should be an important support system for communities who wants to create an energy community in the future. The scope of information has varied according to the audience and the events (popular topics: CE in general; citizens motivation to participate in the energy community and how to foster it; why should citizen become a member of the energy community - what are the possibilities and benefits; Energize Co2mmunity pilot project; etc).

TREA has also shared the knowledge in other media channels:

- * thematic radio broadcast
- * Articles in the local newspaper
- * publishing activities on social media

In order to establish a real example for future energy communities in Estonia, TREA and Tartu City developed a operational model for the first citizen owned PV park (Energize Co2mmunity pilot project).

c) Success factors and potential hindrances



- Tartu City as a cooperation partner – it is a municipality with a very definite forward-looking plan (Sustainable Energy and Climate Action Plan „Tartu Energia 2030+“) for restructuring its local energy systems and have a long experience in cooperation with local citizens and communities. The participation of the local government in the information flow gives a stronger voice and increases reliability for citizens.
- The topic of energy communities has started to come to the attention of industry experts through the adaptation of Estonian energy law according to the amended EU directives. The topic of CE is starting to be reflected in the media and it increases the impact and reception of information by citizens and communities.



- COVID 19 restrictions significantly affected the communication with citizens. Reaching out to citizens and organizing meetings and seminars for stakeholders was a real challenge between December 2020 and May 2021. Especially one of our main target group - regular citizens - were not very interested in participation on on-line events.

d) Expected results and situation at the end of Energize Co2mmunity project

As a result, there is a slow but steady raise of interest both in Tartu city and in all country. Around 50 citizens participated in the first public information day in June 2021, and there is even more active participation expected in the following public events. TREA and the City of Tartu will continue with CE awareness seminars and workshops in the future.

In addition, the interest in community energy has also increased in other regions of Estonia, beyond Tartu, both rural and urban. TREA experts have been invited to other regions to talk specifically about community energy, its benefits and opportunities.

3. Lack of financial resources (EE)

a) Description of the barrier

Lack of financial resources is a constant problematic issue in the implementation of CE projects. The construction of any energy facility, such as a solar or wind farm, requires a significant initial investment and is usually scarce among community members. Thus, it is often necessary, even inevitable to turn to possible state and /or local government subsidies or ask for loan from banks and other financial institutions. At the end it might complicate the situation because energy community projects are generally not sufficiently profitable and therefore to take an additional bank loan with high interest prolongs the payback period of the project even further and makes it less profitable. This is not attractive for potential energy community members and might decrease the motivation to participate in such projects.

Discussions with several energy and financial experts have suggested that one solution would be to provide a lower interest rate loan to energy communities, which would relieve the financial burden on the energy community to some extent. Unfortunately, at the moment, when energy communities in Estonia have not yet established and therefore not proved themselves as a viable organization, private banks are not interested in developing such a loan product.

However, it should be noted that due to the decreasing prices of solar panels and the rising living standards of citizens, the financing issues for the construction of smaller PV parks are no longer as critical as they were a few years ago. Although, it is still relevant in case of larger investments (like wind parks or bigger PV parks)

b) Actions taken to overcome the obstacle

During the Energize Co2mmunity project, Tartu Region Energy Agency explored various possibilities for developing the most feasible financial models. The loan products of private banks were analyzed, the consultation with savings and loan association was carried out and various co-financing options were considered.

The interest of banks and other financial institutions in new targeted loan products is clearly linked to economic and societal processes. What is happening in the energy market depends to a large extent on the national legal framework, and energy communities as market participants are currently reflected in the renewed draft legislation, which is expected to be approved by Parliament by the end of 2021. The development of a reference framework for the development of energy communities is expected in 2022. The development of a more specific support system at the national level creates a precondition for the creation of possible financial measures (eg a state guarantee for loans to energy communities similar to the existing renovation support)

In cooperation with the city of Tartu, the possibility of start-up support for the first energy community initiatives in Tartu has been discussed.

c) Potential success factors and hindrances



- The future reference framework for the development of energy communities (expected in 2022 – 2023) will include public support mechanisms (possibly direct support or loan guarantee). It would create an encouraging framework for banks and other financial institutions and demonstrate a national interest in supporting the CE sector.
- Decreasing prices for technology (especially PV panels) and, at the same time, the expected increase in citizens' incomes will make the investment in a smaller energy park more accessible even without external financial support.



- The start of the sufficient number of the first energy communities is delayed for several reasons (for example still no interest from citizens, no legal clarity etc). As a result, it will take more time for feasible examples to emerge that prove to financial institutions the viability and credibility of such projects.

d) Expected results and situation at the end of Energize Co2mmunity project

As a result, it should be noted that national level financial support and soft loans from private banks directly aimed at energy communities are not currently available for CE initiatives in Estonia. Different financial support measures will become under consideration in the coming years when community energy has a more solid legal framework and the first successful energy communities in Estonia have started operating.

However, local governments are suggested and have always the opportunity to contribute start-up energy communities with a smaller financial support. For example, in order to support the development of energy communities in Tartu, the Tartu City Government is considering start-up support for the first energy cooperatives in town.

4. Feasibility and profitability of CE projects (business case) – how to convince citizens and stakeholders? (LV, EE)

a) Description of the barrier

One of the decisive stages of CE projects is usually the moment when the feasibility and cost-effectiveness of the whole project are analyzed during the planning phase. Having achieved positive results (there is usually no point in starting an unfeasible and unprofitable project), the key is to share this information and results with citizens who could potentially become members of the energy community. Many partners in different countries have repeatedly experienced that this seemingly simple task can be a significant challenge.

CE projects are generally not primarily for profit, but rather the main motive is to reduce energy costs, generate local RE for own use, strengthen community cooperation or contribute to tackling CO₂ emissions and climate change. Thus, an important component is to make citizens and parties aware of the added value and other benefits of the CE project in addition to direct business case.

Convincing people in countries where energy communities are still at an early stage of development and there are no positive examples to follow (for example the Baltic countries) has proved to be particularly problematic. In Latvia, even though energy communities have a lot of benefits and advantages, an assessment made by the Co2mmunity team in 2019, reveals that the energy policies in Latvia are the least supportive of the community energy projects in the Baltic Sea Region. Energy system has been centrally governed in Latvia and is even not sufficiently open to hybrid forms of cooperation and public initiatives. Also, initial costs to develop community energy projects are high, as well as the payback period of projects is relatively long, therefore development of such projects seems to be available to a small number of owners.

b) Actions taken to overcome the obstacle

To facilitate this, the Energize Co2mmunity project paid special attention to the mechanisms of communication and psychology. At the beginning of the project, the partners had the opportunity to participate in a communication psychology workshop, where everyone had the opportunity to develop their knowledge and skills, keeping in mind their specific needs and target group.

Special attention was paid to the mechanisms of human decision-making processes and possible ways of influencing citizens climate decisions. During the workshop, partners practiced how to formulate an effective message and what techniques are most effective for the successful communication of climate messages.

The partners have used the skills learned to demonstrate the need for CE development to mitigate climate problems as well as feasibility of such projects and to introduce the specific Energize Co2mmunity pilot projects to citizens and other stakeholders.

In addition, during the Energize Co2mmunity project, partners have had the opportunity to receive assistance from the project's communication team, which supports and advises partners whenever the need arises.

c) Success factors and potential hindrances



The topic of energy communities has become progressively important in climate and energy policy at both EU and MS level, and as a result it is increasingly covered in the media and other discussions. This is slowly but steadily bringing the issue to the attention of citizens, people are becoming more interested in CE and convincing them of the feasibility of CE projects is becoming more effective.



However, convincing and assuring citizens is a rather long process and direct communication with people during the Energize Co2mmunity project has been hampered by the Covid 19 pandemic. Therefore, the results of the involvement of citizens were perhaps slightly more modest than we expected at the beginning of the project.

d) Expected results and situation at the end of Energize Co2mmunity project

Although convincing people about the feasibility of CE projects is still a challenge and the process is very long, there is a clear improvement. During the Energize Co2mmunity project, operating models for the pilot project were developed, including cost-benefit and feasibility analyzes. These enable to clearly demonstrate that CE projects are feasible and sustainable initiatives to participate in. At the same time, the number of interested parties has increased due to the activities of the project partners as well as the wider media coverage. Convincing citizens will certainly become much easier when the first CE projects (both the Energize Co2mmunity pilot project and other possible initiatives) become operational in the near future. They will be practical tangible examples of the successful energy communities.

5. Lack of operational models as an example (LV, EE)

a) Description of the barrier

When creating the energy community, the technical knowledge on legal and accounting issues is required for decision-making and project management. As the experience of such projects in Latvia and Estonia is limited, each community energy project initiative must be developed as an individual project in order to find the best solutions for administrative and technical approaches. There are no well-established examples and knowledge of how to create, manage and operate an energy community/ energy cooperative. It has been very complicated to introduce both the RENCOP approach as such and the implementation of real community energy projects in Latvia or Estonia unless feasible models for this type of projects actually existed that served as tangible examples and inspired other RE enthusiasts, allowing to monitor the process of (community) energy production and showcasing the practical results.

Given the non-existing legal framework and circumstances described above, no RECs have been established in Latvia or in Estonia yet.

b) Actions taken to overcome the obstacle

In Latvia, Riga Planning Region in close cooperation with the Latvian Ministry of Economics working on a joint research that is being done as part of Energize Co2mmunity, which, amid other activities, attempts to develop a roadmap for this type of economic activity or projects. The joint research focuses on real community energy projects at Marupe and elsewhere in Riga planning region and a team of researchers will develop detailed feasibility studies that include both technical solutions and economic justification for each energy community with the purpose to demonstrate blueprints for various types of new REC projects.

In Latvia, Riga Planning Region, in cooperation with the suburban municipality of Mārupe and two neighbourhood associations, established and ran two citizen-driven RENCOP's. In addition, they launched two small-scale demonstration projects at Mārupe in order to demonstrate RE production technologies in practice. These demonstration sites serves as "sandboxes" for understanding practical, technical and institutional steps towards community formation. All these demonstration projects at Marupe are a great opportunity to show the best qualities of the practical and not theoretic aspects of such projects thus encouraging local communities at the municipality of Marupe and elsewhere in Latvia to initiate similar energy community projects that enable production of green energy for self-consumption.

In Estonia, TREA has focused on developing the Energize Co2mmunity pilot project for energy communities created on the initiative and support of the municipality. The city of Tartu was the first city in Estonia to approve the Energy and Climate Plan 2030 on 1 April 2021, which emphasizes the need to create energy communities in order to meet climate goals and promote local energy production. With such a systematic approach, the city of Tartu is undeniably a pioneer in Estonia and a shaper of practices for the following local governments with similar ambitions. During the Energize Co2mmunity pilot project, TREA and the city of Tartu have encountered many legal and organizational issues, primarily arising from the involvement of the municipality (for example procurement issues regarding renting public roofs, purchasing electricity, etc.). Consistently, answers to these problems have been found or it has been decided to find legal solutions other than those provided for in Estonian law. If the city of Tartu and TREA go through this procedure, it will be much easier for the next Estonian municipalities to develop energy communities on their territory.

c) Success factors and potential hindrances



In Latvia

- **very strong support from the municipality of Marupe**, which has become a pioneer municipality and encourage the establishment of energy partnerships as a solution for increasing uses of RE. The municipality provided indirect support such as guidance and advice by municipal planning, construction and energy experts and private consultants, premises and facilitation of RENCOP meetings and other intangible incentives that are allowed by the regulatory acts.

- **municipality's great contribution to involvement of local residents** and implementation of both small-scale demonstration projects that allow to produce RE at Marupe. All project results achieved on local (municipal) level where consequently forwarded to the Ministry of Economics.

Given the existing regulatory uncertainties and the lack of practical knowledge about how to run community energy projects, it was very important to demonstrate how small-scale community energy projects can be initiated and implemented in practice

- **Good cooperation with the energy policy maker** is the other most important success factor. The cooperation started during the implementation of the regular project and continues to date. The project team are very proud to have contributed to the new energy policy documents developed by the Ministry of Economics of Latvia. Simultaneous cooperation with local community and national stakeholders allowed the Riga team take the local RENCOP experiences to the policy makers who elaborate the national support programmes.

In Estonia:

- Enthusiasm, support and cooperation of the representatives of the city of Tartu in sharing the necessary information, which has made it possible to quickly get an overview of the current situation and decisions



In Latvia:

- future role for regional development authorities. Although Energize Co2mmunity partner Riga Planning region is a regional cooperation platform and responsible for various kinds of planning on regional level, climate change mitigation and introduction of sustainable energy solutions are not among the functions directly delegated to planning regions. It is hoped that this obstacle will be overcome through strengthening cooperation with municipal energy agencies or individual energy specialists.
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In Estonia:

- Some aspects that were encountered during the development of the model are very imprecisely described in Estonian law (for example, the possibility for a local government to participate as a member in the energy community) and therefore finding an answer to these has been extremely difficult and time consuming.
- The city of Tartu is a large organization and the implementation of completely new solutions means negotiations with very different departments and changes in the documents of these departments. Such wide-ranging consultations are extremely time-consuming

d) Expected results and situation at the end of Energize Co2mmunity project

In Latvia, the joint study will be finished by 1 October, 2021 and it is hoped that the national ministries, which are responsible for practical introduction of the concept of RECs, will use it as a reference document as they develop support mechanisms, including financial incentives, to RECs.

As a result of Energize Co2mmunity, clear practices and a model will be created on how to create energy communities within the municipality with the support and / or initiative of the municipality - the main legal problems arising from Estonian legislation have been solved and it will be easy for the next interested municipalities to take them over.