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# D4.3 REPORT ON FRAMEWORK CONDITIONS AT LOCAL AND REGIONAL LEVEL TO ENABLE ENERGY COMMUNITIES

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<b>Project Coordinator</b>	Cinzia Morisco (FBK), <a href="mailto:cmorisco@fbk.eu">cmorisco@fbk.eu</a>
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<b>Author(s)</b>	Charlotte Budde (BAUM)
<b>Contributing Beneficiaries</b>	Carlos Ayon Mac Gregor (BAUM); Regional ecosystems: PAT (Italy), ROCG (Greece), eza! (Germany), AURA-EE (France), EAZK (Czech Republic)
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## ABSTRACT

This document describes and assesses how entities at regional and local level can influence the creation and development of energy communities by setting up good framework conditions. It also analyzes the current status of such a framework in the ECOEMPOWER regional ecosystems.

## KEYWORD LIST

Energy communities, favorable framework, local and regional support, local authorities

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## EXECUTIVE SUMMARY

With the decentralization, democratisation and decarbonisation of the energy system, responsibilities are increasingly shifting to local and regional levels. From the European Union's perspective, one effective way to unlock the potential of decentralised renewable energy is to empower citizens to participate actively in the energy sector through energy communities. However, many of these communities face significant challenges in navigating the complexities of the legal framework and the broader energy system, including financing initiatives, understanding technical conditions as well as the need for resources like personnel. Implementation of solutions to facilitate said navigation can be beneficial at the sub-national level (i.e. regional and local).

To address these challenges, ECOEMPOWER aims to design and implement OSSs to support these citizen-led initiatives. Local and regional authorities play a crucial role in creating an environment that facilitates the creation and establishment of energy communities<sup>1</sup>. This role is also important for citizens and consumers, as it enables participation in the energy transition and strengthens the bottom-up relationship to higher levels of governance. The more people and communities are involved in this transition, the easier it will be to reach energy and climate targets.

In order to create favourable framework conditions, local authorities need to leverage the flexibility they have to implement regulations and initiatives that foster a supportive environment. Such a framework should be progressive, encourage innovation, and be clear, stable and predictable.

Literature research indicates that municipalities can adopt various roles to support energy communities. One significant role is that of a creator of favourable conditions. These conditions involve enacting supportive regulations, providing information and advice, offering financial support that also includes innovations, sharing staff and resources such as access to public land and buildings, facilitating networking among local stakeholders, purchasing community power or heat (e.g. through tailoring bidding criteria in public tenders to also have social aspects), and becoming a direct member of an energy community from the side of local and regional authorities.

The diversity of potential actions shows that there are numerous opportunities for local authorities to improve the framework for energy communities. But the flexibility and scope of action in different countries differs, as the national legal framework and the influence that different governance levels have varies. To assess the extent to which a favourable framework for energy communities exists at regional and local levels in selected regions of ECOEMPOWER partner countries (i.e. France, Germany, Greece, Italy, Czech Republic), a questionnaire was developed. Respondents were asked whether different action points to support energy communities were legally possible, voluntarily possible, or mandatory, and if voluntarily possible, how common it was to take those actions in their region.

The results of the questionnaire indicate that most action points are voluntarily possible for local authorities in all countries, but they are often not implemented. One reason for this is the numerous challenges local authorities face, including limited resources, personnel, funding, and competing priorities. Additionally, some action points are difficult to implement due to the national legal framework.

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<sup>1</sup> In this report, the term energy communities<sup>1</sup> refers to all collective energy actions, having a broader conception than the definition in the EU directives (REDII and IEMD).

The survey showed that for all the corresponding regions, financial support had the best score, being the most common action taken by local authorities, while organizational structure and administration had the lowest rating, meaning that it is rather uncommon to hold capacities in different local and/or regional institutions to support energy communities. This highlights the importance of OSSs, which can centralize expertise and bring together energy communities and municipalities.

The first step in supporting energy communities is to recognize their potential and integrate them into long-term strategic plans. The integration provides these communities with a sense of stability and predictability. That being said, each region is free to select a strategy according to its context. Hence, local and regional authorities should think innovatively and explore the synergies between energy community stakeholders to best fit their national context and their multi-level relationships from technological, social, political and economic perspectives.

Prioritizing key action points that have a high impact and address significant challenges is essential, given the constraints under which local authorities operate. But also, knowledge sharing with other stakeholders such as other local authorities that face similar problems can help to reduce the resources needed to implement these action points. Holding discussion rounds with stakeholders specialized in different areas can provide valuable insights and even lead to collaboration. The ECOEMPOWER Community Platform (outcome of WP4 and WP7), seeks to facilitate the aforementioned knowledge exchange, and will make use of the outcome of this deliverable to achieve it.

The best practices gathered through the survey demonstrate the significant impact on the commitment of a municipality, as its proactive involvement can drive growth and sustainability of energy communities, ultimately benefiting each region's stakeholders respectively.

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## 1 Introduction

The urgent need to address climate change and mitigate its effects has emerged as one of the big challenges of our time. Central to this challenge is the transition from traditional, carbon-intensive energy sources to sustainable, renewable alternatives. This shift comprises not only a fundamental restructuring of our energy infrastructure but also a reimagining of the very frameworks through which energy is produced, distributed, and consumed.

In response to this, the European Union has taken decisive steps to lead towards a cleaner, more sustainable energy future. Central to this effort is the implementation of the Clean Energy Package, a set of directives aimed at fulfilling the commitments made in the 2015 Paris Climate Agreement. Two of these directives are the Renewable Energy Directive (REDII) and the Internal Electricity Market Directive (IEMD), which provide essential guidelines for the formation and operation of energy communities.

From the perspective of the European Union, energy communities represent a critical mechanism for unlocking the potential that lies within the hands of citizens. By empowering individuals and communities to actively participate in the energy sector, these communities not only contribute to the overarching goal of combating climate change but also foster a sense of ownership and empowerment among their members.

In this context, ECOEMPOWER aims at designing and implementing regional One-Stop Shops (OSS) to support citizen-led initiatives in the energy sector. While the legal framework is a major challenge for the establishment and activation of energy communities, they are also dependent on other factors such as financial support, the need for purpose-built resources and the technical conditions. The OSSs serve as hubs of information and resources, providing support to energy communities at all levels of complexity.

For this, it is also important to understand the role of local and regional authorities and how they can implement favorable framework conditions for the creation of energy communities. This is also beneficial for the municipalities, as they often share similar objectives. As such, energy communities can help municipalities to reach the energy or climate targets that they have committed to and strengthen the local economy and society.

### 1.1 Objectives of the work reported

This deliverable is part of WP4 “Policy frameworks and business models”. The main focus is to address two critical conditions necessary for the success of cooperative local and regional energy supply systems:

1. The necessity for energy communities to develop viable business strategies
2. The importance of establishing a favorable framework for collective energy actions

This particular deliverable focuses on the latter condition by describing and assessing how entities at regional and local level can positively influence the creation and development of energy communities. While the national regulatory context is examined in Deliverable 4.2, this assessment focusses on the regional and local framework conditions directly enabling the formation of energy communities. In other words, this assessment doesn't focus on the transposition of the renewable energy and energy market directives, but on the specific context of each region.

To achieve this, the deliverable begins by defining what constitutes a favorable framework and identifying the potentials for fostering local and regional collective energy actions. This involves an assessment of the most relevant fields of action that can support the growth and sustainability of energy communities.

To gather data on the current status of framework from ECOEMPOWER partners' countries, a questionnaire has been developed. It also aims to identify the possible developments and existing barriers within each country that may hinder the emergence of energy communities.

Finally, the results of this deliverable provide insights and recommendation that will be used for the development of the "Whitebook for the improvement of local and regional frameworks and for the motivation of citizens and local businesses" in D4.6.

## 1.2 How to read this document

This document can be read independently. However, the deliverable D4.2<sup>2</sup> is useful to understand the national legal frameworks in different countries before delving into the regional and local frameworks discussed here.

Chapter 2 defines a favourable framework for energy communities at the local and regional levels and identifies the possibilities that local authorities have to support these communities. Chapter 3 analyses the current status and possible development in the different ECOEMPOWER partner countries, based on a survey conducted, and provides an overview of various best practices. Chapter 4 considers the findings in Chapter 3 to offer recommendation for improving the framework. Chapter 5 briefly describes the efforts and plans to establish close cooperation with European stakeholder groups to support the consortium. Finally, chapter 6 provides the conclusion, summarizing key points and takeaways from this document.

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<sup>2</sup> Summary of national frameworks for the establishment of collective and cooperative energy supply systems on local and regional level: Available on [ECOEMPOWER website](#)

## 2 Definition of a Favourable Framework

### 2.1 Objective and characteristics of a favourable framework

A favourable framework for energy communities has the objective of creating an environment that supports the formation, sustainability and growth of these communities. This framework should facilitate the emergence of new energy communities while ensuring that existing ones can thrive and expand their activities.

Local and regional authorities play an important role in this process, as they can influence conditions to promote the development and continuity of energy communities. This is also beneficial to them, as energy communities can contribute significantly to their goals such as decarbonisation and the expansion of renewable energy sources.

While national governments provide the overarching regulatory framework, local authorities still have some flexibility and a scope of action in which they can decide to implement regulations on local level as well as initiatives to support energy communities. Within the national legislation, they can adopt innovative and tailored approaches to support energy communities effectively.

In order to do so, a favourable framework should be progressive, future-oriented and encourage innovation, taking into account sustainability, technological advancements, community engagement and climate change with the corresponding energy and climate goals at local, regional and national level. It is also important to create a framework that is clear and simplifies processes for both, local authorities and energy communities, by streamlining procedures, reducing bureaucratic hurdles and make it easier to establish energy initiatives. Stability and predictability are also essential characteristics of a favourable framework. New and existing energy communities need a stable environment to plan and execute their projects without being disrupted by frequent changes.

### 2.2 Overview of existing frameworks for cooperative energy supply organizations

The literature summarized in the following chapters provides an overview of existing frameworks and guides, as well as recommendation for municipalities to support energy communities. Four documents are summarized in total, from which three of the reports offer guides specifically designed for municipalities to aid in the creation and development of energy communities. The fourth report takes a broader approach, focusing on how municipalities can successfully achieve the energy transition (including collective initiatives), but also addresses the challenges municipalities face when trying to move forward to a green energy system.

Figure 1 gives an overview of the literature review, categorizing and presenting their insight according to strategies, roles and activities for municipalities. The abbreviations stand for the title of the corresponding report:

- "Community Energy Municipal Guide" (CEMG)
- "Municipal Guide" (MG)
- "Building Energy Communities" (BEC)
- "Building Public Power" (BPP)

As can be seen in the figure, only BEC focuses on two of the categories mentioned above (i.e. roles and activities), serving as a connection between the two. The categories represent central aspects of municipality involvement for the formation of energy communities. This report focuses on the activities, which are not only deeply linked to, but also depend on the strategies and roles municipalities choose to take.

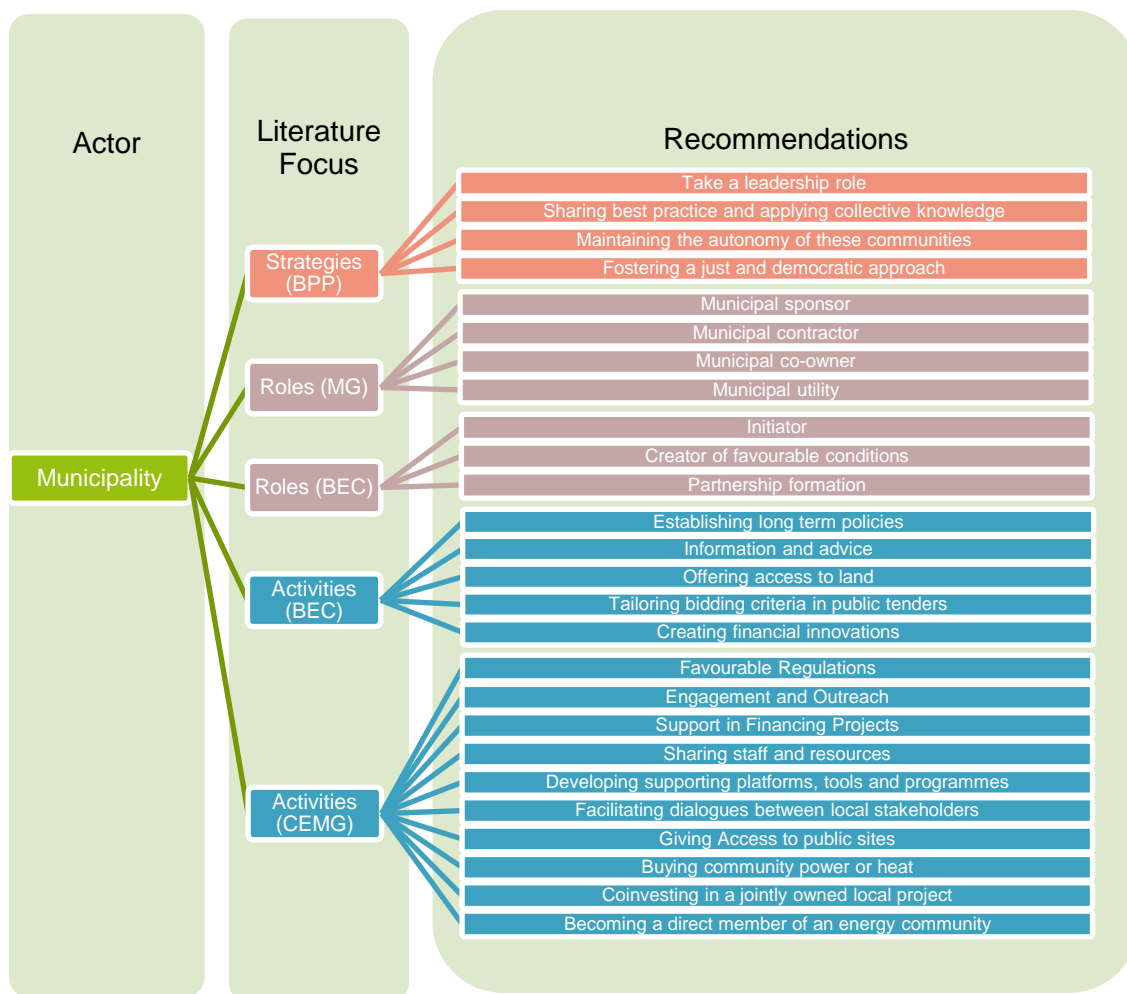


Figure 1: Overview of the literature review (NOTE: for acronyms see Section 2.2)

### 2.2.1 “Community Energy Municipal Guide” by REScoop and Energy Cities

The “Community Energy Municipal Guide”<sup>3</sup> (REScoop.eu 2022) outlines ten ways in which local authorities can support energy communities:

1. **Favorable Regulations:** Local authorities can influence energy communities despite national restrictions by incorporating long-term political commitments and citizen participation in climate and energy policy-making. They can include community energy in local actions plans and adopt favorable land-use and building regulations to support energy communities, potentially setting higher objectives than national laws.
2. **Engagement and Outreach:** Effective communication and engagement strategies are essential. Local authorities should understand the community, educate citizens about community energy and encourage active participation. This includes raising awareness through campaigns and allowing energy communities to disseminate information via city channels.

<sup>3</sup>Access via <https://www.sccale203050.eu/wp-content/uploads/2022/12/SCCALE-Municipal-Guide-Final-view.pdf>

3. **Support in Financing Projects:** Local authorities can provide seed funding through loans or grants, act as conduits for national support programs, allocate specific budget lines for community projects, offer municipal guarantees for financial institutions, and participate in joint bids. Crowdfunding can also be a viable financial support mechanism.
4. **Sharing staff and resources:** Given that energy communities often rely on inexperienced volunteers, municipalities can share human resources and offer free services to those interested in starting an energy community. Conversely, experienced energy communities can share professional staff and knowledge with municipalities.
5. **Developing supporting platforms, tools and programs:** Authorities can design platforms, tools, and programs to assist energy communities. Examples include creating maps that show available spaces for renewable energy installations, OSSs), and online communication platforms.
6. **Facilitating dialogues between local stakeholders:** Local authorities can use their networks to connect energy communities with relevant stakeholders, such as Distribution System Operators (DSOs) and communities of practice<sup>4</sup>, providing essential contacts and resources.
7. **Giving Access to public sites:** By making publicly owned buildings and land available, local authorities can provide space for renewable energy installations.
8. **Buying community power or heat:** Authorities can purchase renewable energy from citizen energy projects and include qualitative criteria in their tenders that favor citizen-owned energy supply. This involves considering social aspects in addition to financial factors. Another option is signing Power Purchase Agreements (PPAs) with energy communities.
9. **Coinvesting in a jointly owned local project:** Local authorities can invest in energy projects alongside energy communities, fostering collaborative ventures.
10. **Becoming a direct member of an energy community:** Local authorities can join energy communities as members, contributing support without taking full control, thus maintaining the community's autonomy.

### 2.2.2 “Municipal Guide” of the Compile project:

According to the “Municipal Guide”<sup>5</sup> (Stanislas d’Herbement (REScoop.eu) 2022) municipalities can take four different roles to support the development of community energy initiatives:

1. **Municipal sponsor:** Energy communities often align with the municipality’s political objectives on climate action. In this role, the municipality acts as policy maker and provides support through recognition, visibility and sometimes capacity building or small grants to the starting energy community.
2. **Municipal contractor:** In this role, municipalities use purchasing and contracting strategies to acquire energy services (such as energy supply, efficiency, renovation etc.) or services to develop renewable energy installations and energy efficiency measures in public buildings. This requires the outsourcing of the service and a public tendering process.
3. **Municipal co-owner:** Here, the municipality partners up with an energy community and co-owns local projects, giving grant funding and institutional support. Both entities make joint investments, and public funds are directed into a shared investment vehicle.
4. **Municipal utility:** Municipalities can participate in energy communities as members or shareholders. By investing in energy communities, the municipality is mandated to develop energy projects within the municipality’s service territory.

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<sup>4</sup> For example, the ECOEMPOWER Knowledge and Community Platform that is currently in development and should be completed in 2024. Check the ECOEMPOWER website for news.

<sup>5</sup> Access via [https://energycommunityplatform.eu/wp-content/uploads/2022/09/COMPILE\\_D4.4.1\\_Municipal-Guide\\_2022-08-31-131216\\_yeyg.pdf](https://energycommunityplatform.eu/wp-content/uploads/2022/09/COMPILE_D4.4.1_Municipal-Guide_2022-08-31-131216_yeyg.pdf)

While role 1,3 and 4 require direct municipal action (directly engaging with local initiatives), role 2 involves mostly indirect municipal participation (providing opportunities for energy communities to participate in the local economy under fair conditions) and is most accessible for smaller European municipalities.

### 2.2.3 mPower: “Building Energy Communities”

“Building Energy Communities – a guide to inspiring democratically owned and financed energy projects”<sup>6</sup> (mPower 2018-2022) focusses on three roles of the municipality: as **initiator**, as **enabler** by creating favourable conditions for energy communities and as a **partner** with existing energy communities.

Municipalities can act as **initiator** for new energy communities. They can start with the idea of setting up an energy community to advance citizen participation and raise much needed capital to invest in renewable energy project. They can also profit from the easy sharing of expertise and information

Besides being an initiator, municipalities can create the following **favourable conditions** for energy communities:

1. **Establishing long-term policies** enables municipalities to provide a clear framework and direction for the development of energy communities. This includes setting goals and objectives within strategic frameworks such as climate actions plans, creating a supportive environment for their establishment and growth of energy communities.
2. This inclusion of energy communities in the municipality’s strategies also needs to be backed by **information and advice**, e.g. through organizing workshops, creating an OSS, bringing together people and stakeholders and discussing energy topics.
3. **Offering access to land** is a key facilitator in the creation of energy communities as it provides a physical space for renewable energy projects to be developed and implemented. Municipalities can also go beyond and provide publicly accessible tools that help them in seeing the potential of certain location, e.g. an online map to highlight building with high PV potential. Also, long-term leases or asset transfer to energy communities can be useful to allow for energy communities to use municipal land.
4. **Tailoring bidding criteria in public tenders** that include local social value ensures that energy communities have a fairer chance to participate and compete for renewable energy projects.
5. **Creating financial innovations** facilitates the creation of energy communities by providing access to funding and investment opportunities that support the development of renewable energy projects. An example for an innovative approach is the “Synthetic Power Purchase Agreement” by the Devon County Council, where they give the energy community financial stability without directly purchasing energy from them (this is important because European procurement regulations do not allow public authorities to specify energy communities as preferred energy suppliers). The council and the energy community agreed on a fixed “strike price” for the energy produced, and compare that price with the market price in the wholesale market. If the market price is lower than the strike price, the council compensates the energy community for the difference. Conversely, if the market price exceeds the strike price, the energy community pays the excess to the council.

Lastly, the municipality can form **partnerships** with energy communities e.g. to invest in local energy infrastructure, develop local energy markets or finance renewable energy projects on public buildings.

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<sup>6</sup> Access via <https://municipalpower.org/best-practice-guides/guide2/#section2>

### 2.2.4 mPower: “Building Public Power”

Another guide by mPower is the report “Building Public Power – Municipal manual for energy transitions”<sup>7</sup> (James Angel 2022) that outlines strategies for municipalities to achieve a fair, clean and democratic energy transition, while also discussing the challenges they face. The most important findings are shown below:

Municipalities must **take a leadership role** in energy transitions, actively involving various stakeholders. However, many municipalities have faced austerity measures and disinvestment by national governments, significantly limiting their resources and capacities to achieve their energy goals. The challenges include funding, staffing and navigating legal frameworks for transitions towards public power. The local generation of renewable energy heavily depends on the number of municipal employees dedicated to energy transition efforts, emphasizing the need for sufficient resources and staff to energy and climate initiatives. Economic restraints remain one of the biggest obstacles to municipal action in decarbonization, also hindering the development of citizen participation and democratic control forms.

One way to face these problems, is for municipalities to learn from each other by **sharing best practice and applying collective knowledge** through joint projects, thereby reducing their own resources and personnel requirements. But also Involving citizens, workers and civil society is crucial for driving effective change. Municipalities can facilitate this by supporting the creation of local energy collectives or partnering with existing organizations. Local energy collectives provide various advantages: they can generate revenue, foster citizen collaboration and trust, and promote new energy transition initiatives. However, **maintaining the autonomy of these communities** to prevent them from being overshadowed by municipal agendas is essential.

The report also emphasizes the importance of defending the right to energy for all, also addressing energy poverty. A **just and democratic approach** to energy transition, focusing on public ownership, collaboration and equitable relationships is needed.

## 2.3 Identified fields of action

Based on the literature review in the previous chapter as well as from the ECOEMPOWER-Consortium’s own experience, a set of fields of actions and corresponding possibilities for local authorities to activate and support energy communities were identified. These are listed in Table 1.

It is important to note that not all of these possibilities are legally feasible in every European country due to varying national regulations. Additionally, some possibilities may be easier to implement in regions or municipalities of certain countries compared to others because of the organisation of the government levels (which vary significantly, giving entities at local and regional level varying degrees of autonomy, influence and hierarchical dependency). While very strict hierarchical relationships will limit the autonomy of local and regional authorities, it may be beneficial to establish such relationships depending on the context of each country and region. Particularly, there tends to be a need for strong hierarchical dependencies where there is a lack of capacity to make decisions and take action autonomously (capacity shouldn’t be underestimated or misinterpreted, for it depends on multiple factors). Considering the novelty of energy communities, the limited

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<sup>7</sup> Access via [https://municipalpower.org/wp-content/uploads/2022/09/TNI-\\_-mpower-\\_-Building-Public-Power-Manual-\\_-2022-\\_-Web-1.pdf](https://municipalpower.org/wp-content/uploads/2022/09/TNI-_-mpower-_-Building-Public-Power-Manual-_-2022-_-Web-1.pdf)



capacity (i.e. specialised knowledge) may be seen as consequential to introducing such innovation in any given context, leading to a benefit in joining forces among municipalities within a region.

The following table shows the identified and developed fields of action to be evaluated for this deliverable. For ease of analysis, these fields of action have been clustered under six “broader” fields of action, as is shown in the following section of this deliverable.

*Table 1: Fields of action to initiate, activate and support energy communities on local and regional level*

<b>Field of action</b> <i>(not clustered)</i>	<b>Action points per field of action</b>
<b>Services of general interest (sustainability of municipality)</b>	<ul style="list-style-type: none"> <li>• Putting the topic of “cooperative, decentralized energy systems” on the political agenda</li> </ul>
<b>Strategy and framework planning</b>	<ul style="list-style-type: none"> <li>• Applying participatory processes to involve citizens in local and regional strategy development (e.g. in events such as climate conferences, real estate industry workshops, etc.)</li> <li>• Inclusion of the topic “Energy Communities” in the local climate action plan</li> <li>• Inclusion of the topic “Energy Communities” in urban development plans</li> <li>• Inclusion of the topic “Energy Communities” in the local heat planning</li> <li>• Mandating a certain level of citizen participation in large-scale renewable energy projects</li> </ul>
<b>Land-use planning</b>	<ul style="list-style-type: none"> <li>• Requirements for energy networking of buildings in the development plans or urban development contracts for new development areas</li> <li>• Designation of (priority) areas for (large) community energy systems in the framework plan or land use plan</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>• Creation of infrastructure for collective heat supply (gas, hydrogen, heat pipes)</li> <li>• Creation of digital control infrastructure (fiber optics, mobile communications, LoRaWAN) for the networking of energy systems as part of the development of districts</li> <li>• Referring to a national comprehensive architecture considering energy communities as part of the future smart grid</li> <li>• Integrating energy communities in electricity grid planning and operation</li> </ul>
<b>Economy and work</b>	<ul style="list-style-type: none"> <li>• Establishment of efficient advisory staff as support for citizens</li> <li>• Providing incentives for counselling companies to settle in the region and support citizens in setting up energy communities</li> <li>• Involving local companies in the development of energy communities to reduce their dependence on external suppliers and the costs for energy</li> </ul>
<b>Public utility</b>	<ul style="list-style-type: none"> <li>• Having the public utility of the region actively supporting energy communities</li> </ul>
<b>Schools and general education</b>	<ul style="list-style-type: none"> <li>• Establishment of an Energy Community with teachers and parents with the aim of cooperatively improving the schools’ energy supply and communicating what has been learned to the pupils (and parents)</li> <li>• Integration of topics such as sustainability, climate change and renewable energy into the school system</li> </ul>



<i>Field of action</i> <i>(not clustered)</i>	<i>Action points per field of action</i>
<b>Social life and social assistance</b>	<ul style="list-style-type: none"> <li>• Support for energy communities that want to or should accept economically less capable members (overcoming energy poverty)</li> </ul>
<b>Civil protection</b>	<ul style="list-style-type: none"> <li>• Cooperation agreement with Energy Community to be able to use their generation and storage facilities as emergency power generators in the event of a disaster</li> </ul>
<b>Management of own properties</b>	<ul style="list-style-type: none"> <li>• Joining the Energy Community to participate in the collective (self-) supply with municipal properties and their energy systems</li> </ul>
<b>Innovation</b>	<ul style="list-style-type: none"> <li>• Participation in research and innovation projects with the involvement of companies and citizens</li> <li>• Establishment of an innovation consultant position (possibly together with other municipalities and companies)</li> </ul>
<b>Organizational structure and/or administration</b>	<ul style="list-style-type: none"> <li>• Having trained staff to give advice and help energy communities</li> <li>• Energy community-trained staff in different departments (e.g. energy department, building department)</li> </ul>
<b>Culture</b>	<ul style="list-style-type: none"> <li>• Provide information on the topic of “collective energy supply” at events (e.g. invite suitable cabaret artists, information stands during the performance pause)</li> </ul>
<b>Sports</b>	<ul style="list-style-type: none"> <li>• Making the roofs of sports halls available to an energy community for the construction and operation of a PV system</li> </ul>
<b>Inter-municipal cooperation</b>	<ul style="list-style-type: none"> <li>• Establishment of an umbrella organization to set up and support energy communities in several municipalities</li> </ul>
<b>Global responsibility</b>	<ul style="list-style-type: none"> <li>• Membership in an association for global municipal cooperation (e.g. ICLEI<sup>8</sup>)</li> </ul>
<b>Existing communities</b>	<ul style="list-style-type: none"> <li>• Inform/educate existing communities such as religious communities or sport clubs about energy communities</li> </ul>
<b>Finances</b>	<ul style="list-style-type: none"> <li>• Development of financial help to support energy communities e.g. through grants for the development of renewable energies</li> <li>• General advice or publicly available information on existing financing options for which energy communities are eligible (subsidies, tax credits, etc.)</li> <li>• Financial support for pre-development costs (feasibility or potential studies) of energy communities</li> </ul>
<b>Public procurement and tendering</b>	<ul style="list-style-type: none"> <li>• integration of energy communities in public procurement processes and tenders for renewable energies</li> </ul>
<b>Networking</b>	<ul style="list-style-type: none"> <li>• Act as a matchmaker for energy communities, helping to bring different stakeholders together</li> </ul>

<sup>8</sup> ICLEI: Local Governments for Sustainability; For more information: <https://iclei-europe.org/>

### 3 Current status of fields of actions and possible developments

#### 3.1 Survey methodology

A questionnaire was developed with the aim of understanding the extent to which a favourable framework for energy communities exists at regional and local levels in the different partner countries. It was developed based on the fields of action outlined in chapter 2.3 above, which were clustered into the fields of action shown in the figure below. The fields of action and their related action points are included in the sections below (under section 3.2). Additionally, these are found under the country analysis (under section 3.3), below the figures for ease of reading. The corresponding tables found in section 3.3 include only the action points which are relevant to the figures, because not all action points (of each field of action) are included in each figure (only those which are voluntarily possible in each country are shown in said figures of section 3.3).

This deliverable will serve as a foundation for the Whitebook which will be realized later in the project<sup>9</sup>. In addition to the evaluation of action points and fields of action for each region, the survey identifies hurdles and best practices for the establishment of enabling framework conditions at regional and local levels, which has led to the identification of additional action points, which are included in the Annex.

The questionnaire's respondents are the partners responsible for the ECOEMPOWER regional ecosystems. That is: the Autonomous Province of Trento (Italy), the Energy and Environment Non-Profit Center of the Allgäu (Germany), the Energy agency of the Zlín region (Czech Republic), the Association of Village Power Plants (France) and the Region of Central Greece. Due to the diversity of fields of knowledge addressed, project partners were encouraged to consult with colleagues or other partners in their networks.

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<sup>9</sup> The Whitebook will be created as part of T4.5 "Preparation of guidance for local and regional governance and administration"



*Figure 2: Fields of action of questionnaire, corresponding to areas that can be influenced by local authorities*

For each of these fields of action (i.e. areas of influence for local authorities), respondents were asked whether local authorities have the possibility or mandate for the implementation of certain action points that facilitate the establishment of energy communities in their regions, as well as an estimation of how commonly local authorities actually take the possible actions into place. The questionnaire can be found in the Annex.

### 3.2 Overview of results per field of action

This section is divided into six sub-sections, representing the six fields of action used in the questionnaire (see figure above) and provides an overview of the results for all regions analysed. For each category, two key aspects are shown (i.e. one table for each aspect):

1. First, whether different action points are legally not possible, possible on a voluntary basis or mandatory for local authorities to implement in the different regions.
2. Second, if an action point is voluntarily possible (i.e. dependent on previous point), how common it is for local authorities to implement it (shown as of an action point's average score for all regions).

Note: for this section, averages include multiple responses for some of the same regions. This is not the case under the individual regions' analysis (section 3.3), where the input of a single respondent was considered after agreement with project partners.

#### 3.2.1 Political Support

Table 2 shows the feasibility of various action points for the political support category indicating whether they are legally not possible, voluntarily possible, or mandatory. The table aggregates the responses of the five regions analysed, showing how many regions selected a given action point.

Table 2: Number of responses for the feasibility of political action points for all regions

Political Action Point	Legally not possible	Possible, on a voluntary basis	Mandatory	Not answered
Having the topic of cooperative decentralized energy systems on their political agenda	0	5	0	0
Being a member of an international association for cooperation among municipalities (e.g. ICLEI), promoting sustainable and inclusive development	0	5	0	0
Applying participatory processes to involve citizens in the local and regional strategy development (e.g. in events such as climate conferences, real estate industry workshops, etc.)	0	5	0	0
Designating priority areas for collective energy installations in the land-use plan	1	3	1	0
Including energy community related topics in the local climate action plan e.g. SECAP	0	5	0	0
Including energy community related topics in the urban development plans including neighbourhood concepts, development areas, redevelopment areas, etc.	0	5	0	0
Including energy community related topics in heat planning	0	5	0	0
Mandating a certain level of citizen participation in large-scale renewable energy projects	2	3	0	0
Giving energy communities an advantage in the selection criteria for public procurement contracts	3	2	0	0

The majority of the action points have been selected as “possible on a voluntary basis”, showing that local authorities have a significant scope of action to support energy communities politically. These include having the topic of cooperative decentralized energy systems on the political agenda, applying participatory processes and including energy communities-related topics in various strategy planning documents; among others.

Designating priority areas for collective energy installations in the land-use plan has some variation: It is legally not possible in one case, mandatory in one case and voluntarily possible in three cases. Giving energy communities an advantage in the selection criteria for public procurement contracts and mandating a certain level of citizen participation in RES projects were selected as not possible in two and three countries respectively.

For those actions that are possible on a voluntary basis, Table 3 shows an average for all countries, on how common it is for local authorities to implement these actions in the different regions of the partner countries:

Table 3: Commonality of implementation average for political action points across regions (Very rare = 1, Rare = 2; Somewhat common = 3; Common = 4; Very common = 5)

Political Action Point	Avg. Score (All regions)
Having the topic of cooperative decentralized energy systems on their political agenda	2,00

Being a member of an international association for cooperation among municipalities (e.g. ICLEI), promoting sustainable and inclusive development	1,33
Applying participatory processes to involve citizens in the local and regional strategy development (e.g. in events such as climate conferences, real estate industry workshops, etc.)	2,83
Designating priority areas for collective energy installations in the land-use plan	2,00
Including energy community related topics in the local climate action plan e.g. SECAP	2,33
Including energy community related topics in the urban development plans including neighbourhood concepts, development areas, redevelopment areas, etc.	2,00
Including energy community related topics in heat planning	2,17
Mandating a certain level of citizen participation in large-scale renewable energy projects	2,25
Giving energy communities an advantage in the selection criteria for public procurement contracts	2,00

As one can see, it is generally rare for these action points to be implemented. The rarest action point within the regions examined - also being the rarest among all fields of action of the survey - is being a member of an international association for cooperation among municipalities. On the other hand, the most common action point is applying participatory processes to involve citizens in the development of local and regional strategies. The question of why it is difficult to involve the municipality in international associations could be related to language, as it is a concern often mentioned in the project with relation to stakeholder engagement.

### 3.2.2 Financial Support

Table 4 shows the feasibility of various action points for the financial support category, indicating whether they are legally not possible, voluntarily possible, or even mandatory. The table summarizes how many respondents across the partner countries have selected each of these three possibilities, or if they did not provide an answer to a particular action point.

*Table 4: Number of responses for the feasibility of financial action points for all regions*

Financial Action point	Legally not possible	Possible, on a voluntary basis	Mandatory	Not answered
Grants or subsidies to support the construction and installation of renewable energy systems, storage systems or other energy projects	1	4	0	0
Grants or subsidies for the organizational costs of energy communities, e.g. human resources and costs related to the management of the legal entity	1	4	0	0
Low-interest loans or credits to make investments easier	1	4	0	0
Financial support for pre-development costs of energy communities e.g. feasibility or potential studies	1	4	0	0
Tax incentives such as tax relief for citizen-led energy projects	4	1	0	0
Providing advice and/or publicly available information on existing financing options for energy communities.	0	4	1	0

Offering financial support to energy communities taking action on energy poverty (e.g. supporting economically disadvantaged members of society on energy matters)	0	4	0	1
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Financial support for energy communities has a greater variation compared to political support. While most action points remain voluntarily possible across the partner regions, many action points are legally not possible in at least one partner country. An exception is in providing advice or publicly available information on existing financing options, which is possible in all regions except the Czech Republic, where it is made mandatory. Another one is giving tax incentives, which is not possible in any of the regions except for Greece (where it is possible). Overall, financial support actions are seldom mandatory across any partner country. Hence, it seems that both financially and politically, countries have not come to mandatory measures to give an impulse to energy communities.

For those actions that are possible on a voluntary basis, Table 5 shows how common it is for local authorities to implement these actions in the different regions of the partner countries:

*Table 5: Commonality of implementation average for financial action points across regions (Very rare = 1, Rare = 2; Somewhat common = 3; Common = 4; Very common = 5)*

Financial Action Point	Avg. Score (All regions)
Grants or subsidies to support the construction and installation of renewable energy systems, storage systems or other energy projects	2,80
Grants or subsidies for the organizational costs of energy communities, e.g. human resources and costs related to the management of the legal entity	1,75
Low-interest loans or credits to make investments easier	1,80
Financial support for pre-development costs of energy communities e.g. feasibility or potential studies	2,60
Tax incentives such as tax relief for citizen-led energy projects	2,50
Providing advice or publicly available information on existing financing options for energy communities.	2,80
Offering financial support to energy communities taking action on energy poverty (e.g. supporting economically disadvantaged members of society on energy matters)	2,80

In regions where providing grants or subsidies for the installation of green energy projects is possible, it is somewhat common to do so. Similarly, financial support for pre-development costs is relatively common. While it also seems to be the case for tax incentives to be relatively common, only one respondent from Germany and one from Greece provided a response; showing the difficulty in addressing all fields of action by respondents (due to multiple sectors being involved and having diverse systems and logics of operation). The least common form of financial support are grants for the organizational costs of energy communities, closely followed by the provision of low-interest loans. Overall, this field of action (i.e. financial support) has the second highest overall rating for all fields of action (according to how commonly possible action points are implemented), indicating that most regions provide some form of financial support to energy communities.

### 3.2.3 Information and Education

Table 6 shows the feasibility of various action points regarding informational and educational support, indicating whether they are legally not possible, voluntarily possible, or even mandatory. The table summarizes how many

region representatives (total of five, with one for each region) have selected each option, or if they did not provide an answer to a particular action point.

*Table 6: Number of responses for the feasibility of information and education action points for all regions*

Education and Information Action point	Legally not possible	Possible, on a voluntary basis	Mandatory	Not answered
Raising awareness about collective energy initiatives through cultural events in order to reach a wide range of citizens (e.g. with suitable speakers, artists or cultural associations)	0	5	0	0
Informing and encouraging existing communities to get involved with energy by becoming energy communities (e.g. members of sports clubs, religious communities, teachers and parents of a school, etc.)	0	5	0	0
Providing publicly accessible and easily understandable information about forming an energy community	0	4	1	0
Providing incentives for counselling companies to settle in the region and support citizens in setting up energy communities	1	4	0	0
Encouraging the establishment of an energy community with teachers and parents to co-operatively improve the schools' energy supply and communicate what has been learnt to the pupils	0	5	0	0
Integrating topics such as sustainability, climate change and renewable energy into the school system (e.g. by promoting school projects and competitions focused on these topics or including them into the curriculum)	0	5	0	0
Doing events to inform citizens about the joint establishment of energy communities among neighbouring municipalities	0	5	0	0

In this category, except for two cases, all action points are voluntarily possible in all partner countries. The exceptions are the following: Greece indicates that it is mandatory to provide publicly accessible and easily understandable information about energy communities. On the other hand, the Czech Republic indicated that providing incentives for counselling companies to settle in the region and support citizens was also legally not possible in the region (to excluding the possibility for it not to be possible in the whole country). This outcome shows that regions are mostly free to act, when it comes to information and education action points.

For those actions that are possible on a voluntary basis, Table 7 shows how common it is for local authorities to implement these actions in the different regions:

*Table 7: Commonality of implementation average for education and information action points across regions (Very rare = 1, Rare = 2; Somewhat common = 3; Common = 4; Very common = 5)*

Education and Information Action Point	Avg. Score (All regions)
Raising awareness about collective energy initiatives through cultural events in order to reach a wide range of citizens (e.g. with suitable speakers, artists or cultural associations)	2,71

Education and Information Action Point	Avg. Score (All regions)
Informing and encouraging existing communities to get involved with energy by becoming energy communities (e.g. members of sports clubs, religious communities, teachers and parents of a school, etc.)	2,14
Providing publicly accessible and easily understandable information about forming an energy community	2,50
Providing incentives for counselling companies to settle in the region and support citizens in setting up energy communities	2,67
Encouraging the establishment of an energy community with teachers and parents to co-operatively improve the schools' energy supply and communicate what has been learnt to the pupils	2,00
Integrating topics such as sustainability, climate change and renewable energy into the school system (e.g. by promoting school projects and competitions focused on these topics or including them into the curriculum)	2,67
Doing events to inform citizens about the joint establishment of energy communities among neighbouring municipalities	2,86

When looking at the regions, the most common forms of support include organizing events to inform citizens about the joint establishment of energy communities among neighbouring municipalities, and providing incentives for counselling companies to settle in the region and support citizens in setting up energy communities.

The least common actions are encouraging the establishment of an energy community with teachers and parents, followed by informing and encouraging existing communities to get involved with energy. Overall, the action points are rather uncommon than common.

### 3.2.4 Organizational structure and administration

Table 8 shows the feasibility of various action points within the organizational structure and administration of municipalities, indicating whether they are legally not possible, voluntarily possible, or even mandatory. The table summarizes how many partner countries have selected each of these three possibilities, or if they did not provide an answer to a particular action point.

*Table 8: Number of responses for the feasibility of organizational structure and administration action points for all regions*

Organisational Structure and Administration Action point	Legally not possible	Possible, on a voluntary basis	Mandatory	Not answered
Staff that is familiar with or trained in the topic of energy communities	0	5	0	0
A staff unit for participation which also supports citizens in the formation of energy communities	0	5	0	0
An energy agency that advises and supports citizens in the implementation of collective energy initiatives	0	5	0	0
A department for climate management that supports energy communities	0	5	0	0



A department for energy management that supports energy communities	0	5	0	0
A department for building management that supports energy communities	0	5	0	0
A position for an innovation consultant (possibly together with other municipalities)?	0	5	0	0

Regarding the organizational structure and administration, all action points are voluntarily possible for local authorities, giving them a lot of potential to support energy communities. Making some of such measures mandatory could lead to growth in energy community initiation, and the given region could show commitment to bottom up transformations for sustainable transitions, leading to EU initiatives which citizens can interact and live with.

For those actions that are possible on a voluntary basis, Table 8 shows how common it is for local authorities to implement these actions in the different regions of the partner countries:

*Table 9: Commonality of implementation average for organizational structure and administration action points across regions (Very rare = 1, Rare = 2; Somewhat common = 3; Common = 4; Very common = 5)*

Organisational Structure and Administration Action Point	Avg. Score (All regions)
Staff that is familiar with or trained in the topic of energy communities	2,00
A staff unit for participation which also supports citizens in the formation of energy communities	1,86
An energy agency that advises and supports citizens in the implementation of collective energy initiatives	2,71
A department for climate management that supports energy communities	1,83
A department for energy management that supports energy communities	1,83
A department for building management that supports energy communities	1,67
A position for an innovation consultant (possibly together with other municipalities)?	1,50

When examining the regions, the most common form to support energy communities is through an energy agency that advises and supports citizens in the implementation of collective energy initiatives. This first point is very closely related to the creation of one stop shops, which the ECOEMPOWER project is working on. The rarest action is to hold the capacity for an innovation consultant, even if it is together with other municipalities. Overall, the action points are rather uncommon than common. Moreover, this action field has the lowest rating, indicating that most regions don't hold capacities that support energy communities; and, possibly, that investing in such specialisations is uncommon. This was also stated in the literature review: "Capacity is a key element of governance but is often lacking. It needs to be strengthened in order to successfully support energy communities".

### 3.2.5 Technical infrastructure

Table 10 shows the feasibility of various action points regarding the technical infrastructure, indicating whether they are legally not possible, voluntarily possible, or even mandatory. The table summarizes how many region representatives have selected these possibilities, or if they did not provide an answer to a particular action point.

Table 10: Number of responses for the feasibility of technical infrastructure action points for all regions

Technical Infrastructure Action point	Legally not possible	Possible, on a voluntary basis	Mandatory	Not answered
Integrating infrastructure for collective heat supply in the development of building areas	0	5	0	0
Integrating control infrastructure (fibre optics, mobile communications, LoRaWAN) for the networking of energy systems in the development of building areas	0	4	1	0
Establishing requirements for intelligent, energy networking of buildings (e.g. information and communication requirements for energy management systems) stipulated in the development plans or urban development contracts for new development areas	0	5	0	0
Providing access to public land, buildings and facilities to an energy community for the development of energy projects e.g. the roof of sport halls for the construction and operation of PV systems	0	5	0	0
Referring to a national comprehensive architecture considering energy communities as part of the future smart grid (e.g. with defined roles and responsibilities of most relevant actors for a decarbonised energy system)	0	2	1	2
Integrating energy communities in electricity grid planning and operation (e.g. flexibility provision, resilience)	0	4	0	1

Most action points are possible on a voluntary basis in all countries. Integration control infrastructure is mandatory in the case of France. When it comes to referring to a national comprehensive architecture considering energy communities as part of the future smart grid, 2 out of the 5 respondents didn't provide an answer; Greece indicated it as being mandatory; and Italy and the Czech Republic indicated it as being possible. This indicates the complexity and novelty of the topic, and that providing information for municipalities and energy communities should be a priority if they are to be distinctive in the way they interact with a given architecture.

For those actions that are possible on a voluntary basis, Table 11 shows how common it is for local authorities to implement these actions in the different regions of the partner countries:

Table 11: Commonality of implementation average for technical infrastructure action points across regions (Very rare = 1, Rare = 2; Somewhat common = 3; Common = 4; Very common = 5)

Technical Infrastructure Action Point	Avg. Score (All regions)
<b>Action Point</b>	Avg. Score
Integrating infrastructure for collective heat supply in the development of building areas	2,60
Integrating control infrastructure (fibre optics, mobile communications, LoRaWAN) for the networking of energy systems in the development of building areas	2,20

Technical Infrastructure Action Point	Avg. Score (All regions)
Establishing requirements for intelligent, energy networking of buildings (e.g. information and communication requirements for energy management systems) stipulated in the development plans or urban development contracts for new development areas	2,40
Providing access to public land, buildings and facilities to an energy community for the development of energy projects e.g. the roof of sport halls for the construction and operation of PV systems	3,60
Referring to a national comprehensive architecture considering energy communities as part of the future smart grid (e.g. with defined roles and responsibilities of most relevant actors for a decarbonised energy system)	2,00
Integrating energy communities in electricity grid planning and operation (e.g. flexibility provision, resilience)	2,75

When examining the regions, the rarest action point is referring to a national comprehensive architecture that considers energy communities as part of the future smart grid. The most common point – also being the most common across all fields of action of the survey – is giving access to public land, buildings and facilities to energy communities for RES projects. Overall, this field of action has the highest score for all fields of action (according to how common it is for possible action points to be implemented), showing how countries and regions are preparing their technical infrastructure, likely due to it being a pre-condition to offer energy communities as a truly integrated legal vehicle for citizens, consumers and prosumers, among others (e.g. SMEs).

### 3.2.6 Networking and Collaboration

Table 12 shows the feasibility of various action points regarding networking and collaboration, indicating whether they are legally not possible, voluntarily possible, or even mandatory. The table summarizes how many partner countries have selected each of these three possibilities, or if they did not provide an answer to a particular action point.

*Table 12: Number of responses for the feasibility of networking and collaboration action points for all regions*

Networking and Collaboration Action Point	Legally not possible	Possible, on a voluntary basis	Mandatory	Not answered
Participating in research and innovation projects with the involvement of companies and citizens	0	5	0	0
Acting as a matchmaker for energy communities (or citizens interested in creating one), helping to bring different stakeholders together	0	5	0	0
Becoming a member in an energy community (e.g. participating in collective self-supply with its own properties and their energy systems)	0	4	0	1
Having the public utility of the region actively supporting energy communities e.g. through cooperation, facilitation or by becoming a member	0	5	0	0
Having a cooperation agreement between civil protection and energy communities so that their generation and storage facilities can be used as emergency power generators in the event of a disaster	1	4	0	0

Involving local companies in the development of energy communities to reduce their dependence on external suppliers and the costs for energy	0	5	0	0
Being part of an umbrella organization for the establishment and support of energy communities in several municipalities	0	5	0	0

Most action points related to networking and collaboration are possible in all countries, except for having a cooperation agreement between civil protection and energy communities, which is not possible in Germany.

For those actions that are possible on a voluntary basis, Table 13 shows how common it is for local authorities to implement these actions in the different regions:

*Table 13: Commonality of implementation average for networking and collaboration action points across regions (Very rare = 1, Rare = 2; Somewhat common = 3; Common = 4; Very common = 5)*

Networking and Collaboration Action Point	Avg. Score (All regions)
Participating in research and innovation projects with the involvement of companies and citizens	2,57
Acting as a matchmaker for energy communities (or citizens interested in creating one), helping to bring different stakeholders together	3,00
Becoming a member in an energy community (e.g. participating in collective self-supply with its own properties and their energy systems)	3,17
Having the public utility of the region actively supporting energy communities e.g. through cooperation, facilitation or by becoming a member	2,40
Having a cooperation agreement between civil protection and energy communities so that their generation and storage facilities can be used as emergency power generators in the event of a disaster	1,40
Involving local companies in the development of energy communities to reduce their dependence on external suppliers and the costs for energy	2,33
Being part of an umbrella organization for the establishment and support of energy communities in several municipalities	2,29

The rarest action point is having a cooperation agreement between civil protection and energy communities, while the most common actions include becoming a member in an energy community and acting as a matchmaker for energy communities.

### 3.3 Analysis of the current status per region and potential developments

Instead of focusing on countries, ECOEMPOWER focuses on regions within countries, bringing a higher level of detail to the more common national analysis done in energy communities research. Thus, providing insight which can serve as a basis for the multi-level analysis of energy communities.

The regions of ECOEMPOWER's regional ecosystems are the following:

- France: Auvergne-Rhône-Alpes and Grand Est
- Germany: Allgäu
- Greece: Central Greece
- Italy: Autonomous Province of Trento
- Czech Republic: Zlín Region

The situation in different European countries can vary a lot. Although all European countries are required to transpose the directives REDII and IEMD that define energy communities, the national framework as well as the power and influence of local authorities differ considerably. Opening with a chapter providing an aggregated overview of results, the next chapters will analyse the current status of the fields of action (i.e. enabling frameworks) in each of the regions relevant to ECOEMPOWER.

To more easily read the following sections, it is useful to consider that fields of action are presented in groups of two. Each time a figure or table are presented, two fields of action and their corresponding action points are included. Each pair of fields is described for each region according to the following structure:

1. Statement on possible, mandatory and not-possible action points for the pair of fields of action
2. Figure of action point score per field of action
  - a. Depicting two fields of action in the same figure (i.e. pair of fields of action)
  - b. Showing only the action points which are possible to implement in the region (i.e. excludes mandatory and not possible action points, as shown in the previous section)
3. Analysis of results including hurdles identified by respondents
4. Table with extended definition of corresponding action points

### 3.3.1 Overview of ECOEMPOWER regions

Table 14 provides an overview of how common it is for local authorities to offer support across the different fields of action. This table is based on an aggregate evaluation of action points, showing averages for each region. In other words, the data in the following table is based on the score given to the action points pertinent to each field of action (action points which are presented in the sections below).

*Table 14: Averages on how common it is for local authorities to give support to energy communities by region and category (Very rare = 1, Rare = 2; Somewhat common = 3; Common = 4; Very common = 5)*

Field of Action (i.e. Action Point Category)	Auvergne-Rhône Alpes + Grand Est (France)	Allgäu (Germany)	Zlín (Czech Republic)	Central Greece	Autonomous Province of Trento (Italy)
Political	2,29	1,29	1,88	2,22	2,43
Financial	2,80	1,33	1,00	3,14	3,67
Information and Education	2,57	1,00	3,00	2,83	3,43
Organisational Structure and Administration	2,29	1,29	1,43	2,29	2,00
Technical infrastructure	3,33	1,50		2,60	3,50
Networking and collaboration	2,71	2,00	2,40	3,00	2,71
<b>Total average</b>	<b>2,67</b>	<b>1,40</b>	<b>1,94</b>	<b>2,68</b>	<b>2,96</b>

In spite of the limited (i.e. five point) Richter scale used to rate each action point (i.e. the data used to generate the table above), the reader should consider the subjectivity of respondents when interpreting “commonality of implementation” as a measure of value to evaluate an action point. This could lead to total averages being less relevant than the difference between fields of action within the same region. The latter which may provide more insight into a region’s strategy to address the development of energy communities.

The German region Allgäu has the lowest rating in all fields of action, suggesting that the local authorities have implemented fewer supportive actions for energy communities. The average score for all fields of action showed a result of 2,26; a clear difference between German regions, indicating how different regions from the same country can vary in their contribution to a favourable framework for energy communities. This insight provides a strong argument for the regional assessment of enabling frameworks for local and regional actions, and contributes to the field of multi-level governance.

The Province of Trento stands out with the highest total score. It has implemented the most action points compared to other regions and holds the highest rating in three of the six fields of action, demonstrating their proactive approach in fostering a favourable environment for energy communities. The French and Greek regions follow closely behind and, having virtually the same score, they share the second place in showing a consistent engagement with the topic of regional support for energy communities.

The only unanswered field of action, with relation to how common it is for regions to implement action points, is for the Technical Infrastructure in the Zlín region of the Czech Republic, as in the country these action points correspond to the national regulator and, hence, are outside of the scope of the region.

### 3.3.2 France – Auvergne-Rhône Alpes + Grand Est

In the context of **political and financial support** for energy communities, most action points are possible on a voluntary basis. The only mandatory action point is the designation of priority areas for collective energy installations in the land-use plan. The following action points are marked as not possible: giving energy communities an advantage in the selection criteria for public procurement contracts, providing grants or subsidies to support the construction and installation of renewable energy systems, storage systems or other energy projects (because RES projects cannot benefit from both feed-in tariff and public grants at the same time), and to favour energy communities in competitive tendering procedures for public contracts.

Figure 3 shows how common it is to do possible actions in the region of Auvergne-Rhône Alpes + Grand Est:

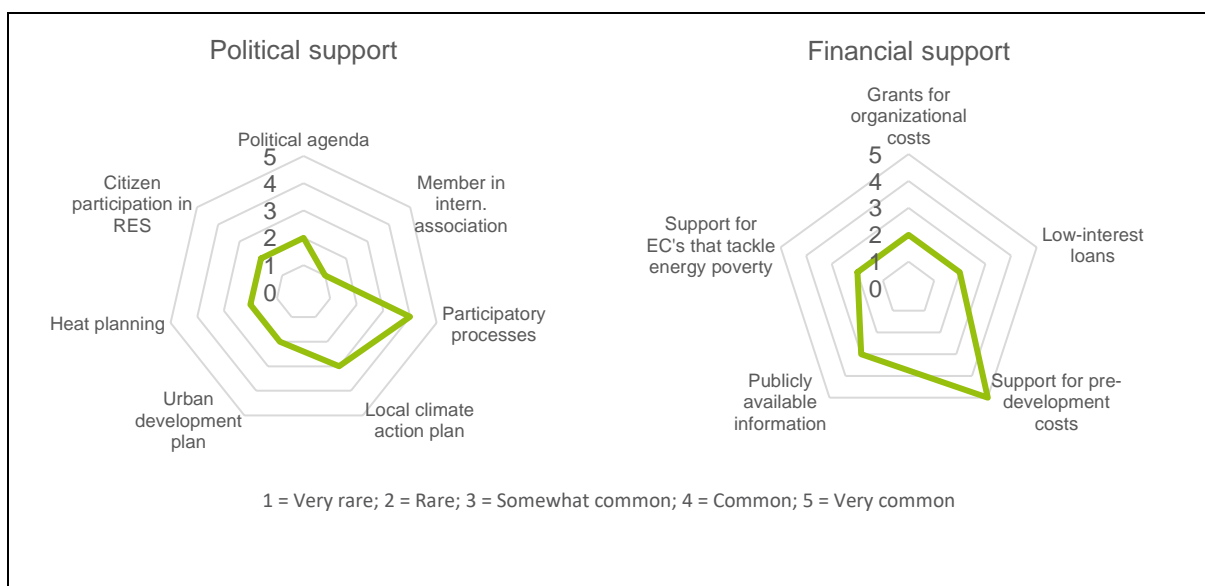


Figure 3: Illustration of how common it is to support energy communities politically or financially in the region

Most political actions points are rare. The exception is the inclusion of energy community-related topics in local climate action plans, which is somewhat common, as well as the use of participatory processes, which is rated as

common. This is an advantage for ECOEMPOWER, as the project aims at providing frameworks for engagement and participation in WP3-related work. Finally, a particularly rare action point is the membership in an international association for cooperation among municipalities.

When it comes to financial support, the support for energy communities in the pre-development phase stands out positively as very common. Publicly available information on financing is fairly common; and the rest of the possible financial action points are rarely implemented.

The following table provides a description of the action points in the figures above.

*Table 15: Description of action points*

Category	Name	Description
Political	Political agenda	Having the topic of cooperative decentralized energy systems on their political agenda
	Member in intern. association	Being a member of an international association for cooperation among municipalities (e.g. ICLEI), promoting sustainable and inclusive development
	Participatory processes	Applying participatory processes to involve citizens in the local and regional strategy development (e.g. in events such as climate conferences, real estate industry workshops, etc.)
	Local climate action plan	Including energy community related topics in the local climate action plan e.g. SECAP
	Urban development plan	Including energy community related topics in the urban development plans including neighbourhood concepts, development areas, redevelopment areas, etc.
	Heat planning	Including energy community related topics in heat planning
	Citizen participation in RES	Mandating a certain level of citizen participation in large-scale renewable energy projects
Financial	Grants for organizational costs	Grants or subsidies for the organizational costs of energy communities, e.g. human resources and costs related to the management of the legal entity
	Low-interest loans	Low-interest loans or credits to make investments easier
	Support for pre-development costs	Financial support for pre-development costs of energy communities e.g. feasibility or potential studies
	Publicly available information	Providing advice/publicly available information on existing financing options for energy communities.
	Support for EC's that tackle energy poverty	Offering financial support to energy communities taking action on energy poverty (e.g. supporting economically disadvantaged members of society on energy matters)

Regarding **informational and educational support** as well as support through the **organisational structure and administration**, all action points presented in the survey are voluntarily possible.

Figure 4 shows how common it is to do those actions in the region of Auvergne-Rhône Alpes + Grand Est:

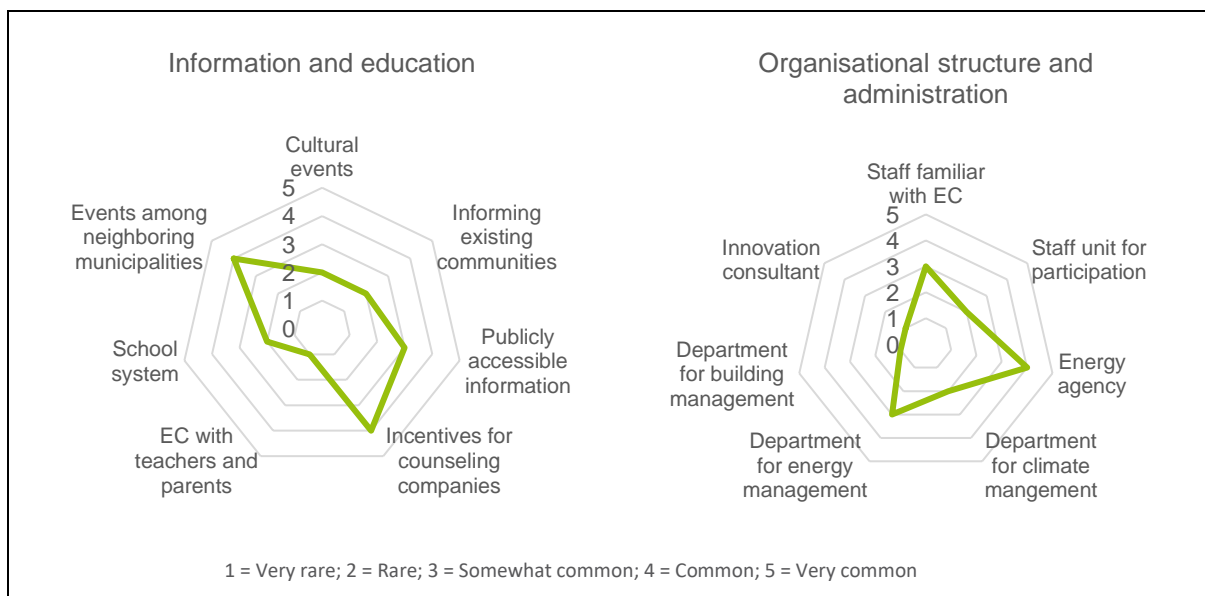


Figure 4: Illustration of how common it is to support energy communities through information and education as well as the organizational structure and administration in the region

In terms of informational and educational support, providing incentives for counselling companies and organizing events among neighbouring municipalities to inform about joint establishment of energy communities stand out positively by being common practices. Publicly accessible information is somewhat common, while all other action points are rare or very rare.

When it comes to the organizational structure, four of the seven action points are rare or very rare. Establishing an energy agency to advice and support citizens in collective energy initiatives is rated as common. Having staff experienced in energy communities and a department for energy management that supports energy communities is somewhat common. A significant challenge is that a change of elected representatives following an election can question the support of local authorities for energy communities.

To understand the action points depicted in Figure 4 the following table provides a description.

Table 16: Description of action points

Category	Name	Description
Information and Education	Cultural events	Raising awareness about collective energy initiatives through cultural events in order to reach a wide range of citizens (e.g. with suitable speakers, artists or cultural associations)
	Informing existing communities	Informing and encouraging existing communities to get involved with energy by becoming energy communities (e.g. members of sports clubs, religious communities, teachers and parents of a school, etc.)
	Publicly accessible information	Providing publicly accessible and easily understandable information about forming an energy community
	Incentives for counselling companies	Providing incentives for counselling companies to settle in the region and support citizens in setting up energy communities
	EC with teachers and parents	Encouraging the establishment of an energy community with teachers and parents to co-operatively improve the schools' energy supply and communicate what has been learnt to the pupils



Category	Name	Description
	School system	Integrating topics such as sustainability, climate change and renewable energy into the school system (e.g. by promoting school projects and competitions focused on these topics or including them into the curriculum)
	Events among neighbouring municipalities	Doing events to inform citizens about the joint establishment of energy communities among neighbouring municipalities
Organisational Structure and Administration	Staff familiar with EC	Staff that is familiar with or trained in the topic of energy communities
	Staff unit for participation	A staff unit for participation which also supports citizens in the formation of energy communities
	Energy agency	An energy agency that advises and supports citizens in the implementation of collective energy initiatives
	Department for climate management	A department for climate management that supports energy communities
	Department for energy management	A department for energy management that supports energy communities
	Department for building management	A department for building management that supports energy communities
	Innovation consultant	A position for an innovation consultant (possibly together with other municipalities)?

Regarding the **technical infrastructure** most of the action points are voluntarily possible, although two action points haven't been answered. One action point, integrating control infrastructure for the networking of energy systems in the development of building areas, is mandatory.

When it comes to **networking and collaboration** efforts, all of the presented action points are voluntarily possible, giving the local authorities a big scope in supporting energy communities through related measures.

For those action points, that are voluntary, Figure 5 shows how common it is to do those actions in the region:

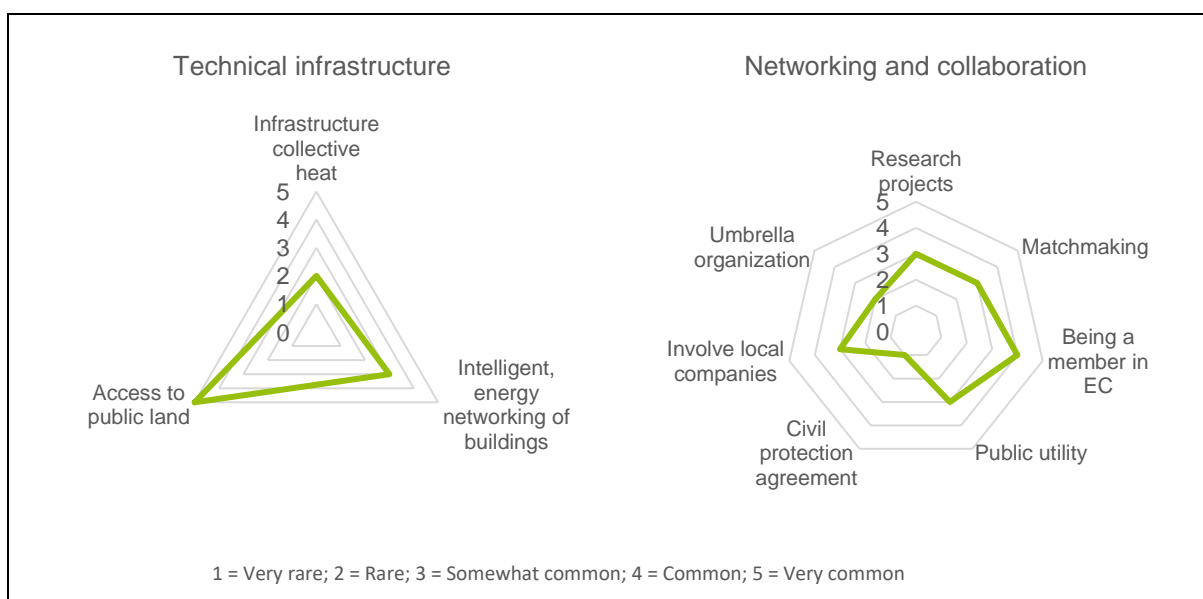


Figure 5: Illustration of how common it is to support energy communities through good technical infrastructure preconditions and networking and collaboration in the region

In terms of technical infrastructure, giving access to public land, buildings and facilities for renewable energy projects is very common, supporting energy communities with the necessary physical space. Intelligent networking of buildings is somewhat common and, possibly due to the high degree of electrification of heating in France, as well as to the recent emergence of district heating networks, collective heating infrastructure is rare in the herein related region.

When it comes to networking and collaboration efforts, many action points are somewhat common. Being a member in an energy community is even very common.

To understand the action points depicted in Figure 5 the following table provides a description.

*Table 17: Description of action points*

Category	Name	Description
Technical infrastructure	Infrastructure collective heat	Integrating infrastructure for collective heat supply in the development of building areas
	Intelligent, energy networking of buildings	Establishing requirements for intelligent, energy networking of buildings (e.g. information and communication requirements for energy management systems) stipulated in the development plans or urban development contracts for new development areas
	Access to public land	Providing access to public land, buildings and facilities to an energy community for the development of energy projects e.g. the roof of sport halls for the construction and operation of PV systems
Networking and collaboration	Research projects	Participating in research and innovation projects with the involvement of companies and citizens
	Matchmaking	Acting as a matchmaker for energy communities (or citizens interested in creating one), helping to bring different stakeholders together
	Being a member in EC	Becoming a member in an energy community (e.g. participating in collective self-supply with its own properties and their energy systems)
	Public utility	Having the public utility of the region actively supporting energy communities e.g. through cooperation, facilitation or by becoming a member
	Civil protection agreement	Having a cooperation agreement between civil protection and energy communities so that their generation and storage facilities can be used as emergency power generators in the event of a disaster
	Involve local companies	Involving local companies in the development of energy communities to reduce their dependence on external suppliers and the costs for energy
	Umbrella organization	Being part of an umbrella organization for the establishment and support of energy communities in several municipalities

One hurdle faced by some municipalities emerges due to the delegation of responsibility for energy production to their “community of municipalities”, which restricts them from investing in local energy communities. This may be related to the development of energy infrastructure in the past. It is common for energy infrastructure to seek for cost reductions through economies of scale, but with the changing paradigm of decentralized energy production, adaptation to be able to support local energy communities is needed.

### 3.3.3 Germany – Allgäu

In Germany, the Allgäu region is represented. The answers show the complexity of the regulatory environment (and, hence, the need for an adequate support structure which considers multi-level governance). The multiple areas of specialisation involved in the development of favourable frameworks makes it hard even for

professionals within the energy sector to address all points with certainty; even as these influence their areas of activity. Hence, the need for improved capacity building and information provision mechanisms that span across multiple fields of knowledge.

The responses highlight the challenges local authorities face, where technically feasible actions are often rendered almost impossible due to the complexity of regulations. It also emphasizes the importance of involving stakeholders and personnel specialized in different areas to effectively enable the implementation of available action points. The latter which indirectly points towards the need for further networking and collaboration efforts across the different fields of action.

Regarding the **political support**, all action points are voluntarily possible except for the following legally not possible action points:

- Designating priority areas for collective energy installations in the land-use plan
- Mandating a certain level of citizen participation in large-scale renewable energy projects.

Regarding the second point, the municipality cannot force the investors of a plant to take citizens in or force citizens to participate, but the municipality could make agreements as part of an urban development contract, in which the investor voluntarily undertakes this action to enable citizen participation. That being said, giving energy communities an advantage in the selection criteria for public procurement contracts is possible if the energy community can provide a specific service that others cannot. This would be the case if the bidding criteria includes social aspects.

In terms of **financial support**, all action points are voluntarily possible, except for giving tax incentives such as tax relief for citizen-led energy projects, which is legally not possible, because these are regulated in German tax law at the federal or state level.

For those, that are voluntary, Figure 6 shows how common it is to do those actions in the region:

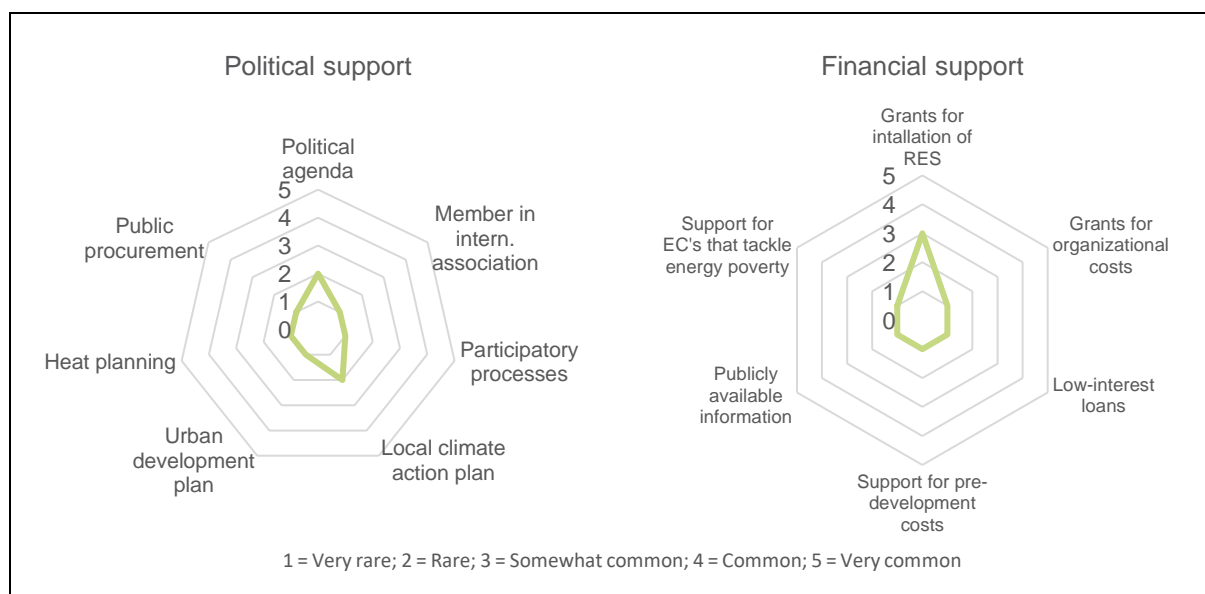


Figure 6: Illustration of how common it is to support energy communities politically or financially in the region

In the region of Allgäu all action points are either rare of very rare. To include energy community related topics in the local climate action plan or in the urban development plans is rated as rare. One related hurdle is the lack of understanding and agreement among politicians, in that energy communities need a greater focus and

support. Additionally, the REC and CEC of the EU directives haven't been properly transposed in Germany, and regions and districts have little to no mandate to drive the energy transition.

Regarding financial support, in Allgäu most actions points are very rare, except for grants for the installation of RES which is somewhat common. This shows that Germany follows a business logic, focusing mostly on providing the financial support to enable the business model, but not attempting to further tap into the market through other financial means such as information provision.

To understand the action points depicted in Figure 6 the following table provides a description.

Table 18: Description of action points

Category	Name	Description
Political support	Political agenda	Having the topic of cooperative decentralized energy systems on their political agenda
	Member in intern. association	Being a member of an international association for cooperation among municipalities (e.g. ICLEI), promoting sustainable and inclusive development
	Participatory processes	Applying participatory processes to involve citizens in the local and regional strategy development (e.g. in events such as climate conferences, real estate industry workshops, etc.)
	Local climate action plan	Including energy community related topics in the local climate action plan e.g. SECAP
	Urban development plan	Including energy community related topics in the urban development plans including neighbourhood concepts, development areas, redevelopment areas, etc.
	Heat planning	Including energy community related topics in heat planning
	Public procurement	Giving energy communities an advantage in the selection criteria for public procurement contracts
Financial support	Grants for installation of RES	Grants or subsidies to support the construction and installation of renewable energy systems, storage systems or other energy projects
	Grants for organizational costs	Grants or subsidies for the organizational costs of energy communities, e.g. human resources and costs related to the management of the legal entity
	Low-interest loans	Low-interest loans or credits to make investments easier
	Support for pre-development costs	Financial support for pre-development costs of energy communities e.g. feasibility or potential studies
	Publicly available information	Providing advice/publicly available information on existing financing options for energy communities.
	Support for EC's that tackle energy poverty	Offering financial support to energy communities taking action on energy poverty (e.g. supporting economically disadvantaged members of society on energy matters)

In terms of **informational and educational support**, all action points are voluntarily possible in Germany. When it comes to integrating topics such as sustainability, climate change and renewable energy into the school system, this is possible, but with some restrictions. Ministries of culture develop curricula as binding guidelines for the respective federal state. This means that municipalities cannot change the curriculum itself, but they can implement those topics through other means such as school projects or competitions.

When it comes to the support related to the **organisational structure and administration**, all action options are possible on a voluntary basis.

For those, that are voluntary, Figure 7 shows how common it is to do those actions in the region:

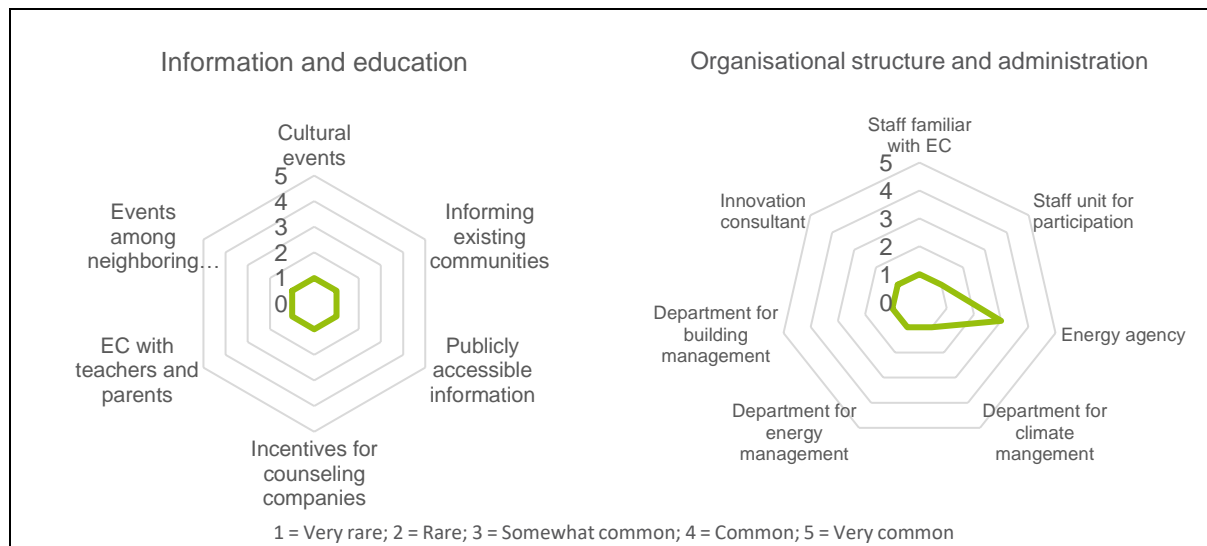


Figure 7: Illustration of how common it is to support energy communities through information and education as well as the organizational structure and administration in the region

In the Allgäu region all informational and educational support action points are very rare. A significant hurdle is that the information and educational offerings primarily reach people who already work with renewable energies.

In terms of support through the organisational structure and administration, in Allgäu most action points are very rare, except for the energy agency advising and supporting citizens in the implementation of collective energy initiatives, which is somewhat common. A hurdle is that local authorities have no focus or capacity to support energy communities.

To understand the action points depicted in Figure 7 the following table provides a description.

Table 19: Description of action points

Category	Name	Description
Information and education	Cultural events	Raising awareness about collective energy initiatives through cultural events in order to reach a wide range of citizens (e.g. with suitable speakers, artists or cultural associations)
	Informing existing communities	Informing and encouraging existing communities to get involved with energy by becoming energy communities (e.g. members of sports clubs, religious communities, teachers and parents of a school, etc.)
	Publicly accessible information	Providing publicly accessible and easily understandable information about forming an energy community
	Incentives for counselling companies	Providing incentives for counselling companies to settle in the region and support citizens in setting up energy communities

Category	Name	Description
	School system	Integrating topics such as sustainability, climate change and renewable energy into the school system (e.g. by promoting school projects and competitions focused on these topics or including them into the curriculum)
	Events among neighbouring municipalities	Doing events to inform citizens about the joint establishment of energy communities among neighbouring municipalities
Organisational structure and administration	Staff familiar with EC	Staff that is familiar with or trained in the topic of energy communities
	Staff unit for participation	A staff unit for participation which also supports citizens in the formation of energy communities
	Energy agency	An energy agency that advises and supports citizens in the implementation of collective energy initiatives
	Department for climate management	A department for climate management that supports energy communities
	Department for energy management	A department for energy management that supports energy communities
	Department for building management	A department for building management that supports energy communities
	Innovation consultant	A position for an innovation consultant (possibly together with other municipalities)?

When it comes to the **technical infrastructure**, all action points are voluntarily possible except for referring to a national comprehensive architecture considering energy communities as a part of the smart grid. The question of how the integration of energy communities in grid planning was not responded and, hence, not shown in the figure below.

For **networking and collaboration** efforts, all action points are voluntarily possible except for having a cooperation agreement between civil protection and energy communities, which is legally not possible.

For those, that are voluntary, Figure 8 shows how common it is to do those actions in the region:

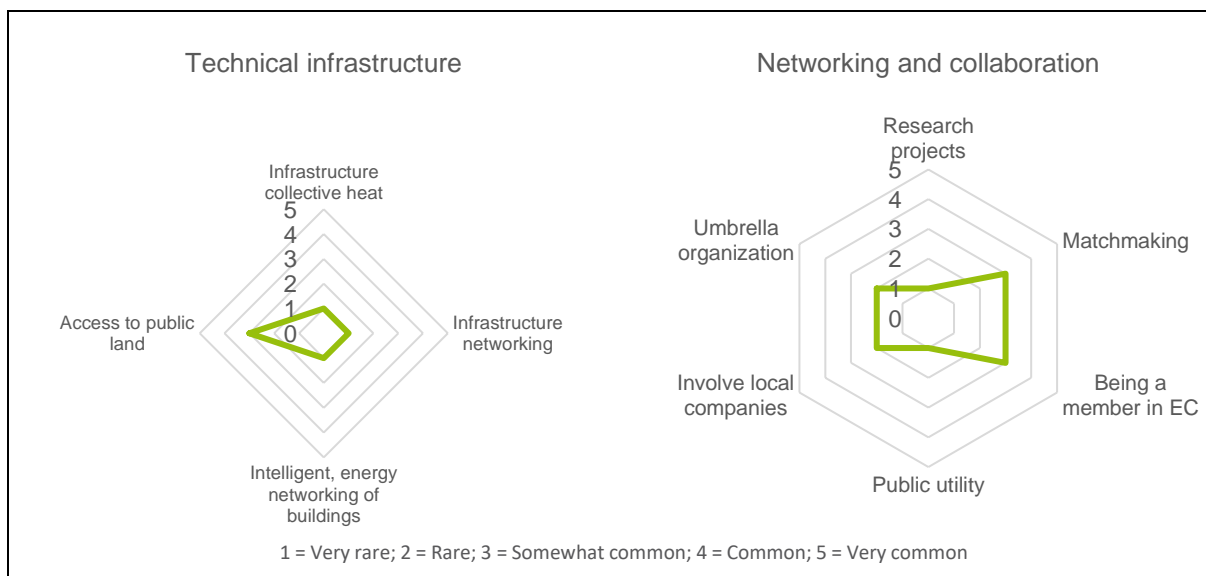


Figure 8: Illustration of how common it is to support energy communities through good technical infrastructure preconditions and networking and collaboration in the region

In Allgäu, three of the technical infrastructure action points are very rare, while providing access to public land, buildings and facilities is somewhat common. A major hurdle is the limited influence on the network architecture by local authorities, since it is largely in the hands of private energy and network operators.

For networking and collaboration efforts, matchmaking and being a member of an EC is somewhat common while the rest of the action points are either rare or very rare. Municipalities support local energy communities for specific projects. That being said, there is a lack of capacity to invest time in networking activities which anticipate the needs and requirements to build energy communities and initiate projects.

To understand the action points depicted in Figure 8 the following table provides a description.

Table 20: Description of action points

Category	Name	Description
Technical infrastructure	Infrastructure collective heat	Integrating infrastructure for collective heat supply in the development of building areas
	Infrastructure networking	Integrating control infrastructure (fibre optics, mobile communications, LoRaWAN) for the networking of energy systems in the development of building areas
	Intelligent, energy networking of buildings	Establishing requirements for intelligent, energy networking of buildings (e.g. information and communication requirements for energy management systems) stipulated in the development plans or urban development contracts for new development areas
	Access to public land	Providing access to public land, buildings and facilities to an energy community for the development of energy projects e.g. the roof of sport halls for the construction and operation of PV systems
Networking and collaboration	Research projects	Participating in research and innovation projects with the involvement of companies and citizens
	Matchmaking	Acting as a matchmaker for energy communities (or citizens interested in creating one), helping to bring different stakeholders together
	Being a member in EC	Becoming a member in an energy community (e.g. participating in collective self-supply with its own properties and their energy systems)

Category	Name	Description
	Public utility	Having the public utility of the region actively supporting energy communities e.g. through cooperation, facilitation or by becoming a member
	Involve local companies	Involving local companies in the development of energy communities to reduce their dependence on external suppliers and the costs for energy
	Umbrella organization	Being part of an umbrella organization for the establishment and support of energy communities in several municipalities

### 3.3.4 Greece – Region of Central Greece

Both in terms of **political support and financial support**, all action points are marked as possible.

For those that are possible (i.e. on a voluntary basis), Figure 9 shows how common it is for local authorities to implement those actions in the Region of Central Greece:

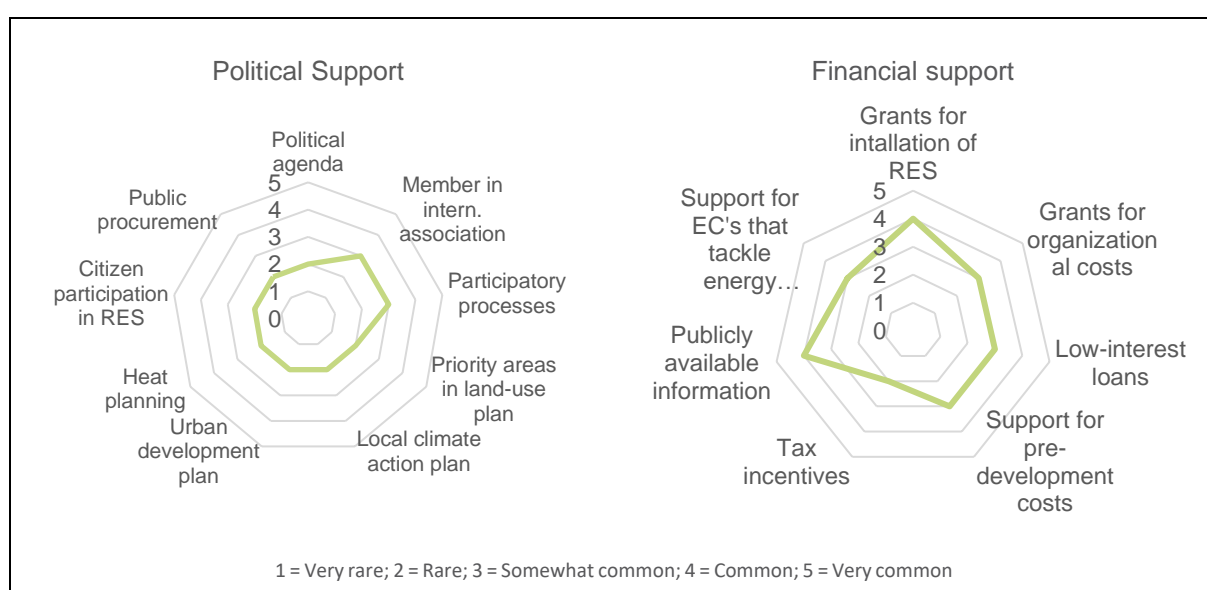


Figure 9: Spider diagrams depicting commonality of action point implementation for political and financial fields of action in the Region of Central Greece

In central Greece, the most popular political action points are having membership in international associations and applying participatory processes, which are marked as being somewhat common. All other action points, even if possible, have been marked as rare.

Common hurdles found in Greece are limited awareness and understanding of their potential, complex regulatory and bureaucratic processes, and financial constraints for municipalities. Additionally, resistance from traditional energy providers and challenges in coordinating multi-stakeholder efforts can hinder progress. Furthermore, energy communities are not always fully integrated into local or regional policy plans, limiting their prioritization in development strategies.

Despite the high interest from citizens to participate in energy communities and large-scale clean energy projects, bureaucratic hurdles leading to long waiting times to the start projects hinder progress. For example, there is a new law (ν .5037/2023) that abolished the older types of energy communities in favour of creating 2 new types of energy communities in Greece. The older energy communities cannot produce or participate in projects from 2023 onwards, unless they legally change to one of the new types. The process of changing types



is legally confusing and not unified between different regions, causing many hurdles in their development. This sheds light on the challenges which are faced when incorporating new and innovative legal forms such as energy communities into regulation. Worth mentioning, many energy communities haven't been formed by municipalities, but by independent organisations.

In terms of financial aid, grants for the installation of renewable energy systems are common, as well as providing publicly available information about financing options. However, many energy communities have yet to see their return on investment due to difficulties connecting to the grid and selling their energy. Additionally, joining demand response projects is facing barriers which hinder both profitability and the increase in renewable energy use through innovative means.

Support for energy communities that tackle energy poverty is somewhat common. This was mentioned as a hurdle to recovery of the return on investment by one of the Greek partners, pointing out the careful balance between objectives when providing an enabling framework for innovations which bring consumers, prosumers municipalities, SMEs and also vulnerable citizens together. If benefits are to be provided to vulnerable citizens, this could mean that the community will support these citizens and "carry a part of their weight". At the same time, this may very well create social cohesion among different income brackets and strengthen the social foundations of Greece through initiatives from the EU. But, for it, these synergies need to be understood by the community's participants and adequately communicated beyond the scope of the community itself.

Other common points of action in the field of financial support are having grants to cover the energy community's organisational costs, providing low-interest loans and providing support for pre-development costs. Overall, Greece scores high in terms of financial support, with the only measure marked as rare being tax incentives for citizen-led energy projects.

Hurdles to financial support for energy communities at the local or regional level also include limited awareness of funding opportunities, complex bureaucratic procedures, insufficient resources in smaller municipalities, and evolving legal and regulatory frameworks that create uncertainty and delay project implementation.

To understand the action points depicted in Figure 9 the following table provides a description.

*Table 21: Description of action points*

Category	Name	Description
Political support	Political agenda	Having the topic of cooperative decentralized energy systems on their political agenda
	Member in intern. association	Being a member of an international association for cooperation among municipalities (e.g. ICLEI), promoting sustainable and inclusive development
	Participatory processes	Applying participatory processes to involve citizens in the local and regional strategy development (e.g. in events such as climate conferences, real estate industry workshops, etc.)
	Priority areas in land-use plan	Designating priority areas for collective energy installations in the land-use plan
	Local climate action plan	Including energy community related topics in the local climate action plan e.g. SECAP
	Urban development plan	Including energy community related topics in the urban development plans including neighbourhood concepts, development areas, redevelopment areas, etc.
	Heat planning	Including energy community related topics in heat planning

Category	Name	Description
	Citizen participation in RES	Mandating a certain level of citizen participation in large-scale renewable energy projects
	Public procurement	Giving energy communities an advantage in the selection criteria for public procurement contracts
Financial support	Grants for installation of RES	Grants or subsidies to support the construction and installation of renewable energy systems, storage systems or other energy projects
	Grants for organizational costs	Grants or subsidies for the organizational costs of energy communities, e.g. human resources and costs related to the management of the legal entity
	Low-interest loans	Low-interest loans or credits to make investments easier
	Support for pre-development costs	Financial support for pre-development costs of energy communities e.g. feasibility or potential studies
	Tax incentives	Tax incentives such as tax relief for citizen-led energy projects
	Publicly available information	Providing advice/publicly available information on existing financing options for energy communities.
	Support for EC's that tackle energy poverty	Offering financial support to energy communities taking action on energy poverty (e.g. supporting economically disadvantaged members of society on energy matters)

When it comes to **informational and educational** support, as well as help through their **organizational structure and administration**, all action points are voluntarily possible for local authorities in Greece. With one exception for a mandatory action to provide publicly accessible information on the formation of energy communities.

For those action points, Figure 10 shows how common it is to implement those actions in the region of central Greece:

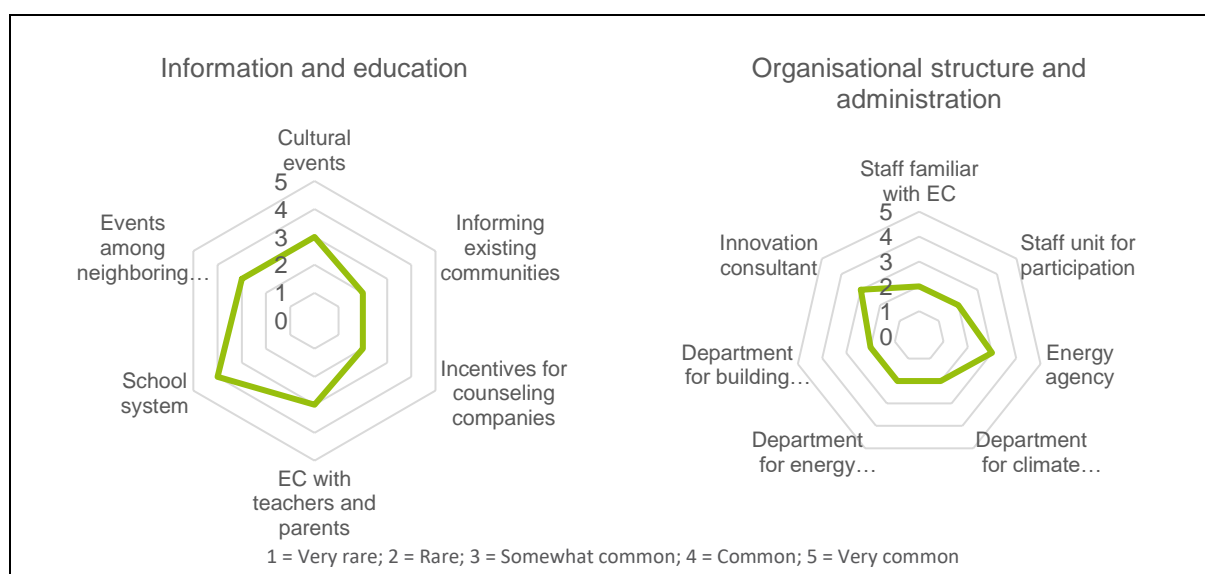


Figure 10: Illustration of how common it is to support energy communities through information and education as well as the organizational structure and administration in the region

The highest scoring action point in terms of information and education is the integration of topics of sustainability, climate change and renewable energy into the school system, which is common. This is followed by the somewhat commonly implemented action points of raising awareness through cultural events, promoting energy communities with teachers and parents, and doing events to inform citizens about the joint establishment of energy communities among neighbouring municipalities. The remaining two points have been indicated as rare. These are providing incentives for counselling companies to settle in the region and support citizens in setting up energy communities, and engaging existing communities in becoming energy communities (e.g. sports or religious communities).

In Greece, several hurdles hinder the informational and educational support for energy communities at the local or regional level. There is a general lack of awareness and understanding about energy communities, with many citizens and local authorities unfamiliar with the legal and financial mechanisms involved. Additionally, smaller municipalities often lack the expertise and resources to effectively support such initiatives. Support is inconsistent across regions, with some areas being more proactive than others. Financial barriers, such as the complexity of accessing funding, also present a challenge. Furthermore, the regulatory environment can be confusing, with unclear or evolving guidelines creating uncertainty. Lastly, cultural and social resistance to collective action and scepticism about the effectiveness of energy communities further complicate efforts to promote their development.

In terms of the organizational structure and administration, having an energy agency that supports citizens with collective energy initiatives and offering a position for an innovation consultant is somewhat common. The rest of the action points to have been marked as rare.

Regarding the support for energy communities through local or regional organizational structures, hurdles include limited staff expertise and resources within local administrations, which can hinder effective support. Additionally, there is a lack of consistent coordination between municipalities, leading to fragmented efforts. Financial constraints also make it challenging for smaller municipalities to establish dedicated departments or units for energy community support. Moreover, the evolving regulatory framework can create uncertainty and delays in the implementation of energy community projects.

To understand the action points depicted in Figure 10 the following table provides a description.

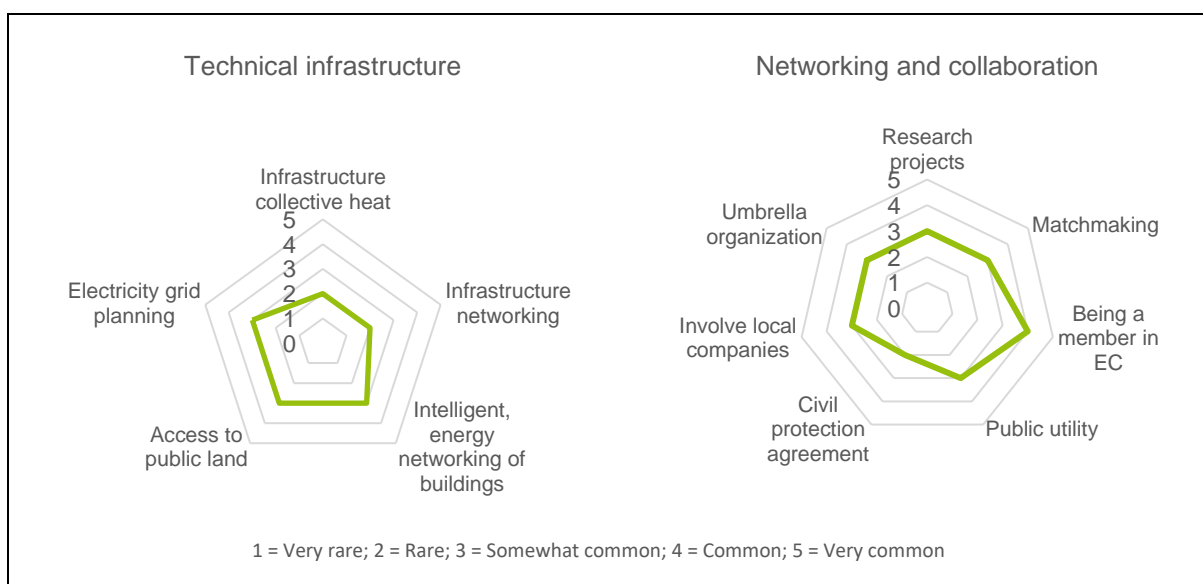
*Table 22: Description of action points*

Category	Name	Description
Information and education	Cultural events	Raising awareness about collective energy initiatives through cultural events in order to reach a wide range of citizens (e.g. with suitable speakers, artists or cultural associations)
	Informing existing communities	Informing and encouraging existing communities to get involved with energy by becoming energy communities (e.g. members of sports clubs, religious communities, teachers and parents of a school, etc.)
	Incentives for counselling companies	Providing incentives for counselling companies to settle in the region and support citizens in setting up energy communities
	EC with teachers and parents	Encouraging the establishment of an energy community with teachers and parents to co-operatively improve the schools' energy supply and communicate what has been learnt to the pupils

Category	Name	Description
	School system	Integrating topics such as sustainability, climate change and renewable energy into the school system (e.g. by promoting school projects and competitions focused on these topics or including them into the curriculum)
	Events among neighbouring municipalities	Doing events to inform citizens about the joint establishment of energy communities among neighbouring municipalities
Organisational structure and administration	Staff familiar with EC	Staff that is familiar with or trained in the topic of energy communities
	Staff unit for participation	A staff unit for participation which also supports citizens in the formation of energy communities
	Energy agency	An energy agency that advises and supports citizens in the implementation of collective energy initiatives
	Department for climate management	A department for climate management that supports energy communities
	Department for energy management	A department for energy management that supports energy communities
	Department for building management	A department for building management that supports energy communities
	Innovation consultant	A position for an innovation consultant (possibly together with other municipalities)?

All action points related to **technical infrastructure** and **networking and collaboration** are voluntarily possible, except for the mandatory action of referring to a national comprehensive architecture considering energy communities as a part of the future smart grid. Due to the mandatory points not being evaluated in terms of how commonly they are implemented, we unfortunately don't have further details on the progress of said action.

For these action points, Figure 11 shows how common it is to implement those actions in the region of central Greece:



*Figure 11: Illustration of how common it is to support energy communities through good technical infrastructure preconditions and networking and collaboration in the region*

In central Greece, integrating energy communities into electricity grid planning, establishing requirements for the intelligent networking of buildings and providing access to public land, buildings and facilities for energy communities to develop energy projects, are all somewhat common. Integrating control infrastructure for the networking of energy systems in the development of building areas is marked as rare. Considering that referring to a national architecture for the development of the smart grid is mandatory, it would make sense for building areas to follow suit and start to integrate the required infrastructure to enable the intelligent networking of energy devices. This sheds light on the large coordination efforts among different industries, which is required to achieve intelligent energy systems. Lastly, infrastructure for collective heat is also rare.

The main hurdles for local authorities in providing good technical and infrastructural prerequisites for energy communities include limited financial resources, a lack of specialized expertise and training within local administrations, and complex regulatory processes that slow down project implementation. Additionally, there is often a lack of coordination between municipalities, leading to fragmented efforts, and access to public land for energy projects is not always readily available due to legal and administrative barriers. These factors hinder the development of infrastructure needed to support energy communities.

In terms of networking and collaboration, the most common action point is for local authorities to become members of an energy community. This is followed by the five somewhat common action points of participating in research and innovation projects involving citizens and companies, acting as a matchmaker for energy community stakeholders, collaborating with the local utility in support for energy communities, involving local companies in the development of energy communities and being part of an umbrella organisation for the establishment and support of energy communities among municipalities. Finally, the possibility of establishing civil protection agreements with energy communities for times of urgency is rare.

In Greece, key hurdles regarding the provision of networking and collaboration opportunities for energy communities include limited coordination between municipalities, a lack of awareness and expertise, financial constraints, a complex regulatory framework, and insufficient incentives for collaboration. These challenges hinder the effective development and support of energy communities at the local or regional level.

To understand the action points depicted in Figure 11 the following table provides a description.

*Table 23: Description of action points*

Category	Name	Description
Technical infrastructure	Infrastructure collective heat	Integrating infrastructure for collective heat supply in the development of building areas
	Infrastructure networking	Integrating control infrastructure (fibre optics, mobile communications, LoRaWAN) for the networking of energy systems in the development of building areas
	Intelligent, energy networking of buildings	Establishing requirements for intelligent, energy networking of buildings (e.g. information and communication requirements for energy management systems) stipulated in the development plans or urban development contracts for new development areas
	Access to public land	Providing access to public land, buildings and facilities to an energy community for the development of energy projects e.g. the roof of sport halls for the construction and operation of PV systems

Category	Name	Description
	Electricity grid planning	Integrating energy communities in electricity grid planning and operation (e.g. flexibility provision, resilience)
Networking and collaboration	Research projects	Participating in research and innovation projects with the involvement of companies and citizens
	Matchmaking	Acting as a matchmaker for energy communities (or citizens interested in creating one), helping to bring different stakeholders together
	Being a member in EC	Becoming a member in an energy community (e.g. participating in collective self-supply with its own properties and their energy systems)
	Public utility	Having the public utility of the region actively supporting energy communities e.g. through cooperation, facilitation or by becoming a member
	Civil protection agreement	Having a cooperation agreement between civil protection and energy communities so that their generation and storage facilities can be used as emergency power generators in the event of a disaster
	Involve local companies	Involving local companies in the development of energy communities to reduce their dependence on external suppliers and the costs for energy
	Umbrella organization	Being part of an umbrella organization for the establishment and support of energy communities in several municipalities

### 3.3.5 Italy – Autonomous Province of Trento

In Italy, all **political support** action points are possible on a voluntary basis, except for mandating a certain level of citizen participation in large-scale RES projects and giving energy communities an advantage in the selection criteria for public procurement contracts, which are legally not possible.

Regarding **financial support**, Italy is the country with the most action points that are legally not possible, including grant for the organizational costs of energy communities, low-interest loans or credits, financial support for pre-development costs and tax incentives.

For the action points, that are voluntary, Figure 12 shows how common it is to implement those actions in the province of Trento:

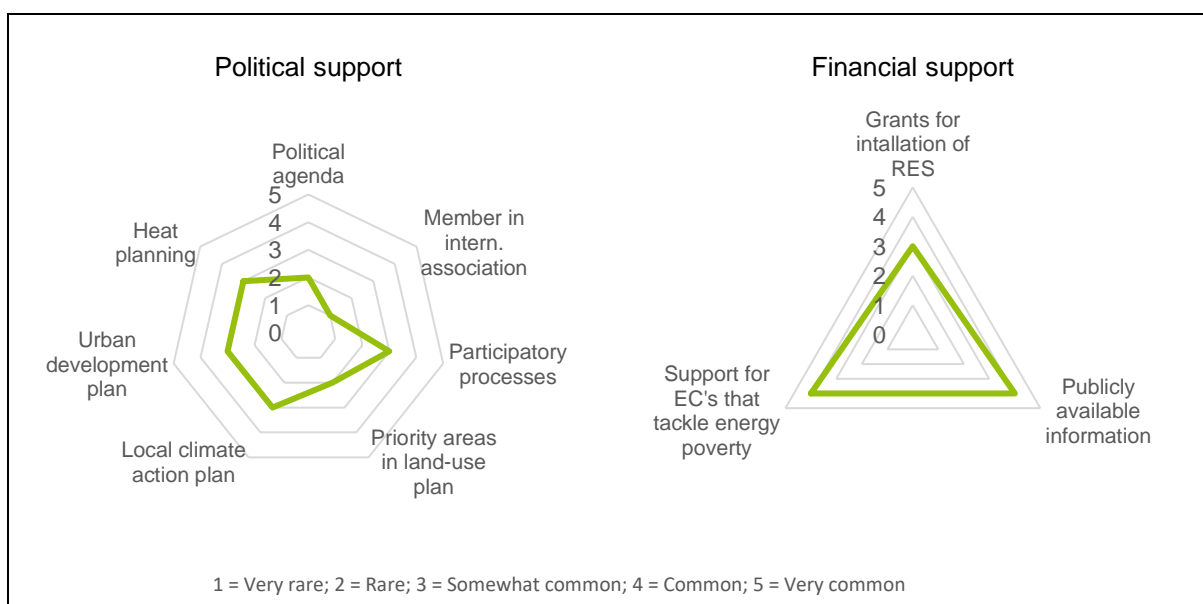


Figure 12: Illustration of how common it is to support energy communities politically or financially in the region

In the Province of Trento, most political support actions are somewhat common. However, putting energy communities on the political agenda and designating priority areas for collective energy installations in the land-use plan are rare. A significant hurdle has been the delay in finalizing the national legislation, particularly in defining the incentives and the requirements for eligible plants. The two-year gap between the initial and complete versions of the legislation, which contained substantial differences, created uncertainty and made it difficult to initiate projects. Nonetheless, the Autonomous Province of Trento is providing active tools for spatial planning in energy terms, as outlined in the Provincial Environmental Energy Plan 2021-2030.

Regarding financial support, two action points stand out positively for being common in the region: providing publicly available information on financing options and financial support for energy communities tackling energy poverty. Grants for the installation of RES are somewhat common. One regulatory hurdle involves plants belonging to energy communities and that receive full or partial financing from public bodies. In these cases, the financing is reduced proportionally to the share of the public contribution, up to 50 % of the premium tariff.

To understand the action points depicted in Figure 12 the following table provides a description.

Table 24: Description of action points

Category	Name	Description
Political support	Political agenda	Having the topic of cooperative decentralized energy systems on their political agenda
	Member in intern. association	Being a member of an international association for cooperation among municipalities (e.g. ICLEI), promoting sustainable and inclusive development
	Participatory processes	Applying participatory processes to involve citizens in the local and regional strategy development (e.g. in events such as climate conferences, real estate industry workshops, etc.)
	Priority areas in land-use plan	Designating priority areas for collective energy installations in the land-use plan
	Local climate action plan	Including energy community related topics in the local climate action plan e.g. SECAP
	Urban development plan	Including energy community related topics in the urban development plans including neighbourhood concepts, development areas, redevelopment areas, etc.
	Heat planning	Including energy community related topics in heat planning
Financial support	Grants for installation of RES	Grants or subsidies to support the construction and installation of renewable energy systems, storage systems or other energy projects
	Publicly available information	Providing advice/publicly available information on existing financing options for energy communities.
	Support for EC's that tackle energy poverty	Offering financial support to energy communities taking action on energy poverty (e.g. supporting economically disadvantaged members of society on energy matters)

When it comes to **informational and educational** support action points, as well as those related to **organizational structure** and administration, all are voluntarily possible in Italy.

For those action points, Figure 13 shows how common it is to do those actions in the province of Trento:

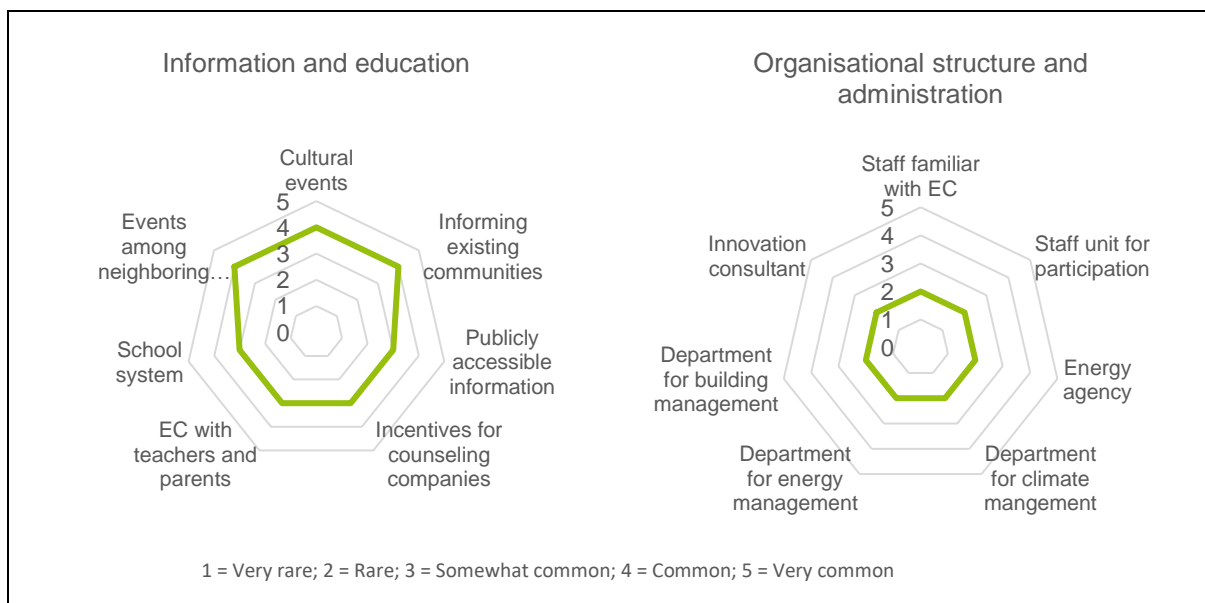


Figure 13: Illustration of how common it is to support energy communities through information and education as well as the organisational structure and administration in the region

In Trentino, all informational and educational support action points are common or somewhat common. Common actions include raising awareness about collective energy initiatives through cultural events, informing and encouraging existing communities to get involved with energy, and hosting events to inform citizens about the joint establishment of energy communities among neighbouring municipalities.

In terms of organizational and administrative support, all action points are rare. A notable hurdle is that as a public body, there is difficulty in involving private companies specializing in the subject within an OSS, which limits the support structure needed.

To understand the action points depicted in Figure 13 the following table provides a description.

Table 25: Description of action points

Category	Name	Description
Information and education	Cultural events	Raising awareness about collective energy initiatives through cultural events in order to reach a wide range of citizens (e.g. with suitable speakers, artists or cultural associations)
	Informing existing communities	Informing and encouraging existing communities to get involved with energy by becoming energy communities (e.g. members of sports clubs, religious communities, teachers and parents of a school, etc.)
	Publicly accessible information	Providing publicly accessible and easily understandable information about forming an energy community
	Incentives for counselling companies	Providing incentives for counselling companies to settle in the region and support citizens in setting up energy communities
	EC with teachers and parents	Encouraging the establishment of an energy community with teachers and parents to co-operatively improve the schools' energy supply and communicate what has been learnt to the pupils
	School system	Integrating topics such as sustainability, climate change and renewable energy into the school system (e.g. by promoting school projects and competitions focused on these topics or including them into the curriculum)



Category	Name	Description
	Events among neighbouring municipalities	Doing events to inform citizens about the joint establishment of energy communities among neighbouring municipalities
Organisational structure and administration	Staff familiar with EC	Staff that is familiar with or trained in the topic of energy communities
	Staff unit for participation	A staff unit for participation which also supports citizens in the formation of energy communities
	Energy agency	An energy agency that advises and supports citizens in the implementation of collective energy initiatives
	Department for climate management	A department for climate management that supports energy communities
	Department for energy management	A department for energy management that supports energy communities
	Department for building management	A department for building management that supports energy communities
	Innovation consultant	A position for an innovation consultant (possibly together with other municipalities)?

When it comes to support through good **technical infrastructure** preconditions and to **networking and collaboration** efforts all action points are voluntarily possible in Italy.

For those action points, that are voluntary, Figure 14 shows how common it is to implement those actions in the province of Trento:

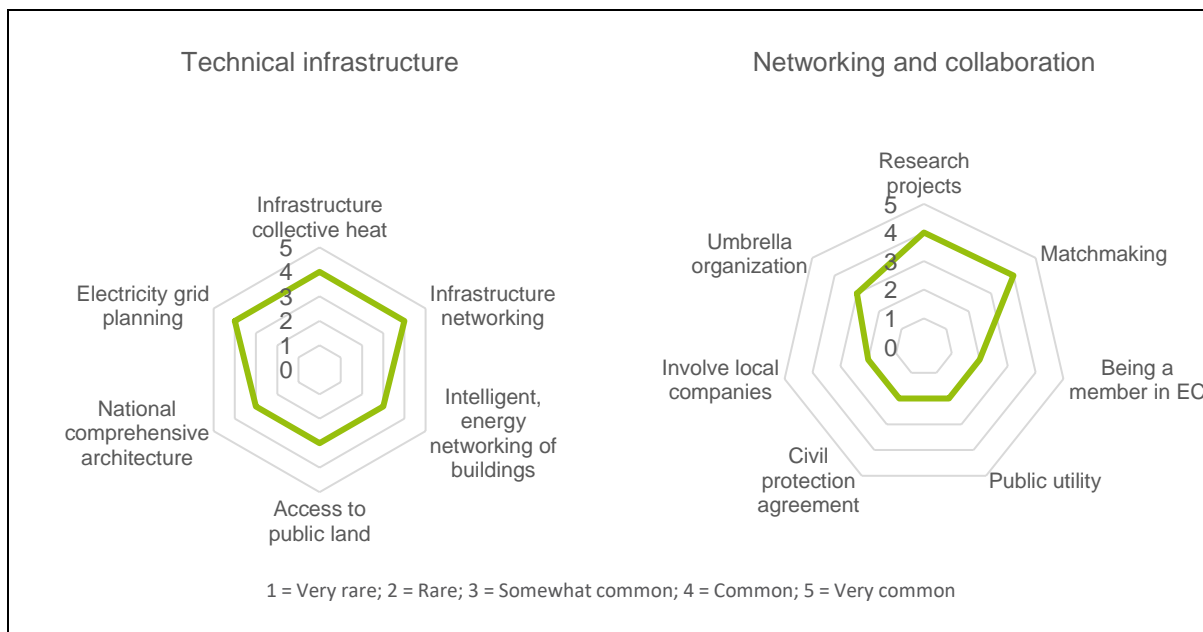


Figure 14: Illustration of how common it is to support energy communities through good technical infrastructure preconditions and networking and collaboration in the region

When it comes to the technical infrastructure, the province of Trento stands out positively by having all action points as somewhat common or common. This is achieved by having close cooperation with and effective implementation of responsibilities by system operators at local and regional levels.

In terms of networking and collaboration efforts it varies more: Participating in research projects and acting as a matchmaker are both common, while being part of an umbrella organization for the establishment of energy communities in several municipalities is somewhat common. All other action points are rare.

To understand the action points depicted in Figure 14 the following table provides a description.

Table 26: Description of action points

Category	Name	Description
Technical infrastructure	Infrastructure collective heat	Integrating infrastructure for collective heat supply in the development of building areas
	Infrastructure networking	Integrating control infrastructure (fibre optics, mobile communications, LoRaWAN) for the networking of energy systems in the development of building areas
	Intelligent, energy networking of buildings	Establishing requirements for intelligent, energy networking of buildings (e.g. information and communication requirements for energy management systems) stipulated in the development plans or urban development contracts for new development areas
	Access to public land	Providing access to public land, buildings and facilities to an energy community for the development of energy projects e.g. the roof of sport halls for the construction and operation of PV systems
	National comprehensive architecture	Referring to a national comprehensive architecture considering energy communities as part of the future smart grid (e.g. with defined roles and responsibilities of most relevant actors for a decarbonised energy system)
	Electricity grid planning	Integrating energy communities in electricity grid planning and operation (e.g. flexibility provision, resilience)
Networking and collaboration	Research projects	Participating in research and innovation projects with the involvement of companies and citizens
	Matchmaking	Acting as a matchmaker for energy communities (or citizens interested in creating one), helping to bring different stakeholders together
	Being a member in EC	Becoming a member in an energy community (e.g. participating in collective self-supply with its own properties and their energy systems)
	Public utility	Having the public utility of the region actively supporting energy communities e.g. through cooperation, facilitation or by becoming a member
	Civil protection agreement	Having a cooperation agreement between civil protection and energy communities so that their generation and storage facilities can be used as emergency power generators in the event of a disaster
	Involve local companies	Involving local companies in the development of energy communities to reduce their dependence on external suppliers and the costs for energy
	Umbrella organization	Being part of an umbrella organization for the establishment and support of energy communities in several municipalities

### 3.3.6 Czech Republic – Zlín Region

In the Zlín region of the Czech Republic, all action points related to **political support** are voluntarily possible except for giving energy communities an advantage in the selection criteria for public procurement contract, which has been marked as legally not possible.

In terms of **financial support**, all action points are voluntarily possible, except for tax incentives such as tax relief for citizen-led energy projects, which is marked as not possible, and providing advice/publicly available information on existing financing options for energy communities, which is marked as mandatory.

For those, that are voluntary, Figure 6 shows how common it is to do those actions in the region:

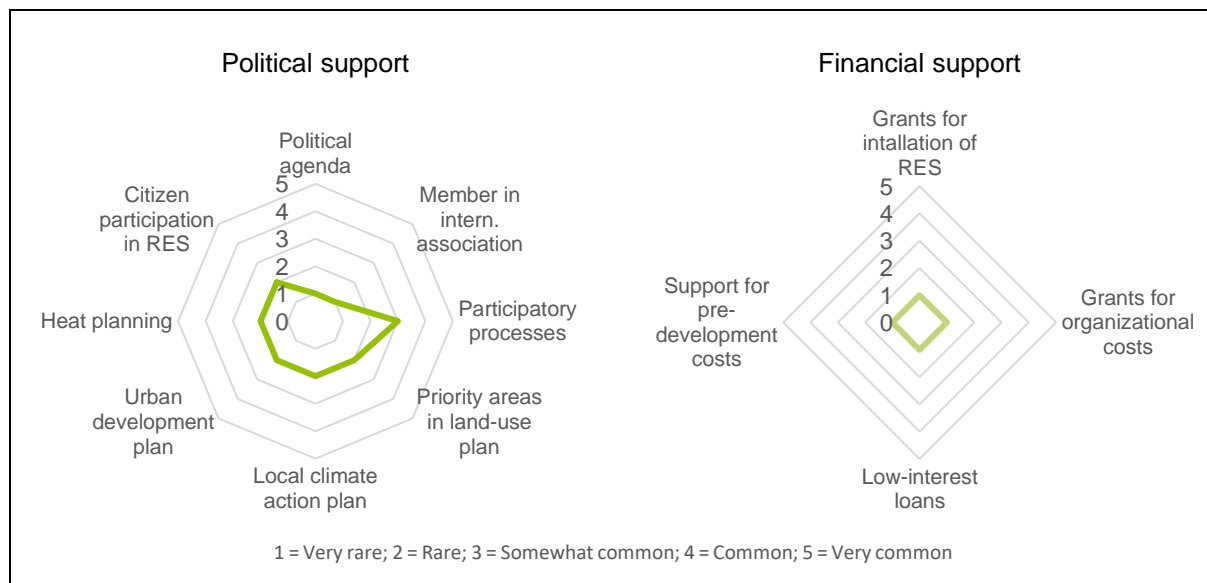


Figure 15: Illustration of how common it is to support energy communities politically or financially in the region

The highest scoring action point in the field of political support are participatory processes, which are somewhat common in the region. Most other action points are marked as rare. The exceptions are having the topic of cooperative decentralized energy systems on their political agenda and being a member of an international association for cooperation among municipalities (e.g. ICLEI), promoting sustainable and inclusive development.

With regards to legislation, the hurdle of equal voting rights was mentioned through the argumentation that some members provide different value than others (e.g. different size of investments, property), leading to resistance to provide said value when they can't control it.

Regarding financial support, all points marked as possible have received the lowest possible score as can be seen in the figure above. The following relevant hurdles were highlighted: limited awareness of funding opportunities, taxation for small electricity producers, complex bureaucratic procedures, insufficient resources in smaller municipalities, and evolving legal and regulatory frameworks that create uncertainty and delay project implementation. As an explanation to the counter-intuitive hurdle of limited awareness of funding opportunities, considering it was indicated that its implementation is very rare, most grants and subsidies come from the state and not from the local authorities. That being said, some grant calls have additional funding for disadvantaged regions (i.e. less developed regions or coal regions).

To understand the action points depicted in Figure 6 the following table provides a description.

Table 27: Description of action points

Category	Name	Description
Political	Political agenda	Having the topic of cooperative decentralized energy systems on their political agenda

Category	Name	Description
	Member in intern. association	Being a member of an international association for cooperation among municipalities (e.g. ICLEI), promoting sustainable and inclusive development
	Participatory processes	Applying participatory processes to involve citizens in the local and regional strategy development (e.g. in events such as climate conferences, real estate industry workshops, etc.)
	Priority areas in land-use plan	Designating priority areas for collective energy installations in the land-use plan
	Local climate action plan	Including energy community related topics in the local climate action plan e.g. SECAP
	Urban development plan	Including energy community related topics in the urban development plans including neighbourhood concepts, development areas, redevelopment areas, etc.
	Heat planning	Including energy community related topics in heat planning
	Citizen participation in RES	Mandating a certain level of citizen participation in large-scale renewable energy projects
Financial support	Grants for installation of RES	Grants or subsidies to support the construction and installation of renewable energy systems, storage systems or other energy projects
	Grants for organizational costs	Grants or subsidies for the organizational costs of energy communities, e.g. human resources and costs related to the management of the legal entity
	Low-interest loans	Low-interest loans or credits to make investments easier
	Support for pre-development costs	Financial support for pre-development costs of energy communities e.g. feasibility or potential studies

In terms of **informational and educational support**, all action points are voluntarily possible in Zlín, with the exception of providing incentives for counselling companies to settle in the region and support citizens in setting up energy communities.

When it comes to the support related to the **organisational structure and administration**, all action options are possible on a voluntary basis.

For those, that are voluntary, Figure 7 shows how common it is to do those actions in the region:

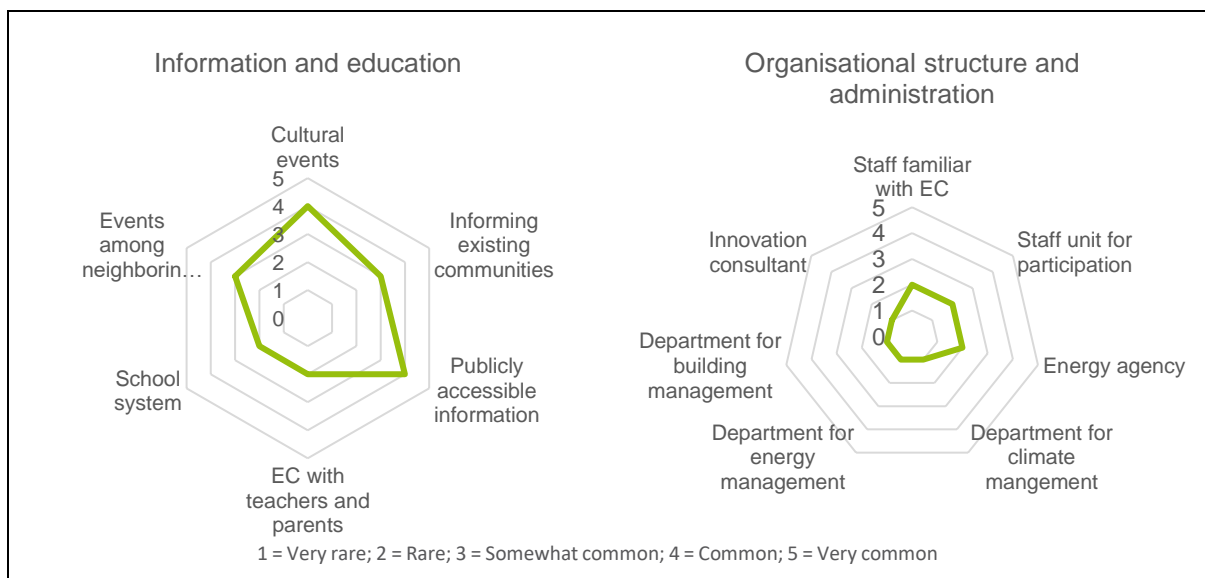


Figure 16: Illustration of how common it is to support energy communities through information and education as well as the organizational structure and administration in the region

As shown in the figure above, informational and educational support action points are more commonly implemented, when compared to political and financial support actions. Raising awareness about collective energy initiatives through cultural events and providing publicly accessible and easily understandable information about forming an energy community have the highest scores, having been marked as common. This is followed by informing and encouraging existing communities to get involved with energy by becoming energy communities, and by doing events to inform citizens about the joint establishment of energy communities among neighboring municipalities, which are marked as somewhat common. Finally, bringing topics of energy and climate into the school system, as well as bringing up the topic of forming an energy community with teachers and parents were both marked as very rare.

In terms of support through the organisational structure and administration, much less actions are commonly implemented. Even if marked as rare, action points of having staff with capacity related to the topic of energy communities, having a staff unit for participation which also supports citizens in the formation of energy communities, and having an energy agency that advises and supports citizens in the implementation of collective energy initiatives are the highest scored.

These two fields of action shed light on a potential strategy from the region (and / or country), related to first addressing the educational and capacity aspects related to energy communities, to later addressing the financial and perhaps even political support required to untap their potential.

To understand the action points depicted in Figure 7 the following table provides a description.

Table 28: Description of action points

Category	Name	Description
Information and	Cultural events	Raising awareness about collective energy initiatives through cultural events in order to reach a wide range of citizens (e.g. with suitable speakers, artists or cultural associations)

Category	Name	Description
	Informing existing communities	Informing and encouraging existing communities to get involved with energy by becoming energy communities (e.g. members of sports clubs, religious communities, teachers and parents of a school, etc.)
	Publicly accessible information	Providing publicly accessible and easily understandable information about forming an energy community
	EC with teachers and parents	Encouraging the establishment of an energy community with teachers and parents to co-operatively improve the schools' energy supply and communicate what has been learnt to the pupils
	School system	Integrating topics such as sustainability, climate change and renewable energy into the school system (e.g. by promoting school projects and competitions focused on these topics or including them into the curriculum)
	Events among neighbouring municipalities	Doing events to inform citizens about the joint establishment of energy communities among neighbouring municipalities
Organisational structure and administration	Staff familiar with EC	Staff that is familiar with or trained in the topic of energy communities
	Staff unit for participation	A staff unit for participation which also supports citizens in the formation of energy communities
	Energy agency	An energy agency that advises and supports citizens in the implementation of collective energy initiatives
	Department for climate management	A department for climate management that supports energy communities
	Department for energy management	A department for energy management that supports energy communities
	Department for building management	A department for building management that supports energy communities
	Innovation consultant	A position for an innovation consultant (possibly together with other municipalities)?

When it comes to the **technical infrastructure**, all action points are marked as voluntarily possible. That being said, no responses on measures being undertaken at the local or regional level were provided, as these decisions are taken at higher levels of governance. Having only three DSOs in the country, this possibly limits the potential of regions to have direct ownership on their energy infrastructure.

For **networking and collaboration** efforts, all action points are voluntarily possible except for having a cooperation agreement between civil protection and energy communities, which is legally not possible.

For those, that are voluntary, Figure 8 shows how common it is to do those actions in the region:

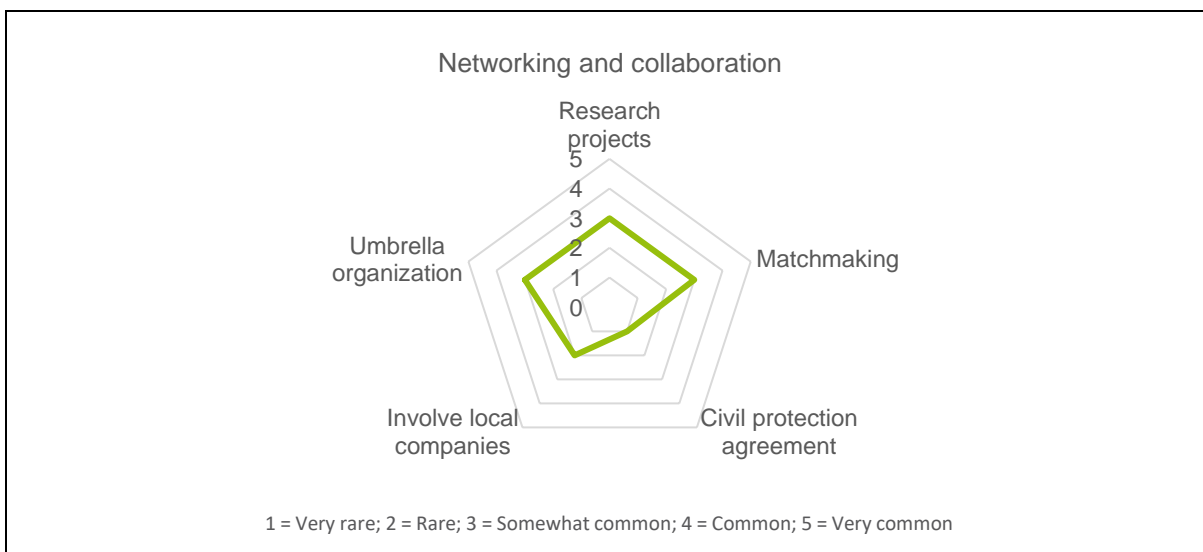


Figure 17: Illustration of how common it is to support energy communities through good technical infrastructure preconditions and networking and collaboration in the region

As mentioned above, there are no responses for the technical infrastructure field of action.

In Zlín, the most popular networking and collaboration actions come in the form of research and innovation projects involving companies and citizens, acting as energy community stakeholder matchmakers and forming part of umbrella organisations for the establishment and support of energy communities in several municipalities. All of these points are marked as being common in the region. The involvement of local companies in energy communities, is less popular, being marked as rare. Finally, the innovative action point of offering a civil protection agreement with energy communities to offer emergency power in times of need, a measure of security of supply, is marked as very rare.

To understand the action points depicted in Figure 8 the following table provides a description.

Table 29: Description of action points

Category	Name	Description
Networking and collaboration	Research projects	Participating in research and innovation projects with the involvement of companies and citizens
	Matchmaking	Acting as a matchmaker for energy communities (or citizens interested in creating one), helping to bring different stakeholders together
	Civil protection agreement	Having a cooperation agreement between civil protection and energy communities so that their generation and storage facilities can be used as emergency power generators in the event of a disaster
	Involve local companies	Involving local companies in the development of energy communities to reduce their dependence on external suppliers and the costs for energy
	Umbrella organization	Being part of an umbrella organization for the establishment and support of energy communities in several municipalities

### 3.4 Best practices

Best practices are important for the advancement and success of energy communities. They serve as exemplary models so that other local authorities and energy communities can learn from their strategies and innovative approaches. In the survey, respondents were asked to provide examples of best practices, that showcase the

importance of political will, community engagement and enabling framework conditions. The best practices are listed below, according to the country of origin:

### France

1. In France, the municipality of Naves included the creation of an energy community in their political agenda. To propel this initiative, the municipality organized public meetings and engaged with nearby municipalities, fostering collaboration and shared vision. In 2018, these efforts lead to the establishment of "Centrales Villageoises"<sup>10</sup>, a cooperative company primarily composed of citizens, local municipalities and local companies. This cooperative focuses on renewable energy and energy efficiency projects. The initiative builds on a project, during which local citizen owned companies in eight pilot sites in the Auvergne-Rhone-Alpes (AURA) region realised and financed photovoltaic plants. This model has since expanded throughout the Aura region and beyond, demonstrating the effectiveness of the political will of a municipality.
2. The Grand Est region in France supports the development of PV projects through a dedicated incentive program known as "Climaxion"<sup>11</sup>. This program offers grants for feasibility studies and investments in self-consumption projects, if these projects do not benefit from the feed-in tariff.
3. In the Haute-Savoie department in France, several local authorities have assigned the association "Innovalles" to establish energy communities in the region. Through Innovalles' efforts and the financial support of local municipalities, four energy communities have been created and have joined the Centrales Villageoises network.
4. The "Parc Naturel Régional des Baronnies Provençales"<sup>12</sup>, a group of local authorities, has appointed one of its agents to support the development of several energy communities within the area. The agent organised public meetings, and helped structure the group into working groups. This support has facilitated the relationship between the energy communities and the municipalities.
5. The "Centrales Villageoises"<sup>13</sup> association has successfully installed PV plants on the roofs of more than 250 public buildings. These roofs are rented by the local authorities to the energy community for a period of 20 years.

### Germany

1. In Brunenthal, Germany, a group of prosumers and consumers have come together to share their electricity<sup>14</sup>. In this initiative, a special tariff was offered to them by GreenCom, an IT company, in cooperation with the municipality. Currently the project is on hold, waiting for an improved legal national framework for energy communities. In the meantime, the municipality is offering funds to support energy efficiency improvements.
2. In Allensbach, Germany, the municipality has established a new living district called "Dübelhölzle"<sup>15</sup>, where energy sharing is integrated for all citizens. This district leverages flexible appliances that are intelligently controlled as "virtual batteries" through dynamic electricity tariffs. The locally generated, low-cost and environmentally friendly electricity is optimally used by the residents.

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<sup>10</sup> For more information: <https://www.centralesvillageoises.fr/actualite/voyage-au-coeur-des-projets-episode-15>

<sup>11</sup> For more information: <https://www.climaxion.fr/docutheque/soutien-au-photovoltaique>

<sup>12</sup> For more information: <https://www.baronnies-provencales.fr/nos-actions/energie/>

<sup>13</sup> For more information: <https://www.centralesvillageoises.fr/installations-pv-en-service-chiffres-cles>

<sup>14</sup> For more information: <https://www.pv-magazine.de/2020/11/09/greencom-networks-schliesst-aufbau-seiner-ersten-lokalen-energie-community-erfolgreich-ab/>

<sup>15</sup> For more information: <https://www.gemeinde-allensbach.de/wohnen-leben/energiemanagement-und-klimaplan-1/oekostrom-und-smart-grid?type=98>



3. The Dorfenergie eG in Eppishausen<sup>16</sup>, Germany, represents a citizen energy company focused on generating renewable energy. This project has received support from the local government, with the municipal council approving the leasing of municipal roofs for PV installations.
4. Bürgerwindkraft Fuchstal GmbH & Co. KG<sup>17</sup> is a citizen-led company that has been operating four wind turbines since September 2016 and is planning to realise three more. The wind farm was initiated by the municipality of Fuchstal. Next to the wind energy, the municipality of Fuchstal also has PV fields and a biogas plant. In addition, a power-to-heat system and an electricity storage unit were realised in the interests of sector coupling.

## Italy

1. In 2022 the Autonomous Province of Trento, Italy, provided grants based on European funds to companies dedicated to the installation of PV systems. The Autonomous Province of Trento provided an increased score for applicants who declared their intention to make the system available to a renewable energy community<sup>18</sup>.
2. In Italy, the Consortium of Municipalities BIM dell'Adige<sup>19</sup> and the Federazione Trentina delle Cooperative<sup>20</sup> offer funding for feasibility studies and the establishment of energy communities, facilitating the development of local energy initiatives.

## Greece

1. In Greece, local and regional authorities are supporting energy communities through several initiatives. The Energy Communities Law (4513/2018) allows municipalities, cooperatives, and citizens to invest in renewable energy projects. Municipalities like Trikala integrate energy communities into their smart city strategies, while the Region of Central Macedonia provides technical and financial support for local energy projects. Some municipalities, such as Volos, offer financial incentives to encourage the development of renewable energy. Additionally, platforms like the Greek Energy Forum foster collaboration and knowledge-sharing between local authorities and energy communities. For more information, resources are available on the Ministry of Environment and Energy and the Hellenic Ministry of Rural Development and Food websites.
2. There are several best practices in Greece regarding financial support for energy communities:
  - a. Energy Communities Law (Law 4513/2018): This law facilitates access to national and EU funding, helping local authorities and energy communities navigate financial opportunities.
  - b. Recovery and Resilience Fund: Municipalities have supported energy communities by facilitating access to EU funds for renewable energy projects, such as in Western Macedonia.
  - c. Energy Poverty Projects: Municipalities like Kozani have used energy communities to address energy poverty, providing clean energy solutions to disadvantaged groups.
  - d. Feasibility Studies: Local authorities in regions like Crete and Peloponnese have funded feasibility studies, supporting the development of renewable energy projects by energy communities.
3. In Greece, there are several best practices regarding informational and educational support for energy communities at the local or regional level.

<sup>16</sup> For more information: <https://www.dorfenergie-eg.de/index.html>

<sup>17</sup> For more information: <http://www.bwk-fuchstal.de/projektinformation/>

<sup>18</sup> For more information: <https://www.provincia.tn.it/Servizi/Contributi-installazione-impianti-fotovoltaici-Avviso-FESR-n.-2-2022>

<sup>19</sup> For more information: <https://www.bimrento.it/Amministrazione/Documenti-e-dati/Documenti-albo-pretorio/Deliberazione-nr.-29-del-2023>

<sup>20</sup> For more information: <https://energia.incooperazione.it/>; While public subsidies by local authorities (such as funding for feasibility studies) are limited for energy communities because they are enterprises, private companies like the Federazione Trentina delle Cooperative can choose to finance other enterprises (such as energy communities) without this limitation.

- a. Energy Communities of Citizens: Local authorities support citizen-led energy communities by offering educational resources, workshops, and seminars. This is often facilitated through national and EU funding.
  - b. Municipal Energy Forums & Workshops: Municipalities such as Thessaloniki organize public forums and workshops to educate citizens about energy communities and renewable energy.
  - c. Ministry of Environment and Energy Program: The Ministry offers guidance and resources to local authorities to support the creation of energy communities, with information available on their website.
  - d. EU Projects (Horizon 2020 - Smart Communities): Greek municipalities participate in EU-funded projects promoting smart energy communities, which include educational campaigns and public engagement.
  - e. Educational Initiatives in Schools: Schools work with local authorities to run sustainability projects, educating students and their families about energy communities and sustainability.
4. There are several best practices in Greece regarding the support of energy communities through organizational structures and administration at the local or regional level. Here are some examples:
- a. Regional Energy Agencies (e.g., KAPE - Centre for Renewable Energy Sources and Saving): KAPE is an example of a regional agency that supports municipalities and local authorities in the development of renewable energy projects, including energy communities. It provides technical support, advice, and guidance to local authorities and citizens interested in forming energy communities.
  - b. Municipality of Kozani: The municipality of Kozani has been a pioneer in supporting energy communities. It has actively promoted and facilitated energy community projects by setting up an energy management office, offering consultations, and providing information about financial opportunities for local projects. This initiative has helped the region establish several successful energy communities.
  - c. The Municipality of Chania's Smart City Initiatives: The Municipality of Chania in Crete has been integrating renewable energy solutions into its Smart City initiatives. It supports energy communities by collaborating with local stakeholders, including citizens, local businesses, and energy cooperatives, to improve energy efficiency and implement sustainable energy solutions.
  - d. These best practices showcase how local and regional administrations in Greece are supporting energy communities through organizational structures, departments, and agencies that facilitate knowledge sharing, technical expertise, and financial support.
5. In terms of technical infrastructure, the following are best practices found in Greece:
- a. Municipality of Kozani - Smart Energy City Initiative: Kozani has been a pioneer in developing technical and infrastructural prerequisites for energy communities. The municipality has been actively integrating renewable energy sources into its infrastructure, such as solar and wind energy systems, and facilitating energy communities through incentives and infrastructure support. Kozani's Smart Energy City initiative includes projects for collective energy supply and management systems.
  - b. Energy Community Projects in Eastern Macedonia and Thrace: In this region, local authorities have worked on integrating renewable energy solutions into public infrastructure, such as using public building rooftops for solar installations. The authorities have supported the formation of energy communities by providing access to public land and facilities for energy projects like photovoltaics (PV). They also have developed frameworks for integrating energy communities with local grid management.
  - c. Crete – Energy Transition and Smart Grids: In Crete, municipalities and regional authorities have worked together to implement smart grid technologies that support energy communities. They have integrated energy communities into the electricity grid planning to enhance flexibility and resilience. Local authorities provide incentives and technical support for the development of PV systems and energy management tools in collaboration with regional stakeholders.
6. There are several best practices in Greece regarding the provision of networking and collaboration opportunities to support energy communities at the local or regional level:

- a. Energy Communities in Western Macedonia: The region of Western Macedonia has implemented various initiatives to support energy communities, including establishing networks that connect local authorities, businesses, and citizens. Through these networks, local actors are encouraged to collaborate on renewable energy projects, reducing energy costs and increasing local energy independence. These collaborations are facilitated by the Regional Authority, providing both technical support and access to funding.
- b. The Municipality of Kozani: The Municipality of Kozani has become a key example of how local authorities can support energy communities by creating platforms for networking and collaboration. The municipality has been involved in the development of energy community projects with local residents, aiming to reduce energy consumption and promote sustainability. Through workshops and information sessions, local authorities actively engage citizens and businesses, helping them understand the potential benefits of energy communities.
- c. The "Green Energy Co-operatives" in Crete: Several municipalities on the island of Crete have initiated green energy co-operatives, which allow local communities to invest in renewable energy projects together. These co-operatives are supported by local authorities and provide a platform for collaboration between local businesses, residents, and energy providers. The aim is to strengthen local energy resilience and reduce reliance on external suppliers.

### Czech Republic

1. The Czech Republic shows good practices through the formation of regional energy agencies, for example SAKO Brno<sup>21</sup>.
2. The Czech Ministry of the Environment has opened a call for the establishment of an energy community which is financed through the national recovery plan, supporting the preparation of technical, economic and legal material for the formation of an energy community, as well as the necessary activities related to the establishment of the energy community, including its coordination. The call provides up to 3 million Czech crowns for each energy community, depending on the type of entities, vicinity of entities and location of involved connection points.<sup>22</sup>
3. Related to information and education, Frank Bold (lawyers) hold educational workshops on variety of topics including community energy<sup>23</sup>, and founded the Community Energy Union<sup>24</sup>.
4. In terms of technical infrastructure, energy sharing was explicitly related to the launch of Energy Data Center<sup>25</sup> - all information on the production and consumption of electricity at the level of households and large companies, on electricity flows or its sharing, will be concentrated there.

These best practices will serve as material for discussion in the ECOEMPOWER community platform, for exchange with ecosystem partners, for information provision to target groups, and as input for the Whitebook, which is an upcoming outcome of Work Package 4.

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<sup>21</sup> For more information, see: <https://sakosolar.cz/o-nas/>

<sup>22</sup> For more information, see: <https://www.narodniprogramzp.cz/nabidka-dotaci/detail-vyzvy/?id=126>

<sup>23</sup> For more information, see: <https://frankbold.org/resime/tema/podporujeme-obnovitelne-zdroje-energie-a-komunitni-energetiku>

<sup>24</sup> For more information, see: <https://www.uken.cz/the-community-energy-union>

<sup>25</sup> For more information, see: <https://www.edc-cr.cz/>

## 4 Recommendations for improving the framework for energy communities

The survey results indicate that although most action points are possible for local authorities to do, they often do not implement them. Even for local authorities already involved with energy communities (the ECOEMPOWER regional ecosystems), it is more uncommon than common to take most of these actions. This gap between possibility and implementation is due to the numerous challenges local authorities face together with limited resources, personnel and funding, along with competing priorities. At the same time, even if possible, many action points are complex to implement due to the national legal framework. National governments must improve that framework to provide local authorities with better possibilities to support energy communities.

Implementing as much as the presented action points would be the ideal way to support energy communities, but this is unrealistic given the constraints local authorities operate under. Nevertheless, energy communities can significantly help local authorities in achieving their climate and energy goals. The first step towards this is for local authorities to recognize the importance of energy communities and integrate them into their strategic plans. This inclusion also provides energy communities with a sense of stability and predictability.

### **Prioritizing key action points is essential for local authorities to support energy communities more efficiently.**

The complexity of the legal framework as well as the wide range of action points involved, require a strategy approach to ensure that resources are allocated effectively, especially because local authorities often face the challenge of lacking resources. That way, local authorities can start by implementing those action points, that have a high impact and address the most significant challenges.

As shown in the results of the survey presented in this report, a lot of knowledge is required to answer all the questions, as it was difficult for the respondents, even though they are very experienced when it comes to the energy sector and to energy communities. Therefore, **to identify these key action points, it is important to involve many stakeholders with specialized expertise in the different fields of action.** It would be beneficial to organize discussion tables in order to share expertise and collectively discuss which are the most critical actions that need to be taken by local authorities. This could for example be done through the ECOEMPOWER Knowledge and Community Platform<sup>26</sup>.

Another way of improving the conditions for energy communities with limited resources is to think creatively and explore synergies between energy communities' and local and regional entities' activities. By doing so, they might uncover innovative opportunities that benefit all parties involved. Some of the action points presented in this report can serve as inspiration. There are also instances where national legal frameworks appear to restrict certain actions at first glance. However, innovative approaches can often bypass these limitations<sup>27</sup>.

OSSs play an important role in informing and educating citizens and facilitating contact between municipalities and energy communities. This connections fosters collaboration on joint initiatives and creates opportunities for mutual benefit. The survey also revealed that respondents did not answer all question due to the complexity of the topic. Therefore, local authorities should engage in knowledge sharing and communication with other municipalities. Being part of an international association such as International Council for Local Environmental Initiatives (ICLEI) was the rarest action point in the survey. But it can significantly enhance this exchange of

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<sup>26</sup> The Knowledge and Community Platform is developed in the ECOEMPOWER project as an online platform for knowledge exchange and discussions between experts and stakeholders across multiple levels of governance.

<sup>27</sup> An example for an innovative approach is the „Synthetic Power Purchase Agreement” as described in Chapter 2.2.3.



ECOsystems EMPOWERing at regional and local scale  
supporting energy communities

information and experience, helping municipalities avoid starting from scratch when focusing more on energy communities.



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## 5 Cooperation with European active stakeholder groups

In order to support the consortium and the ECOEMPOWER project in leveraging the outcomes and ensuring success, a close cooperation with European-wide stakeholder groups - such as BRIDGE, FEDARENE, REScoop and ICLEI – is essential. To facilitate this, a list has been created to collect contacts from various European stakeholder groups. An important aspect is identifying the interest and willingness of specific contacts to cooperate.

The content and result that can be discussed or presented with these stakeholders are also identified under other activities from the consortium. Aside from EECF activities, we will aim at promoting our outcomes through events such as the EU Week of Regions and Cities or dedicated webinars organised by the entities of the EECF's ecosystem.

For example, the results shown in this report, generated by the survey, can be discussed with stakeholders to identify anomalies or differences compared to the EU stakeholders' perspectives and knowledge. To prepare for such activity, we have developed the tables found under Annex A. Together with the insights from the literature review, we plan on engaging stakeholders in such discussions for them to help us understand which ideas of the European vision for energy communities are not being effectively communicated or implemented at the local and regional levels and why. That way it can be analysed, to what extent the European strategies and expectations align with the real-life implementation of energy communities in municipalities and regions. Also, the prioritization of key action points as discussed in Chapter 4 **Errore. L'origine riferimento non è stata trovata.** could be discussed with the European stakeholders.

## 6 Conclusion

With the decentralization of the energy system, there also comes a corresponding shift towards greater responsibility at the local and regional levels. As the energy production shifts from fossil to renewable and infrastructure needs to change to meet the demands of this decentralized model, it is also important to rethink governance approaches: citizen-led initiatives.

Energy communities represent a valuable opportunity for municipalities. Fostering these communities, can increase citizen investment in RES, activate local economies, help to achieve long-term energy goals, and increase public acceptance of RES. The survey conducted and the analysis in this report shows that local authorities have a wide range of options for supporting, activating and establishing energy communities in their regions. However, the decision to focus on citizen-led initiatives rests with the municipalities themselves.

Despite the potential, the survey results indicate that many of the action points presented are rather uncommon to be implemented. This is because municipalities often face significant challenges due to limited resources, both in terms of personnel and finances, as well as a multitude of other issues that local governments have to deal with.

To overcome these constraints, it is important for municipalities to recognize and acknowledge the importance of energy communities, integrate them into their strategic plans, and prioritize key action points that align with their unique needs while also offering the highest impact. Additionally, exploring innovative opportunities and sharing knowledge among municipalities and other stakeholders through platforms such as the ECOEMPOWER Knowledge and Community Platform can be highly beneficial. The survey indicated that respondents did not answer all questions due to the topic's complexity, which underlines the need for more communication and knowledge-sharing, so that municipalities do not have to start from scratch when focusing on energy communities.

Additionally, establishing OSSs can help to support energy communities through all the layers of complexity by providing essential information, education and support to energy communities. They can also help to facilitate the collaboration between municipalities and energy communities, to the benefit of both parties.

There are also instances where the national regulatory framework hinders the implementation of supportive measures on local and regional level. Not only because they prohibit certain activities, but also because they are very complex or don't offer the stability that is needed for initiatives. Therefore, it is essential for improvements to be made at the national level to enable local authorities to positively influence the development of energy communities.

The best practices presented demonstrate that the commitment of a municipality can have a significant impact on the success of energy communities. The role of local authorities is crucial in this regard, and their proactive involvement can drive the growth and sustainability of energy communities and contribute to a more sustainable, community-focused and decarbonized energy future in the region.

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## 9 List of Abbreviations

<b>Abbreviation</b>	<b>Definition</b>
BEC	Building Energy Communities
BPP	Building Public Power
CEMG	Community Energy Municipal Guide
DSO	Distribution System Operator
EC	Energy Community
EU	European Union
ICLEI	International Council for Local Environmental Initiatives
IEMD	Internal Electricity Market Directive
KAPE	Centre for Renewable Energy Sources and Saving (Greece)
KG	German limited liability partnership
LoRaWAN	Long Range Wide Area Network
MG	Municipal Guide
OSS	One Stop Shop
PPA	Power Purchase Agreement
PV	Photovoltaic
REDII	Renewable Energy Directive
RES	Renewable Energy Sources
SECAP	Sustainable Energy and Climate Action Plan
SME	Small and Medium Enterprise

## A. Annex A – Checklist for local and regional authorities

The following tables can be used as checklists or priority lists, for replicators and regional ecosystem members to assess their strategies. Local and regional authorities may do so through roles they perform (presented in figure 1 and partly described under section 2.2.2), and the action points related to each role. This will enable to foster the development of enabling frameworks by identifying and prioritising action points, to deliver a sound and progressive strategy. These lists and their utilisation will be explored in co-creation activities under the ECOEMPOWER Community Platform.

### Field of action: Political support

Check / Prioritise	Political Action Point	Roles
	Having the topic of cooperative decentralized energy systems on their political agenda	<b>Municipal Sponsor:</b> Leads policy direction to prioritize energy communities
	Being a member of an international association for cooperation among municipalities (e.g. ICLEI), promoting sustainable and inclusive development	<b>Municipal Sponsor:</b> Visibility for energy efforts <b>Partnership Formation:</b> Builds networks
	Applying participatory processes to involve citizens in the local and regional strategy development (e.g. in events such as climate conferences, real estate industry workshops, etc.)	<b>Creator of Favourable Conditions:</b> Enables citizen involvement <b>Partnership Formation:</b> builds collaboration
	Designating priority areas for collective energy installations in the land-use plan	<b>Municipal Sponsor:</b> support energy communities <b>Creator of Favourable Conditions:</b> Ensures zoning policies
	Including energy community related topics in the local climate action plan e.g. SECAP	<b>Municipal Sponsor:</b> Embeds energy community goals into policy frameworks
	Including energy community related topics in the urban development plans including neighbourhood concepts, development areas, redevelopment areas, etc.	<b>Municipal Sponsor &amp; Creator of Favourable Conditions:</b> Incorporates energy objectives into urban development strategies

Check / Prioritise	Political Action Point	Roles
	Including energy community related topics in heat planning	<b>Municipal Sponsor &amp; Municipal Utility:</b> Integrates heat systems with local energy plans
	Mandating a certain level of citizen participation in large-scale renewable energy projects	<b>Creator of Favourable Conditions:</b> Establishes fair participation rules
	Giving energy communities an advantage in the selection criteria for public procurement contracts	<b>Municipal Contractor:</b> Adapts procurement rules to benefit energy communities

Potential additional action point(s) from Best Practice example in France (Baronnies Provençales Park), regarding clear responsibilities:

- Adding specialized roles (i.e. appoint an agent to coordinate energy communities, organize public meetings, and link municipalities with working groups)
- Role: *Municipal Utility, Partnership Formation*: Provides leadership and coordination for energy projects

Field of action: Financial support

Check/ Prioritise	Financial Action point	Roles
	Grants or subsidies to support the construction and installation of renewable energy systems, storage systems or other energy projects.	<b>Municipal Sponsor:</b> Offers funding to lower costs
	Grants or subsidies for the organizational costs of energy communities, e.g. human resources and costs related to the management of the legal entity	<b>Municipal Sponsor, Municipal Utility:</b> Reduces barriers to managing energy communities
	Low-interest loans or credits to make investments easier	<b>Municipal Utility, Municipal Co-owner:</b> Facilitates investment with financial tools
	Financial support for pre-development costs of energy communities e.g. feasibility or potential studies	<b>Municipal Sponsor, Initiator:</b> Funds preliminary project assessments
	Tax incentives such as tax relief for citizen-led energy projects	<b>Municipal Sponsor, Creator of Favourable Conditions:</b> Implements fiscal support mechanisms
	Providing advice and/or publicly available information on existing financing options for energy communities	<b>Municipal Sponsor, Municipal Utility:</b> Provides expert guidance on funding
	Offering financial support to energy communities taking action on energy poverty (e.g. supporting economically disadvantaged members of society on energy matters)	<b>Municipal Sponsor:</b> Prioritizes inclusive energy projects

Potential additional financial action point(s) from Best Practice Example in Italy (Trento):

- Incorporating scoring criteria incentives (i.e. give companies higher scores in grant application, if they are committing to share their renewable energy systems with a renewable energy community)
- Role: *Municipal Sponsor, Municipal Contractor:* Embeds social value criteria in grant allocations

Field of action: Education and information

Check/ Prioritise	Education and Information Action Point	Roles
	Raising awareness about collective energy initiatives through cultural events in order to reach a wide range of citizens (e.g. with suitable speakers, artists or cultural associations)	<b>Municipal Sponsor, Initiator:</b> Promotes outreach and education efforts
	Informing and encouraging existing communities to get involved with energy by becoming energy communities (e.g. members of sports clubs, religious communities, teachers and parents of a school, etc.)	<b>Municipal Sponsor, Creator of Favourable Conditions:</b> Provides resources and connects citizens
	Providing publicly accessible and easily understandable information about forming an energy community	<b>Municipal Sponsor, Creator of Favourable Conditions:</b> Ensures clear communication and guidance
	Providing incentives for counselling companies to settle in the region and support citizens in setting up energy communities	<b>Municipal Sponsor:</b> Encourages expert support through incentives
	Encouraging the establishment of an energy community with teachers and parents to co-operatively improve the schools' energy supply and communicate what has been learnt to the pupils	<b>Municipal CO-owner, Partnership Formation:</b> Engages schools in cooperative energy management
	Integrating topics such as sustainability, climate change and renewable energy into the school system (e.g. by promoting school projects and competitions focused on these topics or including them into the curriculum)	<b>Municipal Sponsor, Partnership Formation:</b> Embeds energy topics into education
	Doing events to inform citizens about the joint establishment of energy communities among neighbouring municipalities	<b>Municipal Sponsor, Partnership Formation:</b> Brings together municipalities and stakeholders for collaboration

Field of action: Organisational structure and administration

Check/ Prioritise	Organisational Structure and Administration Action point	Roles
	Staff that is familiar with or trained in the topic of energy communities	<b>Municipal Utility, Municipal Sponsor:</b> Develops internal expertise to support communities
	A staff unit for participation which also supports citizens in the formation of energy communities	<b>Municipal Sponsor, Municipal Utility, Partnership Formation:</b> Coordinates support for community engagement
	An energy agency that advises and supports citizens in the implementation of collective energy initiatives	<b>Municipal Utility, Municipal Sponsor, Creator of Favourable Conditions:</b> Offers dedicated public resources
	A department for climate management that supports energy communities	<b>Municipal Utility:</b> Aligns climate and energy goals
	A department for energy management that supports energy communities	<b>Municipal Utility:</b> Oversees energy systems and planning
	A position for an innovation consultant (possibly together with other municipalities)?	<b>Municipal Contractor, Municipal Utility, Partnership formation:</b> Drives innovation and integration with other municipalities



Field of action: Technical infrastructure

Check/ Prioritise	Technical Infrastructure Action point	Roles
	Integrating infrastructure for collective heat supply in the development of building areas	<b>Municipal Utility, Municipal Co-owner, Municipal Contractor:</b> Designs infrastructure for shared heat supply
	Integrating control infrastructure (fibre optics, mobile communications, LoRaWAN) for the networking of energy systems in the development of building areas	<b>Municipal Utility:</b> Implements digital and control technologies
	Establishing requirements for intelligent, energy networking of buildings (e.g. information and communication requirements for energy management systems) stipulated in the development plans or urban development contracts for new development areas	<b>Municipal Contractor, Creator of Favourable Conditions:</b> Creates regulatory standards
	Providing access to public land, buildings and facilities to an energy community for the development of energy projects e.g. the roof of sport halls for the construction and operation of PV systems	<b>Municipal Utility, Municipal Co-owner, Municipal Sponsor:</b> Provides land and financial access
	Referring to a national comprehensive architecture considering energy communities as part of the future smart grid (e.g. with defined roles and responsibilities of most relevant actors for a decarbonised energy system)	<b>Creator of Favourable Conditions, Partnership Formation:</b> Coordinates broader energy system integration
	Integrating energy communities in electricity grid planning and operation (e.g. flexibility provision, resilience)	<b>Municipal Utility:</b> Links grid management with community operations

Field of action: Networking and collaboration

Check/ Prioritise	Networking and Collaboration Action Point	Roles
	Participating in research and innovation projects with the involvement of companies and citizens	<b>Municipal sponsor, Initiator, Partnership Formation:</b> Engages in knowledge-sharing initiative
	Acting as a matchmaker for energy communities (or citizens interested in creating one), helping to bring different stakeholders together	<b>Partnership Formation:</b> Connects various stakeholders for project creation
	Becoming a member in an energy community (e.g. participating in collective self-supply with its own properties and their energy systems)	<b>Municipal Co-owner, Municipal Utility:</b> Directly participates in community energy projects
	Having the public utility of the region actively supporting energy communities e.g. through cooperation, facilitation or by becoming a member	<b>Municipal Utility, Partnership formation:</b> Provides technical, financial, and organizational support
	Having a cooperation agreement between civil protection and energy communities so that their generation and storage facilities can be used as emergency power generators in the event of a disaster	<b>Municipal Utility, Municipal Sponsor, Partnership Formation:</b> Strengthens resilience through cooperation
	Involving local companies in the development of energy communities to reduce their dependence on external suppliers and the costs for energy	<b>Municipal Sponsor, Partnership Formation:</b> Engages businesses for local solutions
	Being part of an umbrella organization for the establishment and support of energy communities in several municipalities	<b>Municipal Sponsor, Partnership Formation:</b> Links multiple municipalities for collective action

## B. Annex B - Questionnaire

The purpose of this questionnaire is to **understand to what extent there is a favorable framework for energy communities at regional and local level in different partner countries**. We aim to **collect best practices** that can serve as a solid foundation for our whitebook, as well as **identify hurdles** that hinder the establishment of good framework conditions.

The survey sections are divided into:

1. Political support
2. Financial support
3. Information and education
4. Organisational structure and administration
5. Technical infrastructure
6. Networking and collaboration opportunities

At the end of the questionnaire, you can save a summary of your answers if needed.

In this questionnaire, the term "energy community" is used. Since the definition of energy communities varies from country to country, for the purposes of this questionnaire, **"energy communities" refers to all collective energy actions as well as different legal frameworks** facilitating the collaboration of citizens to actively participate in the energy system (e.g. energy cooperatives).

If there are questions you can not answer directly, feel free to **consult with colleagues or partners in your network**. You can pause the survey at any time and resume it at a later point. Please note that the **deadline for completing the questionnaire is June 28th**.

Thank you for your valuable input and cooperation.

### 1. Before you can start with the questionnaire, please provide your personal information for further enquiries.

NOTE: The questions of this survey address both countries and specific regions (i.e. the region you feel most qualified to represent). Normally, this region relates to the regional ecosystems of ECOEMPOWER. But, because we are sharing this survey with all partners of the consortium, if anyone has more expertise on other regions, please specify below and provide input correspondingly.

Respondent name	<input type="text"/>
Partner organisation	<input type="text"/>
Country	<input type="text"/>
Region of expertise within country (e.g. regional ecosystem)	<input type="text"/>

## Political Support

This section deals with political support that local authorities can give to facilitate the creation and development of energy communities.

Please keep in mind that in the scope of this survey we are using **energy communities as a broad term to describe all collective energy actions as well as different legal frameworks** facilitating the collaboration of citizens to actively participate in the energy system (e.g. energy cooperatives).

### 2. In your country, which of the following actions can local authorities take to politically support the establishment of energy communities?

	Legally not possible	Possible, on a voluntary basis	Mandatory	N/A
Having the topic of cooperative decentralized energy systems on their political agenda	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being a member of an international association for cooperation among municipalities (e.g. ICLEI), promoting sustainable and inclusive development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Applying participatory processes to involve citizens in the local and regional strategy development (e.g. in events such as climate conferences, real estate industry workshops, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Designating priority areas for collective energy installations in the land-use plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Including energy community related topics in the local climate action plan e.g. SECAP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Including energy community related topics in the urban development plans including neighborhood concepts, development areas, redevelopment areas, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Including energy community related topics in heat planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mandating a certain level of citizen participation in large-scale renewable energy projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Giving energy communities an advantage in the selection criteria for public procurement contracts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 3. In your country, do you know of any best practices regarding the political support for energy communities on a local or regional level? If yes, please briefly describe these best practices or provide a link to access more information.

Feel free to name more than one best practice. You can refer to an action point mentioned above, or name another way in which an energy community has been supported politically.

Description of best practices:

Links to best practices:

**4. In your country, what have been the hurdles regarding political support for energy communities on local or regional level?**

The hurdles can relate directly to the action points mentioned above or provide a general overview of the obstacles local authorities face when they want to support energy communities politically.

question(P009)

**5. How common is it for local authorities to take the following actions to support energy communities in your region?**

It is important to note that this is an approximate estimate based on your experience.

	Very rare	Rare	Somewhat common	Common	Very common
Having the topic of cooperative decentralized energy systems on their political agenda	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being a member of an international association for cooperation among municipalities (e.g. ICLEI), promoting sustainable and inclusive development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Applying participatory processes to involve citizens in the local and regional strategy development (e.g. in events such as climate conferences, real estate industry workshops, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Designating priority areas for collective energy installations in the land-use plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Including energy community related topics in the local climate action plan e.g. SECAP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Including energy community related topics in the urban development plans including neighborhood concepts, development areas, redevelopment areas, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Including energy community related topics in heat planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mandating a certain level of citizen participation in large-scale renewable energy projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Giving energy communities an advantage in the selection criteria for public procurement contracts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

question(P011)

**6. If you want to provide any comment or explanation for your selection, please do so here:**



## Financial Support

This section deals with financial support that local authorities can give to facilitate the creation and development of energy communities.

Please keep in mind that in the scope of this survey we are using **energy communities as a broad term to describe all collective energy actions as well as different legal frameworks** facilitating the collaboration of citizens to actively participate in the energy system (e.g. energy cooperatives).

### 7. In your country, which of the following actions can local authorities take to financially support the establishment of energy communities?

	Legally not possible	Possible, on a voluntary basis	Mandatory	N/A
Grants or subsidies to support the construction and installation of renewable energy systems, storage systems or other energy projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Grants or subsidies for the organizational costs of energy communities, e.g. human resources and costs related to the management of the legal entity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low-interest loans or credits to make investments easier	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial support for pre-development costs of energy communities e.g. feasibility or potential studies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tax incentives such as tax relief for citizen-led energy projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing advice/publicly available information on existing financing options for energy communities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Offering financial support to energy communities taking action on energy poverty (e.g. supporting economically disadvantaged members of society on energy matters)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 8. In your country, do you know of any best practices regarding the financial support for energy communities on a local or regional level? If yes, please briefly describe these best practices or provide a link to access more information.

Feel free to name more than one best practice. You can refer to an action point mentioned above, or name another way in which an energy community has been supported financially.

Description of best practices:

Links to best practices:

**9. In your country, what have been the hurdles regarding financial support for energy communities on local or regional level?**

The hurdles can relate directly to the action points mentioned above or provide a general overview of the obstacles local authorities face when they want to support energy communities financially.

question(F003)

**10. How common is it for local authorities to take the following actions to support energy communities in your region?**

It is important to note that this is an approximate estimate based on your experience.

	Very rare	Rare	Somewhat common	Common	Very common
Grants or subsidies to support the construction and installation of renewable energy systems, storage systems or other energy projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Grants or subsidies for the organizational costs of energy communities, e.g. human resources and costs related to the management of the legal entity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low-interest loans or credits to make investments easier	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial support for pre-development costs of energy communities e.g. feasibility or potential studies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tax incentives such as tax relief for citizen-led energy projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing advice/publicly available information on existing financing options for energy communities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Offering financial support to energy communities taking action on energy poverty (e.g. supporting economically disadvantaged members of society on energy matters)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

question(F008)

**11. If you want to provide any comment or explanation for your selection, please do so here:**

## Informational and Educational Support

This section deals with informational and educational support that local authorities can give to facilitate the creation and development of energy communities.

Please keep in mind that in the scope of this survey we are using **energy communities as a broad term to describe all collective energy actions as well as different legal frameworks** facilitating the collaboration of citizens to actively participate in the energy system (e.g. energy cooperatives).

### 12. In your country, which of the following information and education related actions can local authorities take to support the creation of energy communities?

	Legally not possible	Possible, on a voluntary basis	Mandatory	N/A
Raising awareness about collective energy initiatives through cultural events in order to reach a wide range of citizens (e.g. with suitable speakers, artists or cultural associations)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Informing and encouraging existing communities to get involved with energy by becoming energy communities (e.g. members of sports clubs, religious communities, teachers and parents of a school, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing publicly accessible and easily understandable information about forming an energy community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing incentives for counselling companies to settle in the region and support citizens in setting up energy communities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encouraging the establishment of an energy community with teachers and parents to co-operatively improve the schools' energy supply and communicate what has been learnt to the pupils	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrating topics such as sustainability, climate change and renewable energy into the school system (e.g. by promoting school projects and competitions focused on these topics or including them into the curriculum)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing events to inform citizens about the joint establishment of energy communities among neighboring municipalities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 13. In your country, do you know of any best practices regarding the informational and educational support for energy communities on a local or regional level? If yes, please briefly describe these best practices or provide a link to access more information.

Feel free to name more than one best practice. You can refer to an action point mentioned above, or name another way in which the creation of energy communities has been supported through informing and educating citizens.



Description of best practices:

Links to best practices:

**14. In your country, what have been the hurdles regarding informational and educational support for energy communities on local or regional level?**

The hurdles can relate directly to the action points mentioned above or provide a general overview of the obstacles local authorities face when they want to support the creation of energy communities by informing and educating citizens.

questions(2.02)

**15. How common is it for local authorities to take the following actions to support energy communities in your region?**

It is important to note that this is an approximate estimate based on your experience.

	Very rare	Rare	Somewhat rare	Common	Very common
Raising awareness about collective energy initiatives through cultural events in order to reach a wide range of citizens (e.g. with suitable speakers, artists or cultural associations)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Informing and encouraging existing communities to get involved with energy by becoming energy communities (e.g. members of sports clubs, religious communities, teachers and parents of a school, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing publicly accessible and easily understandable information about forming an energy community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing incentives for counselling companies to settle in the region and support citizens in setting up energy communities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encouraging the establishment of an energy community with teachers and parents to co-operatively improve the schools' energy supply and communicate what has been learnt to the pupils	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrating topics such as sustainability, climate change and renewable energy into the school system (e.g. by promoting school projects and competitions focused on these topics or including them into the curriculum)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing events to inform citizens about the joint establishment of energy communities among neighboring municipalities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

question(9.08)

**16. If you want to provide any comment or explanation for your selection, please do so here:**

**Organizational Structure and Administration**

This section deals with support that local authorities can give through the local and regional organizational structure and administration to facilitate the creation and development of energy communities.

Please keep in mind that in the scope of this survey we are using **energy communities as a broad term to describe all collective energy actions as well as different legal frameworks** facilitating the collaboration of citizens to actively participate in the energy system (e.g. energy cooperatives).

**17. In your country, which of the following capacities can local or regional administrations hold to support energy communities?**

	Legally not possible	Possible, on a voluntary basis	Mandatory	N/A
Staff that is familiar with or trained in the topic of energy communities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A staff unit for participation which also supports citizens in the formation of energy communities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An energy agency that advises and supports citizens in the implementation of collective energy initiatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A department for climate management that supports energy communities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A department for energy management that supports energy communities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A department for building management that supports energy communities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A position for an innovation consultant (possibly together with other municipalities)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**18. In your country, do you know of any best practices regarding the support of energy communities through the organizational structure and administration on local or regional level? If yes, please briefly describe these best practices or provide a link to access more information.**

Feel free to name more than one best practice. You can refer to an action point mentioned above, or name another way in which an energy community has been supported through the organizational structure and administration on local or regional level.

Description of best practices:

Links to best practices:

**19. In your country, what have been the hurdles regarding the support for energy communities through the organizational structure and administration on local or regional level?**

The hurdles can relate directly to the action points mentioned above or provide a general overview of the obstacles local authorities face when they want to support energy communities through their local or regional administration.

question("QA02")

**20. How common is it for local or regional administrations to hold the following capacities in order to support energy communities in your region?**

It is important to note that this is an approximate estimate based on your experience.

	Very rare	Rare	Somewhat common	Common	Very common
Staff that is familiar with or trained in the topic of energy communities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A staff unit for which also supports citizens in the formation of energy communities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An energy agency that advises and supports citizens in the implementation of collective energy initiatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A department for climate management that supports energy communities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A department for energy management that supports energy communities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A department for building management that supports energy communities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A position for an innovation consultant (possibly together with other municipalities)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

question("QA07")

**21. If you want to provide any comment or explanation for your selection, please do so here:**



## Technology and Infrastructure

This section deals with the support that local authorities can give through providing good technical and infrastructural prerequisites to facilitate the creation and development of energy communities.

Please keep in mind that in the scope of this survey we are using **energy communities as a broad term to describe all collective energy actions as well as different legal frameworks** facilitating the collaboration of citizens to actively participate in the energy system (e.g. energy cooperatives).

### 22. In your country, which of the following actions are possible for local authorities to provide good technical/infrastructural prerequisites to support energy communities?

	Legally not possible	Possible, on a voluntary basis	Mandatory	N/A
Integrating infrastructure for collective heat supply in the development of building areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrating control infrastructure (fibre optics, mobile communications, LoRaWAN) for the networking of energy systems in the development of building areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establishing requirements for intelligent, energy networking of buildings (e.g. information and communication requirements for energy management systems) stipulated in the development plans or urban development contracts for new development areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing access to public land, buildings and facilities to an energy community for the development of energy projects e.g. the roof of sport halls for the construction and operation of PV systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Referring to a national comprehensive architecture considering energy communities as part of the future smart grid (e.g. with defined roles and responsibilities of most relevant actors for a decarbonised energy system)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrating energy communities in electricity grid planning and operation (e.g. flexibility provision, resilience)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 23. In your country, do you know of any best practices regarding local authorities providing good technical/infrastructural prerequisites for energy communities? If yes, please briefly describe these best practices or provide a link to access more information.

Feel free to name more than one best practice. You can refer to an action point mentioned above, or name another way in which an energy community has been supported by providing good technical/infrastructural prerequisites.

best practices:

Links to best practices:

**24. In your country, what have been the hurdles regarding the provision of good technical and infrastructural prerequisites by local authorities to support energy communities?**

The hurdles can relate directly to the action points mentioned above or provide a general overview of the obstacles local authorities face when they want to support energy communities by providing good technical and infrastructural prerequisites.

question(102)

**25. How common is it for local authorities to take the following actions to support energy communities in your region?**

It is important to note that this is an approximate estimate based on your experience.

	Very rare	Rare	Somewhat common	Common	Very common
Integrating infrastructure for collective heat supply in the development of building areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrating control infrastructure (fibre optics, mobile communications, LoRaWAN) for the networking of energy systems in the development of building areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establishing requirements for intelligent, energy networking of buildings (e.g. information and communication requirements for energy management systems) stipulated in the development plans or urban development contracts for new development areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing access to public land, buildings and facilities to an energy community for the development of energy projects e.g. the roof of sport halls for the construction and operation of PV systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Referring to a national comprehensive architecture considering energy communities as part of the future smart grid (e.g. with defined roles and responsibilities of most relevant actors for a decarbonised energy system)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrating energy communities in electricity grid planning and operation (e.g. flexibility provision, resilience)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

questions("102")

**26. If you want to provide any comment or explanation for your selection, please do so here:**

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## Networking and Collaboration

This section deals with the support that local authorities can give through providing networking and collaboration opportunities to facilitate the establishment of energy communities.

Please keep in mind that in the scope of this survey we are using **energy communities as a broad term to describe all collective energy actions as well as different legal frameworks** facilitating the collaboration of citizens to actively participate in the energy system (e.g. energy cooperatives).

**27. In your country, which of the following actions can local authorities take to provide networking and collaboration opportunities for energy communities?**

	Legally not possible	Possible, on a voluntary basis	Mandatory	N/A
Participating in research and innovation projects with the involvement of companies and citizens	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acting as a matchmaker for energy communities (or citizens interested in creating one), helping to bring different stakeholders together	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Becoming a member in an energy community (e.g. participating in collective self-supply with its own properties and their energy systems)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having the public utility of the region actively supporting energy communities e.g. through cooperation, facilitation or by becoming a member	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having a cooperation agreement between civil protection and energy communities so that their generation and storage facilities can be used as emergency power generators in the event of a disaster	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Involving local companies in the development of energy communities to reduce their dependence on external suppliers and the costs for energy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being part of an umbrella organization for the establishment and support of energy communities in several municipalities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**28. In your country, do you know of any best practices regarding the provision of networking and collaboration opportunities to support energy communities on a local or regional level? If yes, please**



Briefly describe these best practices or provide a link to access more information.  
 Feel free to name more than one best practice. You can refer to an action point mentioned above, or name another way in which an energy community has been supported by providing networking and collaboration opportunities.

Description of best practices:	<div style="border: 1px solid black; height: 60px;"></div>
Links to best practices:	<div style="border: 1px solid black; height: 60px;"></div>

**29. In your country, what have been the hurdles regarding the provision of networking and collaboration opportunities to support energy communities on local or regional level?**  
 The hurdles can relate directly to the action points mentioned above or provide a general overview of the obstacles local authorities face when they want to support energy communities by providing networking and collaboration opportunities.

question("Q02")

**30. How common is it for local authorities to provide the following networking and collaboration opportunities for energy communities in your region?**  
 It is important to note that this is an approximate estimate based on your experience.

	Very rare	Rare	Somewhat common	Common	Very common
Participating in research and innovation projects with the involvement of companies and citizens	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acting as a matchmaker for energy communities (or citizens interested in creating one), helping to bring different stakeholders together	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Becoming a member in an energy community (e.g. participating in collective self-supply with its own properties and their energy systems)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having the public utility of the region actively supporting energy communities e.g. through cooperation, facilitation or by becoming a member	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having a cooperation agreement between civil protection and energy communities so that their generation and storage facilities can be used as emergency power generators in the event of a disaster	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Involving local companies in the development of energy communities to reduce their dependence on external suppliers and the costs for energy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being part of an umbrella organization for the	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

several municipalities

question(10317)

**31. If you want to provide any comment or explanation for your selection, please do so here:**

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**32. Are there any other ways in which local authorities of your country can support the establishment and activation of energy communities, that haven't been mentioned?**

**33. Are there any ongoing or future initiatives or efforts in your country, region or municipality that would facilitate the creation and development of energy communities on regional or local level?**

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**34. Summary of answers**

Print

Last Page

**Thank you for completing this questionnaire!**

We would like to thank you very much for helping us.

Your answers were transmitted, you may close the browser window or tab now.





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Gennaio 2025

## D4.3 RAPPORTO SUL QUADRO DI RIFERIMENTO LOCALE E REGIONALE DELLE COMUNITÀ ENERGETICHE

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Il progetto ECOEMPOWER - ECOSystems EMPOWERing at regional and local scale supporting energy communities riceve un finanziamento dall'Agenzia esecutiva europea per il clima, le infrastrutture e l'ambiente (CINEA) nell'ambito dell'Accordo di sovvenzione n°101120775.



## RIFERIMENTI TECNICI

<b>Acronimo del progetto</b>	ECOEMPOWER
<b>Titolo del progetto</b>	ECOsystems EMPOWERing at regional and local scale supporting energy communities
<b>Programma di finanziamento</b>	LIFE 2027
<b>Bando</b>	LIFE-2022-CET
<b>Argomento</b>	LIFE-2022-CET-ENERCOM
<b>Coordinatore del progetto</b>	Cinzia Morisco (FBK), <a href="mailto:cmorisco@fbk.eu">cmorisco@fbk.eu</a>
<b>Data di inizio del progetto</b>	Settembre 1 <sup>st</sup> , 2023
<b>Data di fine progetto</b>	Agosto 31 <sup>st</sup> , 2026
<b>Durata del progetto</b>	36 mesi
<b>ID progetto</b>	101120775

<b>Consegna n.</b>	D4.3
<b>Livello di diffusione</b>	PU - Pubblico
<b>Pacchetto di lavoro</b>	WP4
<b>Compito</b>	T4.3 - Frameworks for cooperative energy supply organizations that can be improved on local and regional level
<b>Beneficiario principale</b>	B.A.U.M. Consult (DE)
<b>Autore/i</b>	Charlotte Budde (BAUM)
<b>Beneficiari partecipanti</b>	Carlos Ayon Mac Gregor (BAUM); Ecosistemi regionali: PAT (Italy), ROCG (Greece), eza! (Germany), AURA-EE (France), EAZK (Czech Republic)
<b>Revisore/i</b>	Cinzia Morisco (FBK) Eleni Kotali (UBE)
<b>Data di scadenza del documento</b>	31.08.2024

Data di consegna effettiva	27.02.2024
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## RIEPILOGO GENERALE

Con il decentramento, la democratizzazione e la decarbonizzazione del sistema energetico, le responsabilità si spostano sempre più verso il livello locale e regionale. Dal punto di vista dell'Unione Europea, dare ai cittadini la possibilità di partecipare attivamente al settore energetico attraverso le comunità energetiche è un modo efficace per attivare in modo diffuso il potenziale di produzione di energia rinnovabile. Tuttavia, molte di queste comunità si trovano ad affrontare sfide significative, navigando tra le complessità del quadro giuridico e del più ampio sistema energetico, tra cui il finanziamento delle iniziative, la comprensione delle regole tecniche e la necessità di personale. Lo sviluppo di soluzioni per facilitare questo percorso può essere più efficace a livello subnazionale (cioè regionale e locale).

Per affrontare queste sfide, ECOEMPOWER mira a progettare e implementare OSS per sostenere queste iniziative guidate dai cittadini. Le autorità locali e regionali svolgono un ruolo cruciale nel creare un ambiente che faciliti la creazione e l'insediamento di comunità energetiche. Questo ruolo è importante anche per i cittadini e i consumatori, in quanto consente la partecipazione alla transizione energetica e rafforza il rapporto bottom-up con i livelli superiori di governance. Più le persone e le comunità sono coinvolte in questa transizione, più facile sarà raggiungere gli obiettivi energetici e climatici.

Per creare un quadro di condizioni favorevoli, le autorità locali devono sfruttare la flessibilità di cui dispongono per attuare regolamenti e iniziative che creino un ambiente adatto. Tale quadro dovrebbe essere progressivo, incoraggiare l'innovazione ed essere chiaro, stabile e prevedibile.

La ricerca in letteratura indica che i Comuni possono assumere diversi ruoli per sostenere le comunità energetiche. Un ruolo significativo è quello di creare condizioni favorevoli. Tali condizioni comprendono l'emanazione di regolamenti di sostegno, la fornitura di informazioni e consulenza, l'offerta di un sostegno finanziario che tenga conto anche delle innovazioni, la messa a disposizione di personale e risorse, la messa a disposizione di terreni ed edifici pubblici, la facilitazione della creazione di reti tra gli stakeholder locali, l'acquisto di energia elettrica o calore dalla comunità (ad esempio inserendo dei criteri di offerta nelle gare d'appalto pubbliche in modo che considerino anche gli aspetti sociali) e la possibilità che le autorità locali e regionali diventino membri diretti di una comunità energetica.

La diversità delle potenziali azioni dimostra che esistono numerose opportunità per le autorità locali di migliorare il contesto nell'ottica delle comunità energetiche. Tuttavia, la flessibilità e l'ambito di azione nei diversi Paesi variano, così come variano il quadro giuridico nazionale e l'influenza che i diversi livelli di governance hanno. Per valutare la misura in cui questo quadro favorevole per le comunità energetiche esiste a livello regionale e locale, in regioni selezionate dei Paesi partner di ECOEMPOWER (Francia, Germania, Grecia, Italia, Repubblica Ceca), è stato sviluppato un questionario. Agli intervistati è stato chiesto se le diverse azioni a sostegno delle comunità energetiche fossero legalmente possibili, volontariamente possibili o obbligatorie e, se volontariamente possibili, quanto fosse comune intraprendere tali azioni nella loro regione.

I risultati del questionario indicano che la maggior parte dei punti d'azione è volontariamente possibile per le autorità locali in tutti i Paesi, ma spesso non viene attuata. Una delle ragioni è rappresentata dalle numerose sfide che le autorità locali devono affrontare, tra le quali risorse limitate, scarsità di personale e finanziamenti, nonché priorità concorrenti. Inoltre, alcuni punti d'azione sono difficili da attuare a causa di specificità del quadro giuridico nazionale.

L'indagine ha mostrato che per tutte le regioni corrispondenti, il sostegno finanziario ha ottenuto il punteggio migliore, essendo l'azione più comune intrapresa dalle autorità locali, mentre la struttura organizzativa e l'amministrazione hanno ottenuto il punteggio più basso, il che significa che è piuttosto raro che le diverse istituzioni locali e/o regionali siano in grado di supportare direttamente le comunità energetiche. Ciò evidenzia l'importanza degli OSS, che possono centralizzare le competenze e riunire le comunità energetiche e i comuni.

Il primo passo per sostenere le comunità energetiche è riconoscere il loro potenziale e integrarlo in piani strategici a lungo termine. L'integrazione fornisce a queste comunità un senso di stabilità e prevedibilità. Detto questo, ogni regione è libera di scegliere una strategia in base al proprio contesto. Pertanto, le autorità locali e regionali dovrebbero pensare in modo innovativo ed esplorare le sinergie tra gli stakeholder delle comunità energetiche adattandole al meglio al loro contesto nazionale e alle loro relazioni multilivello dal punto di vista tecnologico, sociale, politico ed economico.

Dare priorità ai punti d'azione chiave che hanno un impatto elevato e affrontano sfide significative è essenziale, dati i vincoli in cui operano le autorità locali. Ma anche la condivisione delle conoscenze con altri stakeholder, come ad esempio altre autorità locali che affrontano problemi simili, può aiutare a ridurre le risorse necessarie per implementare questi punti d'azione. L'organizzazione di tavoli di discussione con soggetti specializzati in aree diverse può fornire spunti preziosi e persino portare alla collaborazione. La piattaforma comunitaria ECOEMPOWER (risultato del WP4 e del WP7) cerca di favorire questo scambio di conoscenze e si avvarrà anche dei risultati di questo deliverable per raggiungerlo.

Le migliori pratiche raccolte attraverso l'indagine dimostrano l'impatto significativo dell'impegno di un comune, in quanto il suo coinvolgimento proattivo può guidare la crescita e la sostenibilità delle comunità energetiche, a beneficio, in ultima analisi, degli stakeholder di ciascuna regione.

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Janvier 2025

# D4.3 RAPPORT SUR LES CONDITIONS POUR FACILITER LA MISE EN PLACE DES COMMUNAUTÉS ÉNERGÉTIQUES AU NIVEAU LOCAL ET RÉGIONAL

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Le projet ECOEMPOWER - ECosystems EMPOWERing at regional and local scale supporting energy communities bénéficie d'un financement de l'Agence exécutive européenne pour le climat, les infrastructures et l'environnement (CINEA) dans le cadre de la Convention de subvention n°101120775.





## RÉFÉRENCES TECHNIQUES

Acronyme du projet	ECOEMPOWER
Titre du projet	ECOsystems EMPOWERing at regional and local scale supporting energy communities
Programme de financement	LIFE 2027
Appel à projet	LIFE-2022-CET
Sujet	LIFE-2022-CET-ENERCOM
Coordinatrice du projet	Cinzia Morisco (FBK), <a href="mailto:cmorisco@fbk.eu">cmorisco@fbk.eu</a>
Date de début du projet	1 Septembre 2023
Date de fin du projet	31 Août 2026
Durée du projet	36 mois
ID du projet	101120775

Livrable n°	D4.3
Niveau de diffusion	PU - Public
Lot de travail	WP4
Tâche	T4.3 - Cadres pour les organisations coopératives d'approvisionnement en énergie qui peuvent être améliorés au niveau local et régional
Bénéficiaire principal	B.A.U.M. Consult (DE)
Auteure	Charlotte Budde (BAUM)
Bénéficiaires contributeurs	Carlos Ayon Mac Gregor (BAUM); Écosystèmes régionaux: PAT (Italy), ROCG (Greece), eza! (Germany), AURA-EE (France), EAZK (Czech Republic)
Relectrices	Cinzia Morisco (FBK), Eleni Kotali (UBE)
Date d'échéance du livrable	31.08.2024

Date de soumission du livrable	06.02.2024
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## RÉSUMÉ

Avec la décentralisation, la démocratisation et la décarbonisation du système énergétique, les responsabilités sont de plus en plus transférées aux niveaux local et régional. Du point de vue de l'Union européenne, un moyen efficace de libérer le potentiel des énergies renouvelables décentralisées est de permettre aux citoyens de participer activement au secteur de l'énergie à travers des communautés énergétiques. Cependant, nombre de ces communautés rencontrent des défis majeurs pour naviguer dans la complexité du cadre juridique et du système énergétique au sens large, notamment en ce qui concerne le financement des initiatives, la compréhension des conditions techniques ainsi que le besoin de ressources, comme du personnel. La mise en œuvre de solutions facilitant cette navigation peut être bénéfique à l'échelle infranationale (c'est-à-dire aux niveaux régional et local).

Pour relever ces défis, ECOEMPOWER vise à concevoir et mettre en œuvre des guichets uniques (OSS), ou autrement dit, des centres de ressources, pour soutenir ces initiatives citoyennes. Les autorités locales et régionales jouent un rôle crucial dans la création d'un environnement facilitant la mise en place et le développement des communautés énergétiques. Ce rôle est également essentiel pour les citoyens car il permet leur participation à la transition énergétique et renforce la relation ascendante avec les niveaux de gouvernance supérieurs. Plus les personnes et les communautés seront impliquées dans cette transition, plus il sera facile d'atteindre les objectifs en matière d'énergie et de climat.

Afin de créer des conditions favorables, les autorités locales doivent tirer parti de la flexibilité dont elles disposent pour mettre en œuvre des réglementations et des initiatives favorisant un environnement propice. Un tel cadre doit être progressif, encourager l'innovation et être clair, stable et prévisible.

Les recherches dans la littérature indiquent que les municipalités peuvent adopter divers rôles pour soutenir les communautés énergétiques et créer des conditions favorables à leur développement : mise en place de réglementations de soutien, fourniture d'informations et de conseils, soutien financier via, par exemple, la mise à disposition de personnel et de ressources telles que des terrains et des bâtiments publics, la mise en relation avec les parties prenantes, l'achat d'électricité ou de chaleur produite par une communauté énergétique (par exemple, en adaptant les critères des appels d'offres publics pour inclure des aspects sociaux), ou encore l'adhésion à une communauté énergétique en tant qu'autorité locale et/ou régionale.

La diversité des actions possibles montre qu'il existe de nombreuses opportunités pour les autorités locales d'améliorer le cadre des communautés énergétiques. Cependant, la flexibilité et le champ d'action varient d'un pays à l'autre, en raison des différences dans les cadres juridiques nationaux et du degré d'influence exercé par les différents niveaux de gouvernance.

Afin d'évaluer dans quelle mesure un cadre favorable aux communautés énergétiques existe aux niveaux régional et local dans certaines régions des pays partenaires d'ECOEMPOWER (France, Allemagne, Grèce, Italie, République tchèque), un questionnaire a été élaboré. Les répondants ont été interrogés sur la possibilité légale, volontaire ou obligatoire de mettre en œuvre différentes formes de soutien aux communautés énergétiques et, lorsqu'elle était volontairement possible, dans quelle mesure il était courant de prendre ces mesures dans leur région.

Les résultats du questionnaire indiquent que la plupart des formes de soutien sont volontairement possibles pour les autorités locales dans tous les pays, mais qu'elles ne sont souvent pas mises en œuvre. Cela s'explique notamment par les nombreux défis auxquels les autorités locales sont confrontées, notamment le manque de

ressources, de personnel et de financement, ainsi que des autres priorités qu'elles peuvent avoir. En outre, certaines mesures sont difficiles à mettre en œuvre en raison du cadre juridique national.

L'enquête a montré que pour toutes les régions, le soutien financier est la forme de soutien la plus courante de la part des autorités locales, tandis qu'il est plutôt rare que les institutions locales et/ou régionales aient des capacités organisationnelles et administratives pour soutenir les communautés énergétiques. Cela souligne l'importance des guichets uniques (OSS), qui peuvent centraliser l'expertise et rassembler communautés énergétiques et municipalités.

La première étape de soutien aux communautés énergétiques consiste à reconnaître leur potentiel et à les intégrer dans des plans stratégiques à long terme. Cette intégration permet de donner aux communautés un sentiment de stabilité et de prévisibilité. Cela dit, chaque région est libre de choisir une stratégie en fonction de son contexte. Les autorités locales et régionales doivent donc faire preuve d'innovation et explorer les synergies entre les parties prenantes des communautés énergétiques afin de s'adapter au mieux à leur contexte national et à leurs relations à plusieurs niveaux d'un point de vue technologique, social, politique et économique.

Il est essentiel de donner la priorité aux formes de soutien qui permettent de répondre aux défis les plus importants, compte tenu des contraintes auxquelles sont soumises les autorités locales. De plus, le partage des connaissances avec d'autres parties prenantes, notamment d'autres autorités locales confrontées à des problématiques similaires, peut permettre de réduire les ressources nécessaires à la mise en œuvre de ces actions. Organiser des tables rondes avec des acteurs spécialisés dans différents domaines peut fournir des perspectives précieuses et même conduire à des collaborations. La **Plateforme Communautaire ECOEMPOWER** vise à faciliter cet échange de connaissances et s'appuiera sur les résultats de ce livrable pour y parvenir.

Les meilleures pratiques recueillies à travers l'enquête démontrent l'impact significatif de l'engagement d'une municipalité, car sa participation proactive peut favoriser la croissance et la durabilité des communautés.

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Februar 2025

# D4.3 BERICHT ÜBER DIE RAHMENBEDINGUNGEN AUF LOKALER UND REGIONALER EBENE, UM ENERGIEGEMEINSCHAFTEN ZU ERMÖGLICHEN

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Projekt ECOEMPOWER - ECosystems EMPOWERing at regional and local scale supporting energy communities erhält Mittel von der Europäischen Exekutivagentur für Klima, Infrastruktur und Umwelt (CINEA) im Rahmen von Grant Agreement n°101120775.



## TECHNISCHE HINWEISE

Projekt-Akronym	ECOEMPOWER
Titel des Projekts	ECOsystems EMPOWERing at regional and local scale supporting energy communities
Förderprogramm	LIFE 2027
Aufruf	LIFE-2022-CET
Thema	LIFE-2022-CET-ENERCOM
Projektkoordinator	Cinzia Morisco (FBK), <a href="mailto:cmorisco@fbk.eu">cmorisco@fbk.eu</a>
Datum des Projektbeginns	September 1 <sup>st</sup> , 2023
Projekt-Enddatum	August 31 <sup>st</sup> , 2026
Dauer des Projekts	36 Monate
Projekt-ID	101120775

Lieferbar Nr.	D4.3
Verbreitungsgrad	PU - Öffentlich
Arbeitspaket	WP4
Aufgabe	T4.3 - Rahmenbedingungen für kooperative Energieversorgungsunternehmen, die auf lokaler und regionaler Ebene verbessert werden können
Hauptbegünstigter	B.A.U.M. Consult (DE)
Autor(en)	Charlotte Budde (BAUM)
Mitwirkende Begünstigte	Carlos Ayon Mac Gregor (BAUM); Regionale Ökosysteme: PAT (Italy), ROCG (Greece), eza! (Germany), AURA-EE (France), EAZK (Czech Republic)
Prüfer(innen)	Cinzia Morisco (FBK), Eleni Kotali (UBE)

Fälligkeitsdatum der Arbeitsergebnisse	31.08.2024
Tatsächliches Einreichungsdatum	27.02.2024

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## KURZFASSUNG

Mit der Dezentralisierung, Demokratisierung und Dekarbonisierung des Energiesystems verlagert sich die Verantwortung zunehmend auf die lokale und regionale Ebene. Aus Sicht der Europäischen Union besteht eine wirksame Möglichkeit, das Potenzial dezentraler erneuerbarer Energien zu erschließen, darin, die Bürgerinnen und Bürger zu befähigen, sich über Energiegemeinschaften aktiv am Energiesektor zu beteiligen. Viele dieser Gemeinschaften stehen jedoch vor großen Herausforderungen, wenn es darum geht, die Komplexität des rechtlichen Rahmens und des Energiesystems im Allgemeinen zu bewältigen, einschließlich der Finanzierung von Initiativen, des Verständnisses der technischen Bedingungen und des Bedarfs an Ressourcen wie Personal. Die Umsetzung von Lösungen zur Erleichterung dieser Navigation kann auf subnationaler Ebene (d. h. auf regionaler und lokaler Ebene) von Vorteil sein.

Um diese Herausforderungen zu bewältigen, zielt ECOEMPOWER darauf ab, OSSs zu entwickeln und zu implementieren, um diese bürgergeführten Initiativen zu unterstützen. Die lokalen und regionalen Gebietskörperschaften spielen eine entscheidende Rolle bei der Schaffung eines Umfelds, das die Gründung und Einrichtung von Energiegemeinschaften erleichtert. Diese Rolle ist auch für Bürger und Verbraucher wichtig, da sie die Beteiligung an der Energiewende ermöglicht und die Beziehung zwischen der Basis und den höheren Verwaltungsebenen stärkt. Je mehr Menschen und Gemeinschaften in diesen Übergang einbezogen werden, desto leichter wird es sein, die Energie- und Klimaziele zu erreichen.

Um günstige Rahmenbedingungen zu schaffen, müssen die lokalen Behörden die ihnen zur Verfügung stehende Flexibilität nutzen, um Vorschriften und Initiativen umzusetzen, die ein förderliches Umfeld schaffen. Ein solcher Rahmen sollte fortschrittlich sein, Innovationen fördern und klar, stabil und vorhersehbar sein.

Aus der Literaturrecherche geht hervor, dass Kommunen verschiedene Rollen zur Unterstützung von Energiegemeinschaften übernehmen können. Eine wichtige Rolle ist die der Schaffung günstiger Bedingungen. Zu diesen Bedingungen gehören der Erlass unterstützender Vorschriften, die Bereitstellung von Informationen und Beratung, das Angebot finanzieller Unterstützung, die auch Innovationen einschließt, die gemeinsame Nutzung von Personal und Ressourcen, wie z. B. der Zugang zu öffentlichen Grundstücken und Gebäuden, die Erleichterung der Vernetzung lokaler Interessengruppen, der Kauf von Gemeinschaftsstrom oder -wärme (z. B. durch die Anpassung der Ausschreibungskriterien in öffentlichen Ausschreibungen, um auch soziale Aspekte zu berücksichtigen) und die direkte Mitgliedschaft in einer Energiegemeinschaft von Seiten der lokalen und regionalen Behörden.

Die Vielfalt der möglichen Maßnahmen zeigt, dass es für die lokalen Behörden zahlreiche Möglichkeiten gibt, die Rahmenbedingungen für Energiegemeinschaften zu verbessern. Allerdings sind die Flexibilität und der Handlungsspielraum in den einzelnen Ländern unterschiedlich, da der nationale Rechtsrahmen und der Einfluss der verschiedenen Verwaltungsebenen variieren. Um zu beurteilen, inwieweit auf regionaler und lokaler Ebene in ausgewählten Regionen der ECOEMPOWER-Partnerländer (d. h. Frankreich, Deutschland, Griechenland, Italien, Tschechische Republik) günstige Rahmenbedingungen für Energiegemeinschaften bestehen, wurde ein Fragebogen entwickelt. Die Befragten wurden gefragt, ob verschiedene Aktionspunkte zur Unterstützung von Energiegemeinschaften rechtlich möglich, freiwillig möglich oder verpflichtend sind, und wenn sie freiwillig möglich sind, wie häufig diese Aktionen in ihrer Region durchgeführt werden.

Die Ergebnisse des Fragebogens zeigen, dass die meisten Aktionspunkte für die lokalen Behörden in allen Ländern freiwillig möglich sind, aber oft nicht umgesetzt werden. Ein Grund dafür sind die zahlreichen



Herausforderungen, mit denen die lokalen Behörden konfrontiert sind, darunter begrenzte Ressourcen, Personal, Finanzierung und konkurrierende Prioritäten. Außerdem sind einige Aktionspunkte aufgrund des nationalen Rechtsrahmens schwer umzusetzen.

Die Umfrage ergab, dass in allen entsprechenden Regionen die finanzielle Unterstützung am besten bewertet wurde, da sie die häufigste Maßnahme der lokalen Behörden ist, während Organisationsstruktur und Verwaltung am schlechtesten bewertet wurden, was bedeutet, dass es eher ungewöhnlich ist, dass in verschiedenen lokalen und/oder regionalen Einrichtungen Kapazitäten zur Unterstützung von Energiegemeinschaften vorhanden sind. Dies unterstreicht die Bedeutung von OSSs, die Fachwissen zentralisieren und Energiegemeinschaften und Kommunen zusammenbringen können.

Der erste Schritt zur Unterstützung von Energiegemeinschaften besteht darin, ihr Potenzial zu erkennen und sie in langfristige strategische Pläne zu integrieren. Diese Integration gibt den Gemeinden ein Gefühl von Stabilität und Vorhersehbarkeit. Allerdings steht es jeder Region frei, eine Strategie zu wählen, die ihrem Kontext entspricht. Daher sollten die lokalen und regionalen Behörden innovativ denken und die Synergien zwischen den Akteuren der Energiegemeinschaften ausloten, um sie bestmöglich in ihren nationalen Kontext und ihre vielschichtigen Beziehungen aus technologischer, sozialer, politischer und wirtschaftlicher Sicht einzupassen.

Angesichts der Bedingungen, unter denen die lokalen Behörden arbeiten, ist es von entscheidender Bedeutung, Prioritäten für die wichtigsten Aktionspunkte zu setzen, die eine große Wirkung haben und wichtige Herausforderungen angehen. Aber auch der Wissensaustausch mit anderen Akteuren, z. B. mit anderen lokalen Behörden, die mit ähnlichen Problemen konfrontiert sind, kann dazu beitragen, die für die Umsetzung dieser Aktionspunkte erforderlichen Ressourcen zu verringern. Diskussionsrunden mit Akteuren, die auf verschiedene Bereiche spezialisiert sind, können wertvolle Erkenntnisse liefern und sogar zu einer Zusammenarbeit führen. Die ECOEMPOWER-Gemeinschaftsplattform (Ergebnis von WP4 und WP7) soll den oben erwähnten Wissensaustausch erleichtern und wird die Ergebnisse dieser Arbeit nutzen, um dies zu erreichen.

Die im Rahmen der Umfrage gesammelten Best Practices zeigen, wie wichtig das Engagement einer Kommune ist, da ihre proaktive Beteiligung das Wachstum und die Nachhaltigkeit von Energiegemeinschaften vorantreiben kann, wovon letztlich alle Beteiligten in der jeweiligen Region profitieren.

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Leden 2025

# D4.3 ZPRÁVA O RÁMCOVÝCH PODMÍNKÁCH MÍSTNÍ A REGIONÁLNÍ ÚROVNĚ PRO ENERGETICKÉ KOMUNITY

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Projekt ECOEMPOWER - ECOSystems EMPOWERing at regional and local scale supporting energy communities získává finanční prostředky od Evropské výkonné agentury pro klima, infrastrukturu a životní prostředí (CINEA) v rámci Dohody o grantu n°101120775.



## TECHNICKÉ ODKAZY

Zkratka projektu	ECOEMPOWER
Název projektu	ECOsystems EMPOWERing at regional and local scale supporting energy communities
Program financování	LIFE 2027
Výzva	LIFE-2022-CET
Téma	LIFE-2022-CET-ENERCOM
Koordinátor projektu	Cinzia Morisco (FBK), <a href="mailto:cmorisco@fbk.eu">cmorisco@fbk.eu</a>
Datum zahájení projektu	Září 1 <sup>st</sup> , 2023
Datum ukončení projektu	Srpen 31 <sup>st</sup> , 2026
Doba trvání projektu	36 měsíců
ID projektu	101120775

Výstup č.	D4.3
Úroveň šíření	Veřejnost
Pracovní balíček	WP4
Úkol	T4.3 - Rámce pro organizace spolupracující na dodávkách energie, které lze zlepšit na místní a regionální úrovni
Hlavní řešitel	B.A.U.M. Consult (DE)
Autor	Charlotte Budde (BAUM)
Ostatní řešitelé	Carlos Ayon Mac Gregor (BAUM); Regionální ekosystémy: PAT (Itálie), ROCG (Řecko), eza! (Německo), AURA-EE (Francie), EAZK (Česká republika)
Kontroloval(i)	Cinzia Morisco (FBK) , Eleni Kotali (UBE)
Datum předložení	31.08.2024

Skutečné datum předložení	27.02.2025
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## VYJÁDŘENÍ

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## SHRNUTÍ

S decentralizací a dekarbonizací energetického systému se odpovědnost stále více přesouvá na místní a regionální úroveň. Z pohledu Evropské unie je jedním z účinných způsobů, jak využít potenciál decentralizované energie z obnovitelných zdrojů, posílení aktivní účasti občanů v energetickém sektoru prostřednictvím energetických komunit. Mnohé z těchto komunit se však potýkají se značnými překážkami při osvojení složitých právních rámců a energetických systémů, včetně financování, pochopení technických podmínek a také potřeby lidských zdrojů. Představení řešení usnadňujících navigaci uvedených bariér může být přínosné na nižší (tj. regionální a místní) úrovni.

V rámci řešení těchto výzev je cílem programu ECOEMPOWER navrhnout a zahájit činnost OSS na podporu těchto iniciativ vedených občany. Místní a regionální orgány hrají klíčovou roli při vytváření prostředí, které usnadňuje vytváření a zakládání energetických komunit. Tato role je důležitá i pro občany a spotřebitele, neboť umožňuje účast na energetické transformaci a posiluje vztah zdola nahoru k vyšším úrovním správy. Čím více lidí a komunit se do této transformace zapojí, tím snadnější bude dosáhnout cílů v oblasti energetiky a klimatu.

K vytvoření příznivých rámcových podmínek musí místní orgány využít flexibility, kterou mají k provádění předpisů a iniciativ, podporujících příznivé prostředí. Takový rámec by měl být progresivní, podporovat inovace a být jasný, stabilní a předvídatelný.

Z literární rešerše vyplývá, že obce mohou přijmout různé role při podpoře energetických komunit. Jednou z významných rolí je role tvůrce příznivých podmínek. Tyto podmínky zahrnují přijetí podpůrných předpisů, poskytování informací a poradenství, nabídku finanční podpory, která zahrnuje rovněž inovace, pomoc zaměstnanců a zdrojů, jako je přístup k veřejným pozemkům a budovám, usnadnění vytváření sítí mezi místními zúčastněnými stranami, nákup komunitní energie nebo tepla (např. přizpůsobením kritérií pro podávání nabídek ve veřejných soutěžích tak, aby měly i sociální aspekty) a přímé zapojení do energetické komunity ze strany místních a regionálních orgánů.

Různorodost možných opatření prokazuje, že místní orgány mají mnoho příležitostí, jak zlepšit rámec pro energetické komunity. Flexibilita a rozsah opatření se však v různých zemích liší, protože se liší vnitrostátní právní rámec a vliv, který mají různé úrovně správy. Pro posouzení, do jaké míry existuje příznivý rámec pro energetické komunity na regionální a místní úrovni ve vybraných regionech partnerských zemí programu ECOEMPOWER (tj. ve Francii, Německu, Řecku, Itálii a České republice), byl vypracován dotazník. Respondenti byli dotazováni, zda jsou různé body opatření na podporu energetických komunit právně možné, dobrovolně možné nebo povinné, a pokud jsou dobrovolně možné, jak běžné je přijímání těchto opatření v jejich regionu.

Z výsledků dotazníku vyplývá, že většina akčních bodů je pro místní orgány ve všech zemích dobrovolně možná, ale často se nerealizuje. Jedním z důvodů je řada problémů, kterým místní orgány čelí, včetně omezených zdrojů, personálu, financování a konkurenčních priorit. Některé akční body je navíc obtížné realizovat kvůli vnitrostátnímu právnímu rámci.

Průzkum ukázal, že ve všech odpovídajících regionech měla nejlepší hodnocení finanční podpora, která je nejčastějším opatřením orgánů, zatímco organizační struktura a administrativa měly nejnižší hodnocení, což znamená, že je spíše neobvyklé mít kapacity v různých místních a/nebo regionálních institucích na podporu energetických komunit. To poukazuje na význam OSS, které mohou centralizovat odborné znalosti a sdružovat energetické komunity a obce.

Prvním krokem při podpoře energetických komunit je rozpoznat jejich potenciál a začlenit je do dlouhodobých strategických plánů. Integrace poskytuje těmto komunitám pocit stability a předvídatelnosti. Jak již bylo řečeno, každý region si může zvolit strategii podle svého kontextu. Místní a regionální orgány by proto měly uvažovat inovativně a zkoumat synergie mezi zúčastněnými stranami energetických komunit tak, aby co nejlépe odpovídaly jejich národnímu kontextu a jejich víceúrovňovým vztahům z technologického, sociálního, politického a ekonomického hlediska.

Vzhledem k omezením, v nichž místní orgány působí, je nezbytné stanovit priority klíčových akčních bodů, které mají velký dopad a řeší významné problémy. Ale také sdílení znalostí s dalšími zúčastněnými stranami, jako jsou jiné místní orgány, které se potýkají s podobnými problémy, může pomoci snížit zdroje potřebné k realizaci těchto akčních bodů. Pořádání diskusních setkání se zúčastněnými stranami specializovanými na různé oblasti může poskytnout cenné poznatky, a dokonce vést ke spolupráci. Komunitní platforma ECOEMPOWER (výsledek WP4 a WP7) se snaží usnadnit výše uvedenou výměnu znalostí a k tomu využije závěry tohoto výstupu.

Osvědčené postupy shromážděné prostřednictvím průzkumu ukazují významný dopad na angažovanost obce, neboť její aktivní zapojení může podpořit růst a udržitelnost energetických komunit, což v konečném důsledku přináší prospěch jednotlivým zúčastněným stranám v regionu.

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Ιανουάριος 2025

## Δ4.3 ΕΚΘΕΣΗ ΣΧΕΤΙΚΑ ΜΕ ΤΙΣ ΣΥΝΘΗΚΕΣ ΠΛΑΙΣΙΟ ΣΕ ΤΟΠΙΚΟ ΚΑΙ ΠΕΡΙΦΕΡΕΙΑΚΟ ΕΠΙΠΕΔΟ ΓΙΑ ΤΗΝ ΕΝΕΡΓΟΠΟΙΗΣΗ ΤΩΝ ΕΝΕΡΓΕΙΑΚΩΝ ΚΟΙΝΟΤΗΤΩΝ

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Το έργο ECOEMPOWER - ECosystems EMPOWERing σε περιφερειακό και τοπικό επίπεδο που στηρίζει τις ενεργειακές κοινότητες λαμβάνει χρηματοδότηση από τον Ευρωπαϊκό Εκτελεστικό Οργανισμό για το Κλίμα, τις Υποδομές και το Περιβάλλον (CINEA) στο πλαίσιο της συμφωνίας επιχορήγησης αριθ. 101120775.



## ΤΕΧΝΙΚΕΣ ΑΝΑΦΟΡΕΣ

Ακρωνύμιο έργου	ECOEMPOWER
Τίτλος έργου	ECOSystems EMPOWERing σε περιφερειακό και τοπικό επίπεδο που στηρίζει τις ενεργειακές κοινότητες
Πρόγραμμα χρηματοδότησης	LIFE 2027
Πρόσκληση	LIFE-2022-CET
Θέμα	LIFE-2022-CET-ENERCOM
Συντονιστής έργου	Cinzia Morisco (FBK), <a href="mailto:cmorisco@fbk.eu">cmorisco@fbk.eu</a>
Ημερομηνία έναρξης του έργου	1 <sup>η</sup> Σεπτεμβρίου, 2023
Ημερομηνία λήξης του έργου	31 <sup>η</sup> Αυγούστου, 2026
Διάρκεια του έργου	36 μήνες
Αναγνωριστικό έργου	101120775

Αριθμός παραδοτέου.	D4.3
Επίπεδο διάδοσης	PU - Δημόσιο
Πακέτο εργασίας	WP4
Εργασία	T4.3 - Πλαίσια για συνεταιριστικές οργανώσεις ενεργειακού εφοδιασμού που μπορούν να βελτιωθούν σε τοπικό και περιφερειακό επίπεδο
Επικεφαλής δικαιούχος	B.A.U.M. Consult (DE)
Συγγραφέας(ες)	Charlotte Budde (BAUM)
Συνεισφέροντες δικαιούχοι	Carlos Ayon Mac Gregor (BAUM); Περιφερειακά οικοσυστήματα: PAT (Italy), ROCG (Greece), eza! (Germany), AURA-EE (France), EAZK (Czech Republic)
Αναθεωρητής(-ές)	Cinzia Morisco (FBK), Eleni Kotali (UBE)



Ημερομηνία παραδοτέου	λήξης του	31.08.2024
Πραγματική υποβολής	ημερομηνία	27.02.2024

## REVISION AND HISTORY CHART

Έκδοση	Ημερομηνία	Συντάκτες	Σχόλια
<b>0.1</b>	25.07.24	BAUM	Το πρώτο προσχέδιο το οποίο κοινοποιήθηκε στους αναθεωρητές
<b>0.2</b>	20.12.24	BAUM	Η αλλαγή συνεργάτη και η ενσωμάτωση νέων πληροφοριών από τον νέο συνεργάτη οδήγησαν σε ενημέρωση του παραδοτέου και σε αναβολή της ημερομηνίας υποβολής
<b>1</b>	06.02.24	BAUM	Τελική έκδοση έτοιμη για να κοινοποιηθεί

## ΑΠΟΠΟΙΗΣΗ ΕΥΘΥΝΗΣ

Η γνώμη που διατυπώνεται στο παρόν παραδοτέο αντικατοπτρίζει τη γνώμη των συγγραφέων και όχι τη γνώμη της Ευρωπαϊκής Επιτροπής. Η Ευρωπαϊκή Ένωση δεν ευθύνεται για οποιαδήποτε χρήση των πληροφοριών που περιέχονται στο παρόν έγγραφο.

Το παρόν έγγραφο θα διατεθεί για χρήση και λήψη στον δικτυακό ιστότοπο ECOEMPOWER με άδεια Creative Commons. Συγκεκριμένα, θα χρησιμοποιηθεί η CC BY 4.0 DEED | Αναφορά 4.0 (<https://creativecommons.org/licenses/by/4.0/>). Αυτή η άδεια επιτρέπει στους νέους χρήστες να διανέμουν, να τροποποιούν, να προσαρμόζουν και να αξιοποιούν το υλικό σε οποιοδήποτε μέσο ή μορφή, αρκεί να γίνεται αναφορά στον δημιουργό.

Όλα τα μέλη της κοινοπραξίας ECOEMPOWER δεσμεύονται να δημοσιεύουν ακριβείς και επικαιροποιημένες πληροφορίες και καταβάλλουν τη μεγαλύτερη δυνατή προσπάθεια για τον σκοπό αυτό. Ωστόσο, τα μέλη της κοινοπραξίας ECOEMPOWER δεν μπορούν να αναλάβουν ευθύνη για τυχόν ανακρίβειες ή παραλείψεις, ούτε για άμεσες, έμμεσες, ειδικές, επακόλουθες ή άλλες απώλειες ή ζημιές οποιουδήποτε είδους που προκύπτουν από τη χρήση των πληροφοριών αυτών.

## ΣΥΝΟΠΤΙΚΗ ΠΑΡΟΥΣΙΑΣΗ

Με την αποκέντρωση, τον εκδημοκρατισμό και την απαλλαγή του ενεργειακού συστήματος, οι ευθύνες μετατοπίζονται όλο και περισσότερο σε τοπικό και περιφερειακό επίπεδο. Από τη σκοπιά της Ευρωπαϊκής Ένωσης, ένας αποτελεσματικός τρόπος για την απελευθέρωση του δυναμικού των αποκεντρωμένων ανανεώσιμων πηγών ενέργειας είναι η ενδυνάμωση των πολιτών να συμμετέχουν ενεργά στον ενεργειακό τομέα μέσω των ενεργειακών κοινοτήτων. Ωστόσο, πολλές από αυτές τις κοινότητες αντιμετωπίζουν σημαντικές προκλήσεις κατά την πλοήγηση στις πολυπλοκότητες του νομικού πλαισίου και του ευρύτερου ενεργειακού συστήματος, συμπεριλαμβανομένων των χρηματοδοτικών πρωτοβουλιών, της κατανόησης των τεχνικών συνθηκών καθώς και της ανάγκης για πόρους όπως το προσωπικό. Η εφαρμογή λύσεων για τη διευκόλυνση της εν λόγω πλοήγησης μπορεί να είναι επωφελής σε υποεθνικό επίπεδο (δηλ. περιφερειακό και τοπικό).

Για την αντιμετώπιση αυτών των προκλήσεων, το ECOEMPOWER στοχεύει στον σχεδιασμό και την εφαρμογή OSS για την υποστήριξη αυτών των πρωτοβουλιών που καθοδηγούνται από τους πολίτες. Οι τοπικές και περιφερειακές αρχές διαδραματίζουν κρίσιμο ρόλο στη δημιουργία ενός περιβάλλοντος που διευκολύνει τη δημιουργία και την εγκατάσταση ενεργειακών κοινοτήτων<sup>28</sup>. Ο ρόλος αυτός είναι επίσης σημαντικός για τους πολίτες και τους καταναλωτές, καθώς επιτρέπει τη συμμετοχή στην ενεργειακή μετάβαση, και ενισχύει τη σχέση «από κάτω προς τα πάνω» με τα ανώτερα επίπεδα διακυβέρνησης. Όσο περισσότεροι άνθρωποι και κοινότητες συμμετέχουν σε αυτή τη μετάβαση, τόσο ευκολότερη θα είναι η επίτευξη των ενεργειακών και κλιματικών στόχων.

Προκειμένου να δημιουργήσουν ευνοϊκές συνθήκες πλαισίου, οι τοπικές αρχές πρέπει να αξιοποιήσουν την ευελιξία που διαθέτουν για την εφαρμογή κανονισμών και πρωτοβουλιών που ευνοούν ένα υποστηρικτικό περιβάλλον. Ένα τέτοιο πλαίσιο θα πρέπει να είναι προσδευτικό, να ενθαρρύνει την καινοτομία και να είναι σαφές, σταθερό και προβλέψιμο.

Η βιβλιογραφική έρευνα δείχνει ότι οι δήμοι μπορούν να υιοθετήσουν διάφορους ρόλους για τη στήριξη των ενεργειακών κοινοτήτων. Ένας σημαντικός ρόλος είναι αυτός του δημιουργού ευνοϊκών συνθηκών. Οι συνθήκες αυτές περιλαμβάνουν τη θέσπιση υποστηρικτικών κανονισμών, την παροχή πληροφοριών και συμβουλών, την παροχή οικονομικής στήριξης που περιλαμβάνει και καινοτομίες, την κοινή χρήση προσωπικού και πόρων, όπως η πρόσβαση σε δημόσια γη και κτίρια, τη διευκόλυνση της δικτύωσης μεταξύ των τοπικών φορέων, την αγορά κοινοτικής ενέργειας ή θερμότητας (π.χ. μέσω της προσαρμογής των κριτηρίων υποβολής προσφορών στους δημόσιους διαγωνισμούς ώστε να έχουν και κοινωνικές πτυχές) και να γίνει άμεσο μέλος μίας ενεργειακής κοινότητας από την πλευρά των τοπικών και περιφερειακών αρχών.

Η ποικιλομορφία των πιθανών δράσεων δείχνει ότι υπάρχουν πολλές ευκαιρίες για τις τοπικές αρχές να βελτιώσουν το πλαίσιο για τις ενεργειακές κοινότητες. Ωστόσο, η ευελιξία και το πεδίο δράσης στις διάφορες χώρες διαφέρει, καθώς το εθνικό νομικό πλαίσιο και η επιρροή που ασκούν τα διάφορα επίπεδα διακυβέρνησης ποικίλλουν. Για να εκτιμηθεί ο βαθμός στον οποίο υπάρχει ευνοϊκό πλαίσιο για τις ενεργειακές κοινότητες σε περιφερειακό και τοπικό επίπεδο σε επιλεγμένες περιοχές στις χώρες εταίρους του ECOEMPOWER (Γαλλία, Γερμανία, Ελλάδα, Ιταλία, Τσεχική Δημοκρατία), αναπτύχθηκε ένα ερωτηματολόγιο. Οι ερωτηθέντες ρωτήθηκαν αν τα διάφορα σημεία δράσης για τη στήριξη των

<sup>28</sup> Στην παρούσα έκθεση, ο όρος «ενεργειακές κοινότητες» αναφέρεται σε όλες τις συλλογικές ενεργειακές δράσεις, έχοντας μια ευρύτερη έννοια από τον ορισμό των οδηγιών της ΕΕ (REDII and IEMD).

ενεργειακών κοινοτήτων ήταν νομικά δυνατά, εθελοντικά δυνατά ή υποχρεωτικά, και αν ήταν εθελοντικά δυνατά, πόσο συνηθισμένη ήταν η λήψη των εν λόγω δράσεων στην περιοχή τους.

Τα αποτελέσματα του ερωτηματολογίου δείχνουν ότι τα περισσότερα σημεία δράσης είναι προαιρετικά δυνατά για τις τοπικές αρχές σε όλες τις χώρες, αλλά συχνά δεν εφαρμόζονται. Ένας λόγος γι' αυτό είναι οι πολυάριθμες προκλήσεις που αντιμετωπίζουν οι τοπικές αρχές, συμπεριλαμβανομένων των περιορισμένων πόρων, του προσωπικού, της χρηματοδότησης και των ανταγωνιστικών προτεραιοτήτων. Επιπλέον, ορισμένα σημεία δράσης είναι δύσκολο να εφαρμοστούν λόγω του εθνικού νομικού πλαισίου.

Η έρευνα έδειξε ότι για όλες τις αντίστοιχες περιφέρειες, η οικονομική στήριξη είχε την καλύτερη βαθμολογία, καθώς είναι η πιο συνηθισμένη δράση που αναλαμβάνουν οι τοπικές αρχές, ενώ η οργανωτική δομή και η διοίκηση είχαν τη χαμηλότερη βαθμολογία, πράγμα που σημαίνει ότι είναι μάλλον ασυνήθιστο να υπάρχουν ικανότητες σε διάφορα τοπικά ή/και περιφερειακά όργανα για την υποστήριξη των ενεργειακών κοινοτήτων. Αυτό αναδεικνύει τη σημασία των **Υπηρεσιών μίας Στάσης, οι οποίες** μπορούν να συγκεντρώσουν την εμπειρογνωμοσύνη και να φέρουν σε επαφή τις ενεργειακές κοινότητες και τους δήμους.

Το πρώτο βήμα για τη στήριξη των ενεργειακών κοινοτήτων είναι η αναγνώριση του δυναμικού τους και η ενσωμάτωσή τους σε μακροπρόθεσμα στρατηγικά σχέδια. Η ενσωμάτωση παρέχει στις κοινότητες αυτές μια αίσθηση σταθερότητας και προβλεψιμότητας. Τούτου λεχθέντος, κάθε περιοχή είναι ελεύθερη να επιλέξει μια στρατηγική ανάλογα με το πλαίσιο της. Ως εκ τούτου, οι τοπικές και περιφερειακές αρχές θα πρέπει να σκέφτονται καινοτόμα και να διερευνούν τις συνέργειες μεταξύ των ενδιαφερομένων για τις ενεργειακές κοινότητες ώστε να ταιριάζουν καλύτερα στο εθνικό τους πλαίσιο και στις πολυεπίπεδες σχέσεις τους από τεχνολογική, κοινωνική, πολιτική και οικονομική άποψη.

Η ιεράρχηση των βασικών σημείων δράσης που έχουν μεγάλο αντίκτυπο και αντιμετωπίζουν σημαντικές προκλήσεις είναι ουσιαστικής σημασίας, δεδομένων των περιορισμών υπό τους οποίους λειτουργούν οι τοπικές αρχές. Αλλά και η ανταλλαγή γνώσεων με άλλους ενδιαφερόμενους φορείς, όπως άλλες τοπικές αρχές που αντιμετωπίζουν παρόμοια προβλήματα, μπορεί να συμβάλει στη μείωση των πόρων που απαιτούνται για την υλοποίηση αυτών των σημείων δράσης. Η διοργάνωση κύκλων συζήτησης με ενδιαφερόμενους φορείς που ειδικεύονται σε διαφορετικούς τομείς μπορεί να προσφέρει πολύτιμες γνώσεις και να οδηγήσει ακόμη και σε συνεργασία. Η κοινοτική πλατφόρμα ECOEMPOWER (αποτέλεσμα των πακέτων εργασίας 4 και 7), επιδιώκει να διευκολύνει την προαναφερθείσα ανταλλαγή γνώσεων και θα χρησιμοποιήσει τα αποτελέσματα του παρόντος παραδοτέου για να το επιτύχει.

Οι βέλτιστες πρακτικές που συγκεντρώθηκαν μέσω της έρευνας καταδεικνύουν τον σημαντικό αντίκτυπο στη δέσμευση ενός δήμου, καθώς η ενεργός συμμετοχή του μπορεί να οδηγήσει στην ανάπτυξη και τη βιωσιμότητα των ενεργειακών κοινοτήτων, ωφελώντας τελικά τους ενδιαφερόμενους κάθε περιοχής αντίστοιχα.