Interreg Danube Region

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NRGCOM

A model for the sustainable development and operation of RECs

D.1.5.2 A model for an appropriate legal, operational and financial environment for energy communities

South Transdanubian Regional Innovation Agency

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Introduction

Contextualisation

The concept of Renewable Energy Communities (RECs) presents a transformative approach to energy production and consumption, offering self-sufficiency and localised energy management. These communities function as energetically self-sufficient or nearly self-sufficient systems where members can generate, consume, and store energy. By employing renewable energy sources, such as solar panels, biogas plants, or wind turbines, RECs foster local energy autonomy. Smart grid systems integrate the components of production, storage, and consumption, ensuring efficient energy distribution and maximising the use of locally generated energy. In cases of energy surplus or shortfall, RECs can engage with the universal energy service provider, thereby enhancing the reliability and efficiency of their operations.

In the Danube Region, the reliance on imported fossil fuels raises significant environmental, economic, and energy security concerns. Despite their potential, the concept and implementation of RECs are still in their infancy in this area, often hindered by legal, operational, infrastructural, and technical barriers. Recognising these challenges, the NRGCOM project seeks to create an enabling environment for RECs to spread and operate sustainably across the region. This initiative unites 13 Project Partners (PPs) and 14 Associated Strategic Partners (ASPs) from 12 countries, encompassing diverse stakeholders, such as public authorities, NGOs, energy agencies, and research institutions.

The overall goal of the NRGCOM project is to provide the Danube Region with an enabling environment and a well-informed society, where renewable energy initiatives can be launched and scaled effectively. By encouraging local self-production and consumption, the project is already contributing to the transition to renewable energy sources in the region, enhancing energy efficiency and reducing reliance on imported fossil fuels. These efforts are aligning with broader decarbonisation and climate objectives, promoting energy security and resilience.

The integrated approach of NRGCOM is targeting legislative improvements, the development of public funding mechanisms, and capacity-building in administrative and managerial domains. The project's activities are not only addressing barriers but are also acting as catalysts for sustainable economic growth in the region. By fostering a positive perception of REC initiatives, NRGCOM is encouraging widespread adoption and replication, ultimately contributing to a greener, more energy-efficient future for the Danube Region.

Throughout the project, targeted interventions are being implemented to actively address the barriers hindering the establishment and effective operation of Renewable Energy Communities in the Danube Region. The project partners have thoroughly reviewed existing legal frameworks, operational systems, and governance practices to identify best practices and persistent challenges. Based on these results, targeted policy recommendations have been developed, aimed at removing bottlenecks and facilitating the growth of RECs. Concrete steps are being taken to design strategies that create the legal, technical, and social conditions required for the sustainable development of energy communities.

Public awareness campaigns are being implemented to promote the concept of RECs and engage local populations, fostering participation and energy self-production. A significant milestone in the project is the ongoing establishment of a "REC Ambassadors" network, which is actively supporting and mentoring target groups involved in pilot actions to set up and improve the functioning of RECs. This initiative is providing practical assistance to communities and is laying the groundwork for expanding the REC concept across the region.

As a key output of the project, a comprehensive White Paper will be elaborated, synthetising the outcomes of the project activities. This document is intended to serve as a strategic guide for stakeholders, offering detailed recommendations on creating the appropriate conditions for RECs. It will address key dimensions, including legal, social, infrastructural, economic, and sustainability aspects, ensuring a holistic approach to REC establishment and management.

Purpose of the document

The purpose of this document, *A Model for an Appropriate Legal, Operational and Financial Environment for Energy Communities*, deliverable D.1.5.2 of the NRGCOM project is to provide a comprehensive framework for the enabling of a proper and supportive environment for the establishment and operation of renewable energy communities in the Danube Region. The document aims to identify key bottlenecks that currently hinder the development of RECs, as well as to outline the critical success factors required for their sustainable creation and functioning.

By addressing the legal, operational, and financial dimensions, this model seeks to ensure that the necessary conditions are in place to facilitate the growth of community-led renewable energy initiatives. The document builds on insights from the project's findings, including analyses of existing frameworks, governance practices, and operational systems in partner countries. It also integrates lessons learned from best practices to propose actionable recommendations.

This model serves as a strategic tool to guide policymakers, energy stakeholders, and local communities in creating tailored solutions that remove barriers and foster REC development. Moreover, as a cornerstone of the output 1.1, it will be integrated into the *Strategy to create the proper legal, technical and social environment for energy communities*. It is a step forward increasing energy efficiency and energy security by encouraging local energy production and self-sufficiency.

Methodology

The development of *D1.5.2 A Model for an Appropriate Legal, Operational and Financial Environment for Energy Communities* follows a structured and collaborative process, integrating insights from a series of interrelated project activities. The methodology builds on a step-by-step approach that leverages data collection, analysis, and stakeholder engagement to establish a comprehensive and practical framework for renewable energy communities in the Danube Region. The Model capitalises on the results of all the activities of the first Specific Objective of the NRGCOM project: *Initiating the establishment of the proper legal, operational and social environment for RECs.* These deliverables provided critical inputs that shaped the structure and content of the Model, ensuring its relevance and applicability to the Danube Region.

The *D1.1.1 Comparative Analysis Report* examined the current state of RECs across the partner countries, identifying strengths, weaknesses, and areas requiring intervention. This analysis provided the foundation for subsequent steps by mapping and comparing the national legal systems of RECs in the Danube Region. For the analysis of the business models and stakeholder management technics of RECs, the project partners have prepared their national reports, which have been compiled into the *D.1.2.1 Catalogue of best internal operation models of RECs. D1.3.1 Collection of Best Internal Operation and Governance Practices of RECs* did also provide crucial information for the Model, along with the *D1.4.1 Collection of Development Recommendations to Optimise the Functioning of RECs*, assessing possible low-cost infrastructure investments and developments.

The results of these deliverables were further discussed and validated during professional online roundtables held in September 2024. These events enabled a transnational comparison of findings and allowed for their refinement and complementation. Based on these validated inputs and national-level policy recommendations developed by the project partners and coordinated by the Lead Partner, the STRIA South Transdanubian Regional Innovation Agency (furthermore: STRIA), the structure of the model was jointly developed by the partners in the course of a collaborative workshop held in November in Montenegro. The final structure and of the Model was elaborated by STRIA.

The Model reflects the collective expertise and data gathered throughout these activities. It is designed to outline the legal, operational, and financial factors necessary for the successful creation and functioning of RECs. Its intervention logic suggests that by addressing the identified success factors, the Danube Region can foster an enabling environment for the creation and sustainable operation of RECs.

methodology ensures that the model reflects diverse perspectives, incorporates best practices, and addresses the unique challenges of the Danube Region. This iterative and participatory process guarantees the development of a robust and adaptive framework to support the widespread adoption of RECs.

Status of the background of RECs in the partner countries

The Danube Region presents a highly diverse landscape regarding the status and development of Renewable Energy Communities. This diversity highlights the need for a transnational approach to address the disparities and share expertise among partner countries. The partner countries can be grouped into three main categories based on the maturity of their legal frameworks and the operational status of RECs:

Group 1: Advanced stage

Countries like **Austria**, **Germany**, **Czechia**, and **Slovenia** fall into this group. These states have well-established legal frameworks for RECs, thus facilitating their development and operation. For example, Germany has more than 1,500 RECs operating, while Austria, Slovenia, Slovakia and the Czech Republic also exhibit significant progress in creating a supportive environment for community-led renewable energy initiatives. These countries serve as benchmarks for best practices, offering valuable insights into successful REC management and operation.

Group 2: Intermediate phase

Countries such as **Croatia**, **Romania**, **Slovakia**, and **Hungary** are in the intermediate phase, where REC initiatives are present but face considerable challenges. These challenges include legal, operational, and technical barriers that hinder the full realisation of their potential. For example, while Hungary has a legal framework in place, due to the legal gaps and conflicts of interest, implementation remains limited, with only two registered energy communities as of 2024. These nations are working to address bottlenecks and build capacity for REC expansion.

Group 3: Starters

Countries such as **Montenegro**, **Bulgaria**, **Serbia**, and **Moldova** fall into the "starters" category, where renewable energy communities are still in their early stages of development. Although some foundational legal frameworks exist, no operational RECs have been established in these states. However, progress is being made to create an enabling environment. For example, in Moldova, significant advancements have been achieved to facilitate the development of RECs, including steps toward enhancing legal and institutional frameworks. By addressing the existing gaps and leveraging lessons learned from more advanced partners, a strong foundation can be laid for the establishment and growth of energy communities.

The table below provides a more detailed overview of the current status of RECs in the partner countries, highlighting the readiness of legal frameworks, availability of support, and the degree of implementation in practice:

No.	Country	Readiness of the legal framework	Availability of support	Implementation into practice
1.	Austria	Legal framework for REC and CEC is set; Single point of contact is defined as well as registration procedure; Conditions for connection to the grid are prescribed as well as tariffs for different categories	Support schemes for energy communities are available through different national and regional instruments supported by EU funds	Community generation facilities have been in place since 2017; Implementation shall be continued according to the new legal setup
2.	Bulgaria	REC recognized by the relevant laws; relevant by-laws are still under development	National scheme for RES in households is set	Only for prosumers in household sector
3.	Croatia	Legal framework is in place; Categories of energy communities are defined as well as procedures for installation and connection to the grid	Funds for support of REC are available through different national instruments supported from EU funds	Implementation into practice is limited; The process of establishing of REC is complicated – improvement of quality and consistency of the legal framework is needed
4.	Czechia	New legal framework for energy communities has been set recently (Jan 2024); procedure for registration, categories per installed capacities, as well as conditions for connection to the grid and tariff models are defined	Variety of financial mechanisms and technical assistance initiatives is available at national and regional level, supported form EU funds	Implementation in practice is limited; Enforcement of the new legal framework to be tested into practice; Improvement of the legal frameworks is envisaged with regard to the removing regional restrictions and improving of the sharing possibilities

5.	***Germany***	*Legal framework for energy communities is established – REC definition is implemented, CEC yet to be incorporated in the law;* *Procedures for setting up energy communities are defined.*	*Support schemes for energy communities are operational through different mechanisms at national or regional level such as feed-in tariffs and financial incentives*	*Concept of energy communities have been successfully implemented since 2005;* *Implementation shall continue following adjusted legal setup.*
6.	***Hungary***	*Legal framework is in place; Procedure for setting up of the REC are defined;* *Responsibilities of network and commercial service providers need to be defined; Improvement of energy sharing possibility is needed; Limitation for public entities to form/enter energy community to be resolved*	*Financial support to be straightened - rebates or other economic incentives to encourage the creation of communities.*	*Implementation into practice is limited due to the imperfection of the legal framework and lack of the financial support - only two registered energy communities in Hungary up to now.*
7.	***Moldova***	*Legal basis for REC is set; comprehensive assessment for REC to be developed followed by the by-laws which will closer regulate different aspects*	*Recognized by the law - financing support mechanisms for REC to be established*	*To be implemented after completion of the legal framework*
8.	***Montenegro***	*Law on RES is under development which will regulate REC.*	*Programs for promotion of energy prosumers are in place;* *Financing support mechanisms for REC to be established*	*After adoption of the Law on Use of Energy from the Renewable Sources and relevant by-laws*

9.	***Romania***	*Legal framework is set; Procedure for registration, rules for connection to the grid and the tariffs are defined.* *For wider acceptance of the concept more clarity on REC and CEC concept is needed in the law as well as in the by-laws which shall closer regulate deferent aspects*	*Funds for support of REC are available through different national and regional instruments supported by EU funds*	*Energy communities are implemented into practice to the certain extent;* *To be further promoted and supported through designed schemes*
10.	***Serbia***	*REC are recognized by the law and need to be closer regulated through the relevant by-laws*	*Supporting schemes envisaged by the law – to be further developed and implemented*	*To be implemented after completion of the legal framework*
11.	***Slovakia***	*Legal framework is set - single point of contact is defined as well as procedures for registration and connection to the grid*	*Supporting mechanisms for application of the energy communities to be further developed*	*Implementation is at an early stage - neither electricity sharing nor cooperation itself is yet feasible*
12.	***Slovenia***	*Legal framework for REC and CEC is set; Procedure for registration, conditions for connection to the grid as well as tariff models are defined*	*Support mechanisms for energy communities are in place through different national instruments supported by EU funds*	*Implementation is in progress; Local and regional energy agencies together with municipalities should play more important role in promotion of energy communities*

Table 1: Overview of the environment of RECs in countries of the Danube Region
Source: D.1.1.1 Comparative Analysis Report of the NRGCOM project

Identified challenges

Legal bottlenecks

The challenges encountered by renewable energy communities in the Danube Region vary significantly based on the maturity of their development and the prevailing legal, operational, and financial environments. Despite these differences, however, certain issues emerge as common challenges across countries, reflecting overlapping barriers that hinder REC establishment and effective operation.

Key challenges in advanced countries

Countries: Austria, Germany, Slovenia, Czechia

These countries have well-established legal frameworks and functioning RECs, yet certain challenges persist:

- **Complex administrative procedures:** Even in countries with advanced legal frameworks, administrative procedures for REC registration and operation remain overly complex. This deters smaller communities and individuals from participating. For instance, in Austria, despite the existence of a single point of contact, the process is still regarded as bureaucratic and time-consuming, creating unnecessary hurdles for potential stakeholders.
- **High grid access costs:** Advanced countries often face financial challenges related to the high costs of grid access and connection fees. These costs pose significant barriers, particularly for smaller or newly established RECs.
- **Limited inclusivity:** The frameworks in advanced countries often fail to include vulnerable groups, such as low-income households, in REC participation. This lack of inclusivity hinders the social impact of RECs.
- **Outdated energy sharing schemes:** In some cases, regulatory frameworks have not fully adapted to modern energy-sharing needs, such as tenant electricity models, limiting the potential of RECs.

Key challenges in intermediate countries

Countries: Croatia, Romania, Hungary, Slovakia

Countries in the intermediate phase have established REC initiatives; however, they encounter significant barriers that hinder their efficient development and functioning:

- **Legal gaps and inconsistencies:** While frameworks for RECs exist, they often contain gaps or conflicting regulations that create uncertainty for stakeholders. In Hungary, for instance, the lack of clarity on the roles and responsibilities of key actors, such as network operators, has hindered REC growth.
- **Limited financial incentives:** Intermediate countries often lack robust financial support mechanisms. In Romania, financial assistance schemes for RECs are underdeveloped, limiting the ability of communities to invest in renewable energy projects.
- **Operational inefficiencies:** The absence of streamlined governance and management systems hinders the efficient functioning of RECs. Capacity-building initiatives are insufficient, leaving local stakeholders underprepared for REC establishment and operation.

Key challenges in starter countries

Countries: Montenegro, Bulgaria, Serbia, Moldova

Starter countries face foundational challenges that must be addressed to enable the creation of RECs:

- **Absence of legal frameworks:** In several countries, the necessary legal foundations for RECs are either under development or completely absent. For example, in Moldova, while progress has been made, key legislative and regulatory elements are still missing.
- **Lack of awareness and capacity:** In starter countries, awareness of the REC concept among stakeholders is often hard to achieve. This lack of understanding extends to public authorities, businesses, and local communities, further delaying progress.
- **Insufficient technical and financial support:** Without established financial schemes or access to technical expertise, the creation of RECs in these countries remains aspirational rather than practical. For instance, Montenegro's laws on renewable energy for example have yet to translate into actionable REC initiatives.
- **Weak institutional support:** The lack of institutional frameworks and designated bodies to oversee and promote RECs causes delays in implementation and creates additional barriers for communities seeking to organise.

Operational and financial barriers

The development and effective operation of energy communities (ECs) in the Danube Region are significantly hindered by a range of operational and financial barriers. These challenges vary depending on whether ECs are still in the formation phase or already operational, but their impact is equally critical in limiting the potential of these initiatives.

Barriers in countries without established energy communities

In countries where energy communities have not yet been established, several foundational barriers impede their creation:

- **Lack of financial support:** The absence of robust financial mechanisms, such as subsidies, grants, or national funding programmes, is a primary obstacle. Without adequate funding, communities cannot afford the technologies, expertise, or initial investment needed to launch energy projects. This financial gap discourages potential participants from initiating ECs.
- **Weak administrative frameworks:** Administrative systems that provide support to ECs are either absent or insufficiently developed. This includes the lack of streamlined processes for project approvals, clear guidelines for formation, and accessible resources for potential founders.
- **Insufficient awareness and stakeholder engagement:** Many communities and key stakeholders lack a fundamental understanding of the benefits of energy communities. Without effective awareness-raising campaigns, public interest remains low, and the social momentum needed to establish ECs is missing.
- **Limited training and capacity building:** The absence of structured training programmes for local administrators and potential energy community founders exacerbates operational challenges. Without proper training, these stakeholders are unprepared to manage the complex technical, legal, and financial requirements of establishing and operating ECs.

Barriers in established or operational energy communities

In countries with already existing, operational energy communities, additional challenges continue to hinder their full development and sustainability:

- **Difficulty in accessing energy data:** Energy communities often struggle to obtain accurate and reliable data on energy consumption, production, and system performance. This lack of access undermines efficient energy management, making it harder to optimise energy distribution, ensure system reliability, and maximise economic benefits.
- **Insufficient financial support systems:** Even operational ECs face financial challenges, as many national financial support systems are not tailored to the specific needs of energy communities. Limited funding sources leave these communities vulnerable to resource constraints, reducing their capacity to expand or improve their infrastructure.
- **Grid connectivity issues:** Inadequate infrastructure and complex procedures for connecting to national grids delay the integration of energy communities. This lack of seamless grid access prevents communities from fully utilising the renewable energy they generate, diminishing their contribution to the overall energy transition.
- **Challenges in securing private household financing:** Many households within ECs lack access to financing options such as loans or incentives, limiting their ability to invest in renewable energy technologies like solar panels, energy storage systems, or heat pumps. This restricts the growth of ECs and the adoption of renewable energy within these communities.
- **Slow transition to renewable energy:** Bureaucratic delays, regulatory uncertainties, and the slow pace of technology adoption impede the transition to renewable energy sources. While energy communities hold significant potential to drive this transition, these barriers significantly delay progress and undermine the effectiveness of ECs.
- **Rising maintenance costs:** The increasing costs associated with maintaining renewable energy generation and storage systems pose a long-term financial burden on ECs. Without adequate funding or cost-sharing mechanisms, the sustainability of these communities is at risk.

Social and governance issues

The establishment and operation of energy communities in the Danube Region face significant social and governance challenges, which hinder their development, social and economic impact and limit stakeholder engagement.

- **Lack of awareness and professional skills:** In many regions, the concept of energy communities is poorly understood or unknown. Communities often perceive ECs as overly complex or unattainable due to a lack of awareness about their benefits. This is further compounded by insufficient professional skills and training opportunities. Key stakeholders, including local authorities, energy suppliers, and community members, are often unprepared to navigate the technical, financial, and governance complexities of EC projects.
- **Lack of motivation and public relations challenges:** Even in countries with operational energy communities, low motivation among potential members remains a barrier. Limited understanding of financial and social benefits, poor outreach efforts, and ineffective public relations strategies often result in low participation and limited trust in governance practices. These factors reduce visibility and diminish public confidence in EC initiatives.
- **Conflict of interest with operators and energy suppliers:** Tensions between energy communities and traditional energy suppliers or operators create significant barriers. Suppliers may view ECs as a threat to their market share and resist collaboration or data sharing. Similarly, network operators may struggle to integrate EC-generated energy into existing systems, slowing project progress and limiting synergies.
- **Social acceptance and inclusivity issues:** In rural and less developed areas, resistance to energy communities is common. Fear of increased costs, scepticism about benefits, and resistance to change hinder social acceptance. Furthermore, many ECs lack inclusive governance structures, excluding marginalized groups, such as low-income households, due to high upfront costs or restrictive membership criteria. This limits the equitable impact of ECs.
- **Sustaining long-term engagement and impact:** Maintaining momentum and ensuring the longevity of ECs is a persistent challenge. Initial enthusiasm often fades due to unclear goals, poor governance, and inconsistent communication. Without regular monitoring and evaluation, it becomes difficult to measure progress, sustain stakeholder motivation, and adapt to changing circumstances. Rising maintenance costs for renewable energy infrastructure add to these challenges, threatening the long-term viability of RECs.

Success factors for sustainable REC development and operation

The establishment and successful operation of RECs require the creation of a supportive and conducive environment. Achieving this entails addressing the challenges identified earlier and fulfilling critical success factors. This chapter highlights the success factors required to enable the proper legal, operational, financial, and social framework for renewable energy community initiatives.

Legal environment

The following success factors are essential to creating a supportive legal environment for RECs, providing the foundation for clear governance, operational security, and inclusivity:

- **Clear legal framework:** A well-defined legal framework aligned with the EU legislation and tailored to RECs is essential to provide clarity and guidance to stakeholders. This includes the incorporation of specific provisions for RECs within national legislation, such as their definition, scope of activities, and rights. Clear laws reduce uncertainty, encourage participation, and create a stable environment for REC initiatives.
- **Regulatory simplicity:** Simplified regulatory processes are critical to reducing the administrative burden on energy communities. Overly complex or bureaucratic procedures deter participation and hinder the establishment of RECs. Streamlining application, registration, and operational processes ensures that smaller communities and less-experienced stakeholders can engage more easily.
- **Supportive secondary legislation:** Secondary legislation, including by-laws and implementation guidelines, must complement primary legal frameworks to address practical aspects of REC establishment and operation. These include detailed procedures for grid connection, energy sharing, and financial incentives. Without supportive secondary legislation, the broader legal framework often remains underutilised or ineffective.
- **Legal authorisation of RECs:** The explicit recognition and legal authorisation of RECs within national energy policies are vital. This includes formalising the roles of RECs as independent market participants, allowing them to generate, consume, store, and sell renewable energy. Authorisation also ensures their integration into national energy systems, empowering communities to actively contribute to the energy transition.

Operational and financial environment

A supportive operational and financial environment is essential for the sustainability and scalability of RECs. By addressing key barriers and implementing targeted measures, partner countries can foster a framework that ensures financial stability, operational efficiency, and equitable participation. The following success factors are critical for the development of a proper operational and financial environment for RECs:

- **Accessible financial support and incentives:** Ensuring that RECs have access to diverse funding sources, including subsidies, grants, and low-interest loans, is vital. Financial support mechanisms must be tailored to the needs of RECs, enabling them to cover the initial investment costs for renewable energy technologies and infrastructure. Incentives, such as tax breaks or energy credits, can further encourage participation and investment in REC projects.
- **Flexible and efficient business models:** RECs require business models that are adaptable to local contexts and capable of sustaining long-term operations. These models should provide flexibility in terms of ownership structures, revenue streams, and cost-sharing mechanisms. Efficient business models also ensure that financial and operational decisions are transparent and equitable, encouraging trust and collaboration among community members.
- **Proper risk management:** A robust risk management framework is essential to mitigate the uncertainties associated with energy markets, regulatory changes, and technological advancements. RECs need strategies to address financial risks, such as fluctuating energy prices or rising maintenance costs, as well as operational risks related to grid access and system reliability. Proactive risk assessment and contingency planning can enhance the resilience of RECs.
- **Access to energy markets:** Facilitating access to energy markets allows RECs to sell surplus energy, participate in energy trading, and benefit from market-driven pricing mechanisms. Removing barriers to grid connectivity and creating simplified market entry processes are critical to ensuring that RECs can integrate into national energy systems and contribute to broader energy transition goals.

Social and governance environment

Creating a supportive social and governance environment is essential for ensuring the long-term success of Renewable Energy Communities. A robust social framework fosters trust, inclusivity, and collaboration, while effective governance ensures transparent and efficient management. The following success factors are critical for the development of a conducive social and governance environment for RECs, which fosters transparent and efficient management, trust, inclusivity and collaboration:

- **Inclusive, transparent, and efficient governance models:** Governance structures must be designed to include all stakeholders, particularly underrepresented groups, such as low-income households or marginalised communities. Transparent decision-making processes ensure accountability, while efficient governance enables streamlined operations and conflict resolution. These models help build trust and confidence among REC members.
- **Community engagement:** Active engagement of local communities is fundamental to the success of RECs. Ensuring that community members are involved in planning, decision-making, and operations fosters a sense of ownership and responsibility. Effective communication and outreach strategies can help build awareness, dispel misconceptions, and encourage active participation.
- **Stakeholder involvement:** Collaboration with a diverse range of stakeholders, including local governments, energy suppliers, operators, and civil society organisations, is critical. Their involvement ensures the alignment of REC objectives with broader energy and development goals, while also addressing potential conflicts of interest. Stakeholder partnerships can also provide technical expertise and financial support.
- **Long-term community commitment:** Sustaining REC initiatives requires consistent and long-term engagement from all members. Regular updates on progress, tangible benefits, and transparent reporting can help maintain interest and participation over time. Ensuring that RECs address the evolving needs of their members reinforces commitment and trust.

Conclusion

The successful establishment and operation of Renewable Energy Communities in the Danube Region depend on creating an enabling legal, operational, financial, and social environment. Addressing the identified challenges and fulfilling the outlined success factors will not only remove the existing barriers but also unlock the full potential of energy communities as key drivers of renewable energy transformation, local empowerment, and sustainable development.

The comprehensive framework presented in this document underscores the importance of clear legal frameworks, accessible financial mechanisms, and inclusive governance structures. A proper legal environment, including clear and supportive regulations, simplified procedures, and the formal recognition of RECs, is essential to provide stability and encourage active participation. Similarly, operational and financial sustainability requires accessible financial support systems, flexible business models, robust risk management strategies, and the ability of RECs to access energy markets. These elements ensure that RECs can operate efficiently, integrate into national energy systems, and remain resilient in the face of challenges.

Equally vital is the creation of an inclusive and collaborative social and governance environment. Transparent governance structures that involve all community members foster trust and ensure that the interests of diverse stakeholders are represented. Sustained community engagement, supported by clear communication and long-term commitment, strengthens the foundation of RECs and builds their capacity to deliver equitable benefits to all participants.

This model serves as a strategic tool for policymakers, energy stakeholders, and communities to create tailored solutions that enable the growth and sustainability of RECs. As the Danube Region transitions towards a greener energy future, RECs stand as powerful examples of local innovation, resilience, and collaboration, fostering energy independence and social cohesion across diverse communities.

By overcoming the key bottlenecks and realising the success factors outlined in this model, the sustainable establishment, effective operation, and broad adoption of energy communities can be enabled, paving the way for a cleaner, more inclusive, and sustainable energy future.